ITIL® v3 Intermediate

Managing Across the Lifecycle

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INTRODUCTION TO THE COURSE

Managing Across the Lifecycle (MALC) imparts and validates your knowledge across all the Lifecycle and Capability courses at the ITIL v3 Intermediate level.

In this course, we will focus on the business, managerial, and supervisory objectives, purposes, functions, activities, interfaces, and interactions across the processes addressed in the Capability and Lifecycle courses.

While going through the course, you may come across the following challenges:

- Difficulty in understanding the concepts taught because applying “best practices” is unfamiliar territory.
- Overcoming the influence of “too much experience” in your current way of operating and any changes required with ITIL v3.

To overcome these challenges during the training program, you should list down your expectations from the course, which may range from passing the exam to wanting to implement the Changes in your organization. Discuss these expectations with your instructor when you get access to them so that at the end of the program, you will have the skills to apply your new practical experience back at the workplace.
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UNIQUE NATURE OF THE COURSE

This training course is delivered through a unique blend of self-paced and instructor-supported learning and high intensity, fast paced classroom delivery.

This e-learning provides an intuitive and learner centric method to learn the key concepts and theory of the ITIL v3 Intermediate Course. Innovative use of e-learning for the theoretical components of the course allows you to study in your own time at your own pace.

Interactive Classroom sessions are focused on practical application of the material you learn through exercises, quizzes, assignment, and group discussions. The classroom sessions would also provide a re-cap of the course content covered in e-learning. This classroom training is not designed in the traditional mode of “technical training,” where the instructor presents lecture on slide after slide. Instead, you are expected to participate in the learning experience through many discussions and exercises and the sharing of practical experiences. This is to ensure that you internalize the learning, as required, to sit for your final examination successfully, and to apply your new practical experience back at the workplace.

It is critical therefore, that you spend some time on the self-paced e-learning to understand the key concepts required for this level, and for this course. Your knowledge of the contents will be directly proportionate to the benefits you will derive from the classroom sessions, since the practical exercises assume prior knowledge of content.
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Please note that Exam preparation training is included in the classroom workshop as well in e-learning.

Your student kit for this training courseware consists of three components:

**Elearning course:** Contains the theoretical components of the course along with Sample Test Questions at the end of each unit. Each unit may end with Sample Test Questions. These questions have been created based on the same format as the certification exam.

The last unit in the e-learning is the Exam Preparation Guide (EPG). EPG contains important tips to help you prepare your exam, and two mock exams for practice. Elearning also consists of a Summary Map, in the form of a detailed Mind Map to recap the course outline and recall the course in an easy manner.

**Student Reference Material:** Contains all the concepts that the Elearning covers (except for EPG). Students can use the Reference Material to study each evening, after class, to prepare for the final exam.

**Student Workbook:** Contains the “Course Agenda” of all course variants offered by ITpreneurs and all the classroom exercises (including Sample Test Questions) and the Mock Exams students have to attempt in class. The answers to these questions are given in Answers Section at the end of the Workbook.
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COURSE LEARNING OBJECTIVES

At the end of this training, you will have gained the knowledge and skills to:

- Define the business and managerial issues of IT Service Management.
- Implement the management of planning and implementing IT Service Management.
- Identify the management of strategic Change.
- Define Risk Management.
- List organizational challenges
- Define Service assessment.
- Define complementary industry guidance.

EXAM REQUIREMENTS

Course Pre-requisites:

- For the Capability courses, there is no minimum mandatory experience requirement but 2 to 4 years professional experience working in IT Service Management is highly desirable.
- For the Lifecycle courses, there is no minimum experience requirement but a basic IT literacy and around 2 years IT experience are highly desirable.
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Exam Requirements:

- **Duration**: 1.5 hours; should the exam not be written in the student’s first language, an extra 30 minutes will be granted along with the use of a dictionary.
- **Questions**: Eight multiple-choice questions; each question will have four answer options: one that is worth 5 marks, one that is worth 3 marks, one that is worth 1 mark, and one that is a distracter and receives no marks.
- **Format**: Closed-book, online or paper-based examination.
- **Pass Score**: 28/40 or 70%.
- **Distinction Score**: Not defined yet.
- **Contact Hours**: 30-hour formal training with Accredited Training Organization (ATO).
- **APMG Recommended Personal Study Hours**: 12 hours; must read “The Royal Case Study” to be able to do the activities.

Useful Tips for writing the exam:

- Review the syllabus in your course material.
- Use the syllabus to focus your study within the identified chapters in the core ITIL books to prepare for these exams.
- The exam is written to a depth where you not only need to have a strong core competency in the ITIL v3 best practice, but also, you need to be able to apply this knowledge in practical scenarios.
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- Read the question CAREFULLY
- There will be qualifiers such as NOT and BEST
- Make note of the unique business situation presented – this scenario may point you in the direction of the “best” answer from the list.
- As far as possible, try to eliminate the incorrect distracter question by using your ITIL theory and assessment of the provided information.
- Use your ITIL theory to assist with answering the question and selecting the best remaining answers to from which to choose.
- As this exam is gradient marking, you will most likely find very close similarities with the remaining answers.
- If you get stuck on a question, skip it and move to the next one.
- As you progress through the exam, you will pick up the rhythm of the structure and the language of the questions.
- When in doubt, guess – you will not lose marks for providing the wrong answer.
UNIT 1: IT SERVICE MANAGEMENT, BUSINESS AND MANAGERIAL ISSUES

1.1 LIFECYCLE POSITIONING AND TRANSITION

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Transforming Service Management into Strategic Assets

Service Providers must act and think strategically to understand the relationships between Services, the systems or processes that they manage, and the business models, strategies, or objectives that they support. This will ensure the transformation of Service Management into Strategic Asset effectively and efficiently.

The following questions provide guidance while transforming Service Management into a Strategic Asset:

- “What Services should we offer and to whom?
- How do we differentiate ourselves from competing alternatives?
- How do we truly create value for our customers?
- How do we capture value for our stakeholders?
- How can we make a case for strategic investments?
- How can Financial Management provide visibility and control over value creation?
- How should we define Service quality?
- How do we choose between different paths for improving Service quality?
- How do we efficiently allocate resources across a portfolio of Services?
- How do we resolve conflicting demands for shared resources?”

(Source: Service Strategy book)
It is important for Service Providers to have a multidisciplinary knowledge in Operations Management, marketing, finance, information systems, organizational development, systems dynamics, and industrial engineering to answer all these questions.

**What is the definition of a Service?**

“A Service is a means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.”

(Source: Service Strategy book)

**Good Service**

According to you, what is “good Service?”

Service is a value proposition that makes it possible to achieve specific outcomes by improving the performance of associated tasks and reducing the effect of constraints.

Here are some examples of Services:

Business focus, technology focus, and crossover functions, such as e-mail, are all types of Services.
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Value Composition

Value consists of two primary elements: Utility and Warranty. The customer perceives Utility, or fitness for purpose, as Service attributes that will have a positive impact on the outcome of the performance of tasks. Warranty is the positive effect of customer needs, in terms of continuity and security.

In short, we can say that Utility is what the customer gets, and Warranty is how it is delivered. Customers can benefit from something only if it is fit for purpose as well as for use.
I believe services are means of delivering value by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.

Well, services facilitate outcomes by having a positive effect on activities, objects, and tasks to create conditions for better performance. As a result, the probability of desired outcomes is higher.

I must ask, do you have a definition for services?

What would that mean in operational terms? Give me a few handles.

A casual conversation at the water cooler.

I believe services are means of delivering value by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.

Yes, and also because the customer
outcome.

Wouldn’t need a service would they? manage it all by themselves, they really why it’s a service? It customers let the provider take ownership. That’s both the provider is specialized with capabilities for dealing with those costs and risks. And also because the provider can possibly spread those costs and risks across more than one customer.

Manager
(Operations)

Manager
(Strategy)

(Adopted from A conversation about the definition and meaning of services. © Crown Copyright 2007 Reproduced under licence from OGC.)
Customer Requirements of Services

Usually, product managers become more concerned about customer outcomes rather than about gathering requirements. This is a necessary process, but it is not sufficient. After you comprehend customer outcomes, you must generate requirements for internal control and coordination. Only if a Service Provider gathers all the customer requirements can he provide appropriate and useful Services, creating value.

What is the definition of Service Management?

“Service Management is a set of specialized organizational capabilities for providing value to customers in the form of services.”

(Source: Service Strategy book)

Resources and Capabilities

Resources are typically an organization’s holdings. Capabilities are typically experience-driven and information-based abilities. Both resources and capabilities lie with the organization’s employee and are different types of Service Assets. Organizations use these assets to provide goods and Services. The process of providing goods and Services creates value. As a result, you can say that Service Management is the art of transforming available resources into valuable Services by making full use of the organization’s capabilities.
Some examples of capabilities and resources are:

Resources: Financial capital, infrastructure, applications, information, and so on

Capabilities: Management skills, organizational skills, processes, knowledge, and so on

### 1.1.1 DIFFERENCE BETWEEN OPEN-LOOP AND CLOSED-LOOP SYSTEMS

“A system is a group of interacting, interrelated, or interdependent components that form a unified whole, operating together for a common purpose.”

(Source: Service Strategy book)

Open-Loop and Closed-Loop Control Processes

Open-Loop and Closed-Loop systems are part of Monitor Control Loops. The chart below shows the differences between Open-Loop Control processes and Closed-Loop Control processes.
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<th>Closed-Loop</th>
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<td>The value of the outcome has no influence on process input.</td>
<td>The value of the outcome has an influence on process input.</td>
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<tr>
<td>Open-looped systems are designed to perform a specific activity in any environmental condition.</td>
<td>Closed-loop systems are extremely sensitive to disturbances and deviations.</td>
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<td>These systems make sure that the problem does not occur in the first place by trying to solve the problem with good design.</td>
<td>These systems compensate the feedback.</td>
</tr>
<tr>
<td>The control action in an Open-Looped system is based on inputs.</td>
<td>The control action in a Closed-Loop system is goal driven.</td>
</tr>
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<td>An example of an Open-Loop system is the conventional breaks on a car. These breaks apply friction against the wheels when drivers press the brake pedal. To prevent the brakes from locking, the drivers must control how they apply the brakes.</td>
<td>An example of a Closed-Loop system is anti-lock brakes. These brakes sense environmental conditions and adjust the braking process to prevent the brakes from locking. Often, this requires overriding the driver’s input.</td>
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ACTIVITY TIME

1.1.2 COMPLEX MONITOR CONTROL LOOPS
Each activity has an input and an output, which become input and output for the next activity. Each activity is controlled by its own Monitor Control Loop, which uses a set of norms for that activity. The process also has its own Monitor Control Loop, which encompasses all the activities. This loop ensures that all standards are appropriate and followed. In the diagram, you can also see a double feedback loop.

**Complex Monitor Control Loop**

The Complex Monitor Control Loop can be used as a learning tool (as defined by Chris Argyris, 1976, *Increasing Leadership Effectiveness*. New York: Wiley). The first level of feedback is at the individual activity level. It includes monitoring and responding to data. The second level refers to monitoring and responding to information. Monitor Control Loops can manage:

- The performance of activities in a process or procedure. Each activity and its corresponding output can be measured. This ensures that problems with the process are identified when it is in progress.
- The effectiveness of a process or procedure as a whole.
- The performance of a device.
- The performance of many devices.
To use Monitor Control Loops in Service Management, you should have the following information:

- The Service that needs to be monitored.
- The appropriate threshold for each Service.
- The monitoring process to be performed.
- Conditions for normal operation.
- Dependencies for normal operation.
- What happens before we receive input?
- The appropriate frequency of measurement.
- Should active measurement be performed to check whether the item is within the norm or whether to wait until an exception is reported?
- Is Operations Management is the only function that performs monitoring?
- The way in which other instances of monitoring are related to Operations Management.
- The processes responsible for each loop in case of multiple loops.

You can use the ITSM Monitor Control Loop to gather this type of information.
1.1.3 ITSM MONITOR CONTROL LOOPS

The Complex Monitor Control Loop

The Complex Monitor Control Loop is used in IT Service Management (ITSM) to deliver a Service in the following ways:

- In the Service Operation process, each activity in a Service Management process (or each component used to provide a service) is monitored. The team checks each activity or component that applies to the Monitor Control Loop, as defined in the process. Operational Monitoring and Control ensures that the process or Service functions per specifications.

- Service Design defines the norms of monitoring and control mechanisms. These norms are based on the standards and architectures defined during Service Strategy. Monitoring and control mechanisms change with any changes to the organization’s Service Strategy, architecture, Service Portfolios, or Service Level Requirements (SLRs).

- Monitor Control Loops are placed within the framework of an organization. Business and IT executives and vendor account managers execute the Service Strategy. Service Design is the interface between Service Strategy and Service Operation. Generally, IT staff execute the activities and controls. Continual Service Improvement (CSI) includes all areas but mainly focuses on the interests of the business and its users.
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- In the diagram, CSI processes perform the second level of monitoring in the Complex Monitor Control Loop through Service Strategy and Service Design.
  - Arrow 1 indicates that CSI can improve the Service by changing the Service Strategy.
  - Arrow 2 indicates that the SLR needs to be adjusted. This might occur if the Service is too expensive or requires a change in the configuration of the infrastructure.
  - Arrow 3 indicates that the norms specified in Service Design are not being followed because they are inappropriate or cannot be executed. This can also occur because there is a lack of education or communication. Regardless of the reason, the cause needs to be investigated and corrective action taken.

In all these processes, you can use some of the following checks from Service Transition:

- For new Services, Service Transition has a check to ensure that technical architectures are appropriate and operational performance standards can be executed. This ensures that the Service Operation teams or departments are able to meet the SLRs.

- For existing Services, Change Management manages any Change required as part of control. Service Transition does not define the strategy and design Services, but helps ensure that the Services are working as planned.
Based on an understanding of the outcome of a process, device, or system, you can define what needs to be monitored. The focus of IT should not only be on the components of technology, but also on the Service and its impact on the business.

**Levels of Monitoring**

The two levels of monitoring are:

- **Internal Monitoring and Control**
  Almost all teams or departments monitor the items and activities they perform. This ensures that they are able to execute the tasks assigned to them. This is called internal monitoring and control. For example, the Service Desk Manager monitors the volume of calls to determine how many people are required to answer the telephone.

- **External Monitoring and Control**
  In an organization, teams constantly interact and support each other. Any task that they perform or device they manage impacts the business. Often, teams or departments control items and activities on behalf of other groups, processes, or functions. For example, the Server Management team monitors the performance of the Central Processing Unit (CPU) on key servers and performs workload balancing. This ensures that applications stay within the performance thresholds that Application Management sets.
Most organizations require and implement a combination of internal and external monitoring. For example, if Service Operation focuses only on internal monitoring, it would have a well-managed infrastructure, but would be unable to control the quality of Services. On the other hand, if it focuses only on external monitoring, it will understand how the quality of Service is poor, but will not be able to determine why it is poor or how to improve it.

To define what to monitor, you should determine the required outcome. The definition of monitoring and control objectives starts by defining SLR documents. These documents specify how customers and users measure the performance of the Service. During Service Design, you can use the processes to determine how to deliver and manage the Service. For example, Capacity Management can determine the most appropriate and cost-effective way to deliver the levels of performance required. Availability Management determines the methods to configure infrastructure.

You can use the Control Objectives for Information and related Technologies (COBIT®) framework to check if all the appropriate objectives have been introduced.
The Service Design process helps you identify the following sets of inputs to define operational monitoring and control norms and mechanisms:

- They work with customers and users to determine methods to measure the output of the Service. This includes measurement mechanisms, frequency, and functions.
- They identify the important Configuration Items (CIs), methods to configure them, and the level of performance and availability required to meet the agreed Service levels.
- They identify any constraints or limitations in those components. For this, they work with the developers and vendors of the CIs.
- All support and delivery teams and departments should determine the information they need to perform their tasks effectively. You can use Service Design and development to monitor a Service and provide this information.

Identifying the stakeholders of each Service is important to define what Service Operation monitors and how it exercises control. Stakeholders are people who are interested in the successful delivery and receipt of IT Services. Each stakeholder has a different perspective of an IT Service. It is the job of Service Operation to consider all the perspectives while determining what needs monitoring and what to do with the output. Consequently, Service Level Management (SLM) is used to identify stakeholders and understand how they contribute to or use the Service.
There are many different monitoring tools and different situations in which each tool will be used. Now, we will learn about the different types of monitoring. These are:

- **Active monitoring** refers to examining a device on an ongoing basis. It helps determine the status of a device. This type of monitoring requires additional resources and is used to monitor critical devices or systems or as a way to resolve an Incident or diagnose a Problem.

- **Passive monitoring** refers to generating and transmitting Events to a monitoring agent. All Events and the system being monitored should be defined.

- **Reactive monitoring** takes place when an Event or a failure triggers or causes an action. It is used for exceptions and as part of normal operational procedures.

- **Proactive monitoring** detects patterns of Events. These patterns indicate if a system or Service is about to fail. This type of monitoring is used in more-mature environments, where these patterns have been detected previously. Proactive monitoring tools are created through the Proactive Problem Management process.
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“Active and Passive, Reactive and Proactive Monitoring

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<th>Active</th>
<th>Passive</th>
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<td><strong>Reactive</strong></td>
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<td></td>
<td>Diagnoses the device that is causing the failure under some conditions. For example, ‘ping’ a device, or run and track a sample transaction through a series of devices. Requires knowledge of the infrastructure topography and the mapping of services to CIs.</td>
<td>Detects and correlates event records to determine the meaning of the events and the appropriate action. For example, a user logs on three times with the incorrect password, which generates a security exception. This exception is then escalated through Information Security Management procedures. Requires detailed knowledge of the normal operation of the infrastructure and services.</td>
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</table>
Types of Monitoring

- **Continuous measurement** monitors a system in real time to ensure that it complies with a performance norm. However, active monitoring does not have to be continuous. Active monitoring is resource intensive and is usually reserved for critical components or Services. In most cases, the cost of the additional bandwidth and processor power outweighs the benefit of continuous measurement. In these cases, monitoring will usually be based on sampling and statistical analysis. The method of measurement should be documented and agreed in an Operational Level Agreement (OLA). This ensures that it is adequate to support the Service reporting requirements.
Exception-based measurement does not measure the real-time performance of a Service or system, but detects and reports against exceptions. It is cost effective and easy to measure but could result in longer Service outages. It is used on less-critical systems, systems where cost is an important factor, or where IT tools are not able to determine the status or quality of a Service. While using exception-based measurement, the OLA and SLA for that Service reflect this because there will be more Service outages.

The quality of Service can be tracked using reports. Reporting can be used for the following two purposes:

- To track the performance of the teams or departments that deliver a Service
- To demonstrate the achievement of Service quality objectives

It is common for IT managers to be confused between the two because they report the performance of their teams or departments in the same way as they would report the quality of a Service.

Service Management should use performance monitoring and metrics to determine whether or not teams, processes, and technology are functioning correctly. Users and customers are more interested in seeing reports about the quality and performance of the Service.
Monitoring and Control

After learning about monitoring and monitoring tools, we will now discuss a test environment that defines how to use monitoring and control. You can either monitor the test environment itself or monitor the items being tested.

- **Monitoring the test environment itself**: A test environment consists of infrastructure, applications, and processes that have to be managed and controlled. If a test environment is not monitored and controlled, you might test equipment that does not follow the standards defined in Service Design.

- **Monitoring the items being tested**: The results of testing should be accurately tracked and checked. In addition, it is important that any monitoring tools that have been built into new or changed Services are also tested.

Monitoring without control is irrelevant and ineffective. Monitoring aims to ensure that Service and operational objectives are being met. Consequently, an organization should start monitoring only when clear purposes, objectives, and required actions are in place. In addition, the organization should also recognize that different people might need to take action.
Audits

Audits are an important element of monitoring. You must perform regular audits on Service Operation processes and activities to:

- Ensure that they are being performed as intended.
- Ensure that there is no circumvention.
- Check whether they meet the objectives.
- Identify any required changes or improvements.

Though Service Operation managers can themselves perform an audit, it is preferable that an independent entity performs it. You can involve the organization’s internal IT audit team or department or some third-party consultancy/audit/assessment companies.

While monitoring, it is important that organizations use proper measurement techniques and metrics to meet their organizational objectives. Now, let us discuss the measurements, metrics, and KPIs used for monitoring and control.

Measurement, Extent, and Dimension

“Measurement refers to any technique that is used to evaluate the extent, dimension, or capacity of an item in relation to a standard or unit.

Extent refers to the degree of compliance or completion (e.g. are all changes formally authorized by the appropriate authority)

Dimension refers to the size of an item, e.g. the number of incidents resolved by the Service Desk
Capacity refers to the total capability of an item, for example, maximum number of standard transactions that can be processed by a server per minute.”

(Source: Service Operation book)

Measurement can be useful only when you can measure the actual output or dimensions of a system, function, or process with respect to a standard or required level. Although measurement itself takes place during Service Operation, it needs to be defined in Service Design and updated through Continual Service Improvement (CSI). A term very closely associated with measurement is metrics.

Metrics

“Metrics refer to the quantitative, periodic assessment of a process, system, or function, together with the procedures and tools that will be used to make these assessments and the procedures for interpreting them.”

(Source: Service Operation book)

The above definition specifies what needs to be measured, how to measure it, what the acceptable range of performance will be, and what action will need to be taken because of normal performance or an exception.
KPIs

Each organization defines its own KPIs related to specific inputs, outputs, and activities. In addition, the organizations can use similar metrics to achieve very different KPIs.

CSI also starts with monitoring. For CSI, monitoring focuses on the effectiveness of a Service, process, tool, organization, or CI. It aims to identify where improvements can be made to the existing level of Service or IT performance.

Monitoring for CSI focuses on detecting exceptions and resolutions. If an SLA is met repeatedly, CSI tries to evaluate whether the level of performance can be achieved at a lower cost or should be changed. For this, CSI needs access to regular performance reports. However, CSI does not need large quantities of data and focuses on a specific subset of monitoring at any given time. This can be determined by input from the business or improvements in technology.
In the context of monitoring, this implies:

- Service Operation and CSI need to monitor Changes over time. They may monitor the e-mail service one quarter and then move on to look at HR systems in the next quarter.
- Service Operation and CSI need to build a process that will help them agree on what areas need to be monitored and for what purpose.
1.2 RELATIONSHIP BETWEEN BUSINESS AND IT

Relationship Between Business and IT

Businesses have started realizing the importance of business processes. They are now focusing on internal practices and on their interactions with suppliers and customers. Consequently, they manage business processes as valuable assets.

Business managers ask for IT systems that make processes transparent, efficiently serving delivery and ensuring better process flow.

Well-distributed systems provide end-to-end business processes. Business managers look for assurance from IT organizations to embark with them at the business process level. They want applications and infrastructure to support new business initiatives. However, you might face cooperation and coordination issues on both sides. Business managers do not always understand the complications of creating the business process within the domain of information, applications, and infrastructure. On the other hand, you will have IT managers who might not understand what the business managers are trying to achieve. When you lack clear models for control and coordination, the problem gets even more complicated.

In the following section, we will see how Service Management principles help solve these complications between the business and IT.
In this section, you will be displaying common definitions that the students are already aware of and know. Here, we are reviewing them because we are tying them to the overall concept of business value creation through the use of People, Processes, and Functions. Please encourage the students to interact with the lecture by asking the highlighted questions.

**Service Management**

“Service Management is a set of specialized organizational capabilities for providing value to customers in the form of Services.”

(Source: Service Strategy book)

Service Management has its origin in traditional Service businesses, such as airlines, banks, telecom, and hospitality. IT organizations have grown to be Service-oriented. The increased awareness of shared Services and outsourcing has contributed to the growth of the Service sector. This, in turn, has strengthened the Service sector and imposed greater challenges at the same time.
Service

“A service is a means of delivering value to customers by facilitating outcomes customers want to achieve without the ownership of specific costs and risks.”

(Source: Service Strategy book)

Utility is what a customer will receive while Warranty is how it will be delivered.

Activity Time

“A process is a set of coordinated activities combining and implementing resources and capabilities in order to produce an outcome, which, directly or indirectly, creates value for an external customer or stakeholder.”

(Source: Service Strategy book)
Business processes apply experience, know-how and resources

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Business Processes

Business processes are governed by objectives, policies, and constraints to produce business outcomes. Resources such as people, knowledge, applications, and infrastructure support the processes.

Workflow ensures adequate performance and desired outcomes. It coordinates the implementation of tasks and the flow of control between resources and action.

Business processes are significant from a Service Management outlook. These processes implement the organization’s collective knowledge and expertise to reach a particular outcome or objective. You can consider processes as strategic assets because they provide you competitive advantage. Consequently, business processes are the major challenges that Service Management faces. Business processes can spread across organizational and geographical boundaries.
The end points of a business process are often defined by enterprise applications.

Adapted from: The end points of a business process are often defined by enterprise applications.

- CRM = Customer Relationship Management
- SCM = Supply Chain Management
- ERP = Enterprise Resource Planning
- GL = General Ledger
- AP = Accounts Payable
- AR = Accounts Receivable
- CIM = Customer Inventory Management

Early 90s to present
- CRM
- SCM
- ERP

Present to 2015+
- CRM
- SCM
- ERP
- Manufacture to inventory
- Procure to pay
- Order to cash

1970s to early 90s
- CRM
- SCM
- ERP

<1970
- CIM
- GL
- AP
- AR
Businesses have started realizing the importance of business processes. They are now focusing on internal practices and on interactions with suppliers and customers. Consequently, they manage business processes as valuable assets.

**Principles of Service Management**

You can use Service Management principles for analysis, inference, and action related to Services. Service Management principles are complementary to the functions and processes explained in the ITIL Core Library. You can seek guidance from these principles while changing the functions and processes. These principles are extremely helpful to eliminate all types of uncertainties and conflicts related to Services.

Here are the principles of Service Management:

- Specialization and coordination
- The Agency principle
- Encapsulation
  - Separation of concerns
  - Modularity
  - Loose coupling
- Principles of systems
  - Open-Loop and Closed-Loop Control processes
  - Feedback and learning

Let us review each of these principles in more detail.
Adapted from Relationships defined by the dynamics of ownership, control and utilization of resources in a business environment.

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Specialization and Coordination

Service Management aims at providing capabilities and resources in the form of Services to the customer. This is done while taking care of quality, cost, and Risks. As a Service Provider, you should remove the customer’s burden of ownership and control of resources. Specialization in ownership and control of resources will define the relationship between the Service Provider and the customer. Along with this, how you coordinate the dependencies between different pools of resources also shapes this relationship. Customers concentrate on Business Management and use a set of resources to achieve one set of outcomes (Pool A). In the same way, Service Providers specialize in Service Management using another set of resources. Service Management synchronizes the reliance of both sides on each other through assurance and utilization.
In case the ownership is not of strategic advantage to the customers, they are at ease with utilizing specific resources. Specialization is a pre-requisite for developing organizational capabilities. You can build management prospective from focused knowledge and experience with a set of resources. Specialization allows you to group the capabilities and resources under the same span of control. By specializing, you achieve focus, expertise, and excellence.

Decisions on specialization and coordination are driven by many factors. Some of these include transaction costs, the nature of resources to manage, the feasibility of encapsulating them into Services, and confidence in Service Management.
The agency model in Service Management

Adapted from The agency model in Service Management © Crown Copyright 2007 Reproduced under licence from OGC

Customer

User

Represent

Hired by

Used by

Represent

(p)

(p)

(p)

Agent

Principle

Service Staff

Service Provider (Management)

Provide objectives, resources, and constraints with authority to act

Perform as directed in return for compensation and reward
The Agency Principle

Principals hire agents such as employees, consultants, advisors, or Service Providers. These agents act toward specific goals on behalf of the principals. Principals provide the agents with objectives, funds, and constraints to act on. The agents get the right amount of sponsorship and support to succeed and act in the interest of their principals. For doing this, the agents receive compensation and rewards.

Employment contracts, Service agreements, and performance incentive plans are examples of written or implied contracts that record the agreement between principals and agents. When we talk about Service Management, the principals here would mean the customers. The agents would be the Service Providers and the users of the Service. Users are not required to be on the payroll of the customer. Service agents mediate the exchanges among Service Providers, customers, and users. In self-service situations, the Service agents are in the form of the systems and processes that the users interact with. These intertwining relationships between agents and principals create value for the customer.

Activity Time

You can also apply the agency model in the client/server models that are widely used in software design and enterprise architecture. Software agents communicate with users by providing access to back-end functions, processes, and systems.
A – Package business processes and IT applications into Service

B – Provide Service interface and ensure that Service is available for utilization with adequate

C – Improve business process to increase the utility of business Services.

D – Improve IT applications to increase the utility of IT Services.

Process improvement with Six Sigma for C.

Service Management with ITIL for A and B.

Application development and maintenance with CMMI for D.
Separation of Concerns
You can resolve or segregate complex issues and concerns. Specialized capabilities and resources work toward better outcomes while addressing each concern. This improves the efficiency of processes. You must correctly distinguish between what and how. Identify persistent and recurring patterns so that you can segregate fixed and varying elements. These segregations are useful for Service orientation.

Modularity
Modularity is a structural principle used to administer a system. Items that have similar functions are grouped together to form self-contained and viable modules. Other systems or modules can access the functionality through interfaces. Modularity reduces the duplication, complexity, and cost of changes. Consequently, modularity adds to efficiency and economy. You can have encapsulation at various levels of granularity, from software or hardware components to business processes.

Loose Coupling
Loose coupling facilitates internal changes without adversely affecting utilization. This also prevents you from pushing Changes to the customer’s side and making them incur unexpected costs.
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Loose coupling also allows you to assign the same set of resources to different users in a dynamic fashion. This provides you with the advantage of shared Services, Demand Management, redundancy, and investment protection for the customer. Service Providers benefit from reduced lock-in. You must ensure the good design of Service interfaces to avoid Problems.

ACTIVITY TIME

Principles of Systems

Open-Loop and Closed-Loop Control Processes

We have already discussed the Open-Loop systems and Closed-Loop systems in Unit 1.5.1 and Unit 1.5.2.

Let’s discuss the other principles of systems in detail.

Functions

Functions are specialized units of organizations that perform specialized types of work and are responsible for specific outcomes. They provide structure and stability to organizations. Functions are self-contained, with the capabilities and resources necessary for their performance and outcomes. Functions have their own body of knowledge, gained over years of experiences. In an organization design, coordination between functions through shared processes is a common pattern.
Functions and processes are often mistaken as the same. However, both functions and processes differ. The characteristics of processes are:

- Processes are measurable – if a process is performance driven, it can be measured in a relevant manner. For example, managers’ measure cost, quality, and other variables while practitioners measure the duration and productivity of Services.
- Processes have specific results – the process exists to deliver specific results that are individually identifiable and countable. For example, Change is a process and Service Desk is a function.
- Processes have customers – the entire process delivers to a customer’s or stakeholder’s expectations.
- Processes respond to specific events – a process is traceable to a specific trigger, whether ongoing or iterative.

Service Management principles are important aspects to take into consideration when planning how Service Management is going to be established. Even with the best plans and intentions, there may be a gap between the value that we create and the perception of that value from the customer’s point of view.
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Value Creation — Mind the Gap

It is not always easy to calculate the economic value of a Service. Most of the time, the value is more difficult to quantify than qualify. There are many forms and definitions of the value of a Service. This is because value is dependent on the customer’s business outcomes as well as on the customer’s perceptions.

The more intangible the value, the more important the definitions and differentiation of value become. Consequently, it becomes important for Service Providers to demonstrate value, influence perceptions, and respond to customer preferences.

Customers, on the other hand, have reference values on which they base their perception of added value from a Service. The reference value may be vaguely defined or based on facts. The Utility and Warranty of a Service bring out positive differences. A negative difference occurs when a customer suffers losses due to poor quality or hidden costs while utilizing the service.

Customers buy the fulfillment of their particular needs rather than Services from Service Providers. Many disconnects occur between IT organizations and the businesses they serve when this gap is not filled. The need for effectiveness in helping customers realize outcomes drives operational efficiency.
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ECONOMIC VALUE OF A SERVICE

POSITIVE DIFFERENCE

NEGATIVE DIFFERENCE

NET DIFFERENCE

GAINS FROM UTILIZING THE SERVICE

BASED ON DIY STRATEGY OR EXISTING ARRANGEMENTS

LOSS FROM UTILIZING THE SERVICE

REFERENCE

SERVICE UTILIZING

SERVICE

ADAPTED FROM "ECONOMIC VALUE OF A SERVICE" © CROWN COPYRIGHT 2007. REPRODUCED UNDER LICENCE FROM OGC
Marketing Mindset

To understand customer perceptions and preferences, you must have a marketing mindset. A marketing mindset involves the following simple questions:

- “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?”

(Source: Service Strategy book)

With a marketing mindset, you can understand the components of value from the customer’s perspective. The net difference of value is more important because value is added at different levels. In Service Management, a marketing mindset gives deep insight into the challenges and opportunities related to the customer’s business. This type of insight is vital for strategic success. As a result, it is crucial to understand how customers perceive the positive effect a Service can have on business outcomes.

1.2.2 ACHIEVING BUSINESS VALUE WITH SUPPLIER RELATIONSHIPS AND TECHNOLOGY ALIGNMENT
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Adapted from Customer decisions on Service Provider types

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Customer Decisions on Service Provider Types

Each type of provider comes with merits and demerits. Depending on transaction costs, strategic industry factors, core competence, and Risk Management capabilities, a customer might get Services from each type of Service Provider.

To explain why customers may prefer one type of provider to another, apply the principle of transaction costs. These are the overall costs of conducting a business with a Service Provider. Transaction costs are over and above the price of the Services sold. Some of these include the costs of finding and selecting qualified providers, negotiating agreements, measuring performance, managing the relationship with suppliers, and so on.

In addition, customers keeping a business activity in-house (aggregate) or deciding to source it from outside (disaggregate) rely on answers to the following questions:

- “Does the activity require assets that are highly specialized? Will those assets be idle or obsolete if that activity is no longer performed? (If yes, then disaggregate.)
- How frequently is the activity performed within a period or business cycle? Is it infrequent or sporadic? (If yes, then disaggregate.)
- How complex is the activity? Is it simple and routine?
- Is it stable over time with few changes? (If yes, then disaggregate.)
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- Is it hard to define good performance? (If yes, then aggregate.)
- Is it hard to measure good performance? (If yes, then aggregate.)
- Is it tightly coupled with other activities or assets in the business?
- Would separating it increase complexity and cause problems of coordination? (If yes, then aggregate.)

(Source: Service Strategy book)

Depending on the answers to these questions, customers might decide to switch between the types of Service Providers. The answers to these questions might also change over time, depending on new economic conditions, regulations, and technological innovation.

Customers might adopt a sourcing strategy that combines the advantages and mitigates the Risks of all three types. The customers may allocate their needs across the different types of Service Providers, based on whichever type best provides the business outcomes they desire. They may seek core Services from Type I or Type II providers and supplementary Services from Type II or Type III providers.

In a multisource environment, the core of a value network rests with the Service Provider that dominates the sourcing portfolio. Changes in the business fundamentals of the customer might alter the sourcing structure, making one type of Service Provider more desirable than the other.
From Value Chains to Value Networks

The process of creating value creates the links in a value chain. Each Service generates value through a sequence of Events leading to the delivery, consumption, and maintenance of that particular Service. When senior executives analyze each stage in the chain, they find opportunities for improvement. Value chains provide a strategy for vertically integrating and coordinating the dedicated assets required for product development. In the assembly-line approach, upstream suppliers add value and then pass it down to the next supplier. This traditional Service Model has three roles: the business, the Service Provider, and the supplier. The Service Provider gets goods and Services from its suppliers and assembles them to produce new Services to meet the needs of the business. The business, or customer, is the last link in the chain.

In Service Strategy, the focus must be on the value-creating system itself, rather than on a fixed set of activities along a chain. Some of the new strategies now available to Service Providers are:

- Assemble external talent — an organization cannot produce all the resources and capabilities required within an industry. Innovation usually happens outside the organization.
- Decrease costs — generate more Services in less time and at a lower cost than possible through conventional value-chain approaches.
Alter the distinguishing point — by employing external talent. An organization can reuse its own resources and capabilities to enhance Services better suited to its customer or market space.

Aggregate demand for complementary Services — a Type I Service Provider might lack the breadth of Services offered by Type II and Type III Service Providers. As a Service integrator, it is possible to address the gap and potentially boost demand with complementary offerings.

Team up with smart people outside the organization — as transaction costs drop, collaboration is less optional and more compulsory.

If you see Service Management as a pattern of collaborative exchanges, rather than an assembly line, you will see that the idea of value creation is due for revision. You need to start thinking of Service Management as a value network or net.

Any group of organizations engaged in both tangible and intangible exchanges is viewed as a value network, as shown in the given diagrams.
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Unit 1: Business

Unit 2: Service

Unit 3: Service

Corporation X

Enterprise Y

Adapted from Generic Value Network © Crown Copyright 2007 Reproduced under licence from OGC
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Adapted from Basic value chain and value network © Crown Copyright 2007 Reproduced under licence from OGC
Value Network

“A value network is a web of relationships that generates tangible and intangible value through complex dynamic exchanges through two or more organizations.”

(Source: Service Strategy book)

Despite having many parties that influence each other, Services operate with the efficiency of a self-contained enterprise, operating on a process rather than on an organizational basis. The central point of execution is the core enterprise. It is responsible for the entire value network, including the infrastructure by which other business partners can collaborate to deliver goods and Services. You need to remember that intangible exchanges are not just activities that support the Service; they are the Service. Customer expectations must come first. Only after considering customer expectations should you move on to consider the resources and capabilities required to deliver Services.

Service Systems

Often, Services are made of complex networks of value flows and forms of value, involving many parties that influence each other in many ways.

Value nets communicate the model in a clear and simple way because their design shows external capabilities.
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Service levels

Customer satisfaction

Service quality

Productivity

Service funding

Business Unit

Adapted from Example value network © Crown Copyright 2007 Reproduced under licence from OGC
Value Net Diagrams

“Value net diagrams are tools for service analysis. They show what an organization does, how it is done and for whom. They need not be overly complex to be useful. Simple forms are used throughout the publication to illustrate service management structures and topics.”

(Source: Service Strategy book)
Adapted from Service Management as a Strategic Asset and a Closed-Loop System © Crown Copyright 2007 Reproduced under licence from OGC
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**Service Management as a Strategic Asset**

Service Providers need to clearly define the value network within which they support customers. This is essential for Service Management to develop into a Strategic Asset. This network can be completely contained within a business, as is the case with Type I and Type II providers. Typically, the value network stretches across organizational boundaries to include external customers, suppliers, and partners. Managers can better understand and control the systems and processes they operate by identifying key relationships and interactions within the value network. Managers are then better equipped to handle the complexity of their business environments as customers follow their own business models and strategies. This also enables the managers to keep a tab on the costs and Risks involved in providing a Service.

Strategic Assets are dynamic. They have to maintain their performance in changing business conditions and shifting organizational goals. This requires Strategic Assets to have the capacity to learn from experience. Service Management can have this capacity if it operates as a Closed-Loop system that systematically creates value for customers while capturing value for the Service Provider. An importance facet of Service Management is regulating the interactions between customer assets and Service Assets.
Increasing Service Potential

One of the main objectives of Service Management is to improve the Service potential of its capabilities and resources. Capabilities and resources or a Service Provider’s Service Assets represent the Service potential or the productive capacity available to customers through a set of Services. Projects that develop or improve capabilities and resources increase Service potential. Through Configuration Management, wherever the Service Assets add Service potential, they should be tagged as Services. This will help decisions related to Service improvement and Asset Management.

“Examples of how Service potential is increased

<table>
<thead>
<tr>
<th>Service Management initiative</th>
<th>Increasing Service potential from capabilities</th>
<th>Increasing Service potential from Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data centre rationalization</td>
<td>Better control over Service Operations</td>
<td>Increases the capacity of assets</td>
</tr>
<tr>
<td></td>
<td>Lower complexity in infrastructure</td>
<td>Increases economies of scale and scope</td>
</tr>
<tr>
<td></td>
<td>Development of infrastructure and technology assets</td>
<td>Capacity building in Service assets</td>
</tr>
</tbody>
</table>
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| Training and certification | Knowledgeable staff in control of Service Lifecycle  
Improved analysis and decisions | Staffing of key competencies  
Extension of Service Desk hours |
|----------------------------|-------------------------------------------------|---------------------------------------------------|
| Implement Incident Management process | Better response to Service incidents  
Prioritization of recovery activities | Reducing losses in resource utilization |
| Develop Service Design process | Systematic design of Services  
Enrichment of Design Portfolio | Reuse of Service components  
Fewer Service failures through Design |
| Thin client computing | Increased flexibility in work locations  
Enhanced Service continuity capabilities | Standardization and control of Configurations  
Centralization of admin functions” |

(Source: Service Strategy book)
Increasing Performance Potential

The Services offered by a Service Provider represent the potential to increase the customer assets’ performance. If there is no potential, there will be no justification for customers to procure the Services. The Service performance potential has to be visualized, and defined so that every decision of the manager is focused in creating value for customers. It is important to have the right mix of Services offered to the customers, and design those Services to have an impact on the customer’s business, increasing the performance potential of Services. To do this, you need to ask some important questions:

- “What is our market space?
- What does that market space want?
- Can we offer anything unique in that space?
- Is the space already saturated with good solutions?
- Do we have the right portfolio of services developed for a given market space?
- Do we have the right catalogue of services offered to a given customer?
- Is every service designed to support the required outcomes?
- Is every service operated to support the required outcomes?
- Do we have the right models and structures to be a service provider?”

(Source: Service Strategy book)
Demand, Capacity, and Cost

Service demand increases when Services successfully increase the performance potential of customer assets. This positive feedback must be taken into account. All Service Management decisions must be directed at increasing this positive feedback. Customer compensation for the Services received accompanies the Service demand. Compensation will depend on the type of agreement between the Service Unit and the Business Unit.

As Service Management matures gradually, the delivery of higher levels of Utility and Warranty becomes achievable without a proportional costs increase. Because of the effect of fixed costs and overheads, the costs of providing additional units of Service output can reduce with the rise in Service demand. In each customer demand cycle, value is created by a resultant delivery cycle. The customer’s value creation is matched by the Service Provider’s value capture.

Supplier Management

“The goal of the Supplier Management process is to manage suppliers and the Services they supply, to provide seamless quality of IT Service to the business, ensuring value for money is obtained.”

(Source: Service Design book)
The business requires a diverse range of IT Services, and it is not always possible to provide all Services in-house. Inevitably, some Services have to be outsourced to external suppliers. It is the responsibility of Supplier Management to ensure that the relationship with the suppliers delivers the maximum benefit to the business and that it helps achieve IT Service targets.

Value to the Business

Supplier Management aims to obtain value for money from suppliers and their contracts. It also monitors whether all targets in Underpinning Contracts (UCs) and agreements are in consonance with business needs and high-level targets within SLAs. This ensures that the end-to-end Services delivered to the business are in line with business needs and expectations. All Supplier Management activities must follow corporate requirements, along with the requirements of all other IT and Supplier Management processes, especially Information Security Management and IT Service Continuity Management (ITSCM).
UNIT 2: MANAGEMENT OF STRATEGIC CHANGE

Overview

It is critical to manage Strategic Change because any Change can cause failures for the entire organization. Strategic Change is critical to achieving business goals and objectives and failure to manage these Changes can cause the Service Provider to lose organizational value.

Strategy provides guidance on the basic principles of the Service Management practice for developing Service Management policies, guidelines, and processes across the ITIL Service Lifecycle.

Unit Learning Objectives:

At the end of this training, you will be able to:

- Understand the challenge of value creation.
- Identify the critical success components of managing Lifecycle Risk.
- Analyze business benefits.
- Determine benefits realization.
- Determine value to business such as Value of Investment (VOI) and Return on Investment (ROI).
- Determining Variable Cost Dynamics (VCD).
- Apply the alignment of business policy, future direction, and Demand Management.
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- Understand the alignment with the Service Portfolio and Service Catalogue Management.
- Understand how to plan and define scope.
- Describe resource and capability planning.
- Apply the awareness of design and delivery model choices.
- Understand budgeting, costing, and Service Assets.
- Understand how to control quality.
- Describe quality opportunities.
- Distinguish intangible and measuring benefits.
- Identify Service Assets and strategic assets.
- Analyze strategic influencing.
- Understand how to define awareness communication activities.
- Understand people education and knowledge transfer management.
- Analyze customer liaison.
- Understand Business Relationship Management (BRM).
- Distinguish Service structure and value nets and value-chains.
- Decide about termination and retirement of Services.

2.1 PURPOSE AND OBJECTIVES

ACTIVITY TIME
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Forming and Formulating a Service Strategy

Strategy is central to the overall performance of organizations. Strategy includes both deep thought and action. The stakes can be quite high for senior managers responsible for investment decisions. Consequently, managing strategic change is critical for the success of the Change process.

You can manage strategic changes by doing the following:

- Performing Strategic Assessment
- Setting objectives
- Aligning Service Assets with customer outcomes
- Defining Critical Success Factors (CSFs)
- Implementing CSFs and competitive analysis
- Prioritizing investment
- Exploring business potential
- Aligning with customer needs
- Going in for expansion and growth

2.2 THE CHALLENGE OF VALUE CREATION
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Economic Value of a Service

The economic value of a Service is easy to calculate in financial terms, but quantifying the value is difficult. The value of a Service has many forms and is largely dependent on customer perceptions. Perceptions are influenced by Service attributes, customers’ self-image, or actual position on the market such as being an innovator, market leader, or risk-taker.

If the value is intangible, the attributes of the Service and its ability to enable differentiation in the market become more important. Customers do not like ambiguity and are reluctant to buy Services if there is ambiguity in the cause-and-effect relationship between the Service and its benefits. As a result, Service Providers must demonstrate value, influence perceptions, and respond to preferences.

Customer Perception Influence Value Perception

Customer expectations influence value perception, and their expectations are generally based on some reference values. The customer’s perception of the added value of a Service is based on two aspects:

- Prior reference values that might be vaguely defined
- Hard facts
An example of a reference value is the baseline that customers maintain on the cost of in-house functions or Services. Service Providers must understand or at least get a sense of what this reference value is. To do this, the Service Provider may need to engage in extensive dialog with the customer, rely on prior experience with the same or a similar customer, or use the research and analysis available on the market. The economic value of the Service is the total of this reference value and the net difference in value the customer relates with the Service offered. For the customers, the fulfillment of their particular need, that is, Service Utility and Warranty, is the prime reason why they buy Services.

Another challenge for value creation is adopting a holistic approach to Service Design. New applications or significant modifications or amendments to existing applications must be designed, or developed, holistically and not in isolation. This will guarantee that the design addresses the functional elements as well as all management and operational requirements. An organization should ensure that all its employees are aware of this approach and identify the types of “significant Change” that should initiate Service Design activities.
To ensure fewer issues in subsequent Lifecycle stages, Service Design must consider and incorporate all key design issues and activities that may impact all IT and Service Management processes within its own design activities. For example, how will the new Service impact the Service Desk and its current staffing levels. Will the new Service require new monitoring capabilities that are not utilized in Event Management today? It is important to consider each individual aspect of Service Design in conjunction with all the other aspects of Service Design, as follows:

- **Service Management systems and tools, especially the Service Portfolio:** Make sure that this new or changed Service aligns with all other Services, and that all the other Services that interface, support, or depend on the new or changed Service are consistent with that Service. If this is not the case, you need to update either the design of the new Service or the other, existing Services. In addition, you should review Service Management systems and tools to ensure that they are capable of supporting the new or changed Service.

- **Technology architectures and management systems:** Make sure that all the technology architectures and management systems are consistent with and capable of operating and maintaining the new Service. If not, you need to amend the architectures and management systems or revise the design of the new Service.
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- Processes: Make sure that the processes, roles, responsibilities, and skills have the capability to operate, support, and maintain the new or changed Service. If not, you need to enhance the existing process capabilities or revise the design of the new Services. Include all IT and Service Management processes, not just the key Service Design processes.

- Measurement methods and metrics: Make sure that the existing measurement methods can provide the required metrics on the new or changed Service. If not, revise the Service metrics or improve the measurement methods.

You must link the business outcomes, their objectives, and their underpinning processes and functions to the IT Services and their underpinning assets, processes, and functions. This provides the ability to measure and demonstrate value to the business.

Service design must ensure that the IT systems and Services are designed, planned, implemented, and managed appropriately for the business as a whole. The failures of the IT Service - such as disoriented toward business and customer, unfocused, expensive and insecure, inflexible and inadaptable, unable to handle Risks, irresponsive toward matching the right business availability with business needs, and so on - will pose a challenge to value creation.

For Service Design to be effective, organizations must understand the importance of the Service Design function and provide support for the maintenance and maturity of Service Design as a fundamental element of Service Management. For Service
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Design to efficiently deliver quality Services in pressure situations, organizations must continually review and improve their Service Design capability. It is important to have risk assessment and Risk Management as an integrated, inherent part of all design activities.

Good Service Design practices improve value creation through:

- Reduced Total Cost of Ownership (TCO)
- Improved quality of Service
- Improved consistency of Service
- Easier implementation of new or changed Services
- Improved Service alignment
- More effective Service performance
- Improved IT governance
- More effective Service Management and IT processes
- Improved information and decision-making
Resources and capabilities are the basis for value creation.

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Resources and Capabilities are the Basis for Value Creation

Service Management ensures as well as actively supports the alignment of IT Services with business requirements. Organizations must have and manage the four IT assets, namely, IT infrastructure, applications, information, and people, for effective IT Service Provision. However, on their own, these assets are not enough to meet the Service Management requirements of the business. ITIL Service Management utilizes these four asset types as part of “Service Assets,” which also contain capabilities and resources.

Continual Service Improvement (CSI) should be used in all design activities to ensure design and solution effectiveness and identify changing business trends. As a result, it is important that you consider an iterative and incremental approach to Service Design for Services in the live environment to adapt and evolve those Services with business needs.

2.3 CRITICAL COMPONENTS OF LIFECYCLE RISK MANAGEMENT

Organization Capability

The challenges an organization is expected to overcome can shape its capability.
Let us look at an example.

In the 1950s, to overcome the challenges of small scale and financial capital, Toyota developed unique capabilities in production engineering, operations management, and supply chain management. Toyota developed the new capabilities to make up for limits in:

- The inventory size it could afford.
- The number of components it could develop itself or the ability to own the companies that produced them.

Toyota created what is now the most-copied production system in the world. This system addresses the need for financial austerity, tight coordination, and greater dependency on suppliers today. This capability of Toyota helped it overcome its arch American rival’s business capabilities.
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Storage Service

Store what?
- Secure cabinets
- Portable devices
- Online database
- Store equipment
- Store files
- Store information

Store how?
- Online database
- Portable devices
- Secure cabinets
Effective Management of Lifecycle Risks

For the effective management of Lifecycle Risks, it is essential that you manage the complexities, costs, flexibility, and varieties of Services in a structured way. The application of this structured approach makes an organization’s plan effective, economical, and useful.

Let us take an example of the generalized pattern of a storage system.

This simple storage pattern is intrinsic in many types of storage Services. Each storage component is specialized to support a particular type of customer outcome. In any activity, task, or performance situation, storage holds, organizes, or secures assets. Storage also helps in easy access, efficient organization, and security from Risks.
CSFs or Strategic Industry Factors

CSFs or Strategic Industry Factors (SIFs) determine the success of each Service Strategy. Customers, competitors, suppliers, and regulators affect CSFs.

Strategic planning and development involves identifying CSFs for a market space. In each market space, Service Providers require a core set of assets to be able to support a customer portfolio through a Service Portfolio.

You should regularly review CSFs because of the dynamic nature of organizations, markets, and business strategies. For example, legislative changes in the healthcare industry, setting stricter norms in relation to the privacy of patient data would affect the CSFs of healthcare Service Providers. Another example would be the emergence of a new market leader in the search engine and online advertising industry, which would create new CSFs, such as an innovative business model and technological capability. Most CSFs involve multiple Service Assets, such as financial assets, experience, skills, intellectual property, infrastructure, and scale of operations.
The Service Assets required to implement a Service Strategy depend on the CSFs involved. For example, if a strategy requires Services to be offered across a wide area, the Service Provider cannot just build capacity at a few central locations. The provider would also have to operate the network as a system of nodes, such that the cost of serving the customer does not exceed the price point required to maintain a strategic position in the market space. Not all CSFs favor large organizations. Small organizations can also have an advantage if they understand the customer or market space to a great degree. Consequently, managers need to regularly determine the CSFs in force.
Service assets are critical success factors. Of these, X and Y are common across market spaces so they are highly leveraged assets.

Adapted from "Critical Success Factors Leveraged across Market Spaces" © Crown Copyright 2007 Reproduced under licence from OGC.
Critical Success Factors Leveraged Across Market Spaces

Customer assets and Service archetypes can help define CSFs. For example, IT Service Providers working in healthcare have a deep knowledge of hospital medical procedures, medical equipment, insurance regulations, and so on. They generally also have physicians and clinicians on their payroll. As a CSF, they have to manage users with highly specialized skills, special equipment, low error tolerance, and demanding requirements related to the security and usability of Services. Other market spaces, such as military applications, also share a subset of these CSFs. Clearly, CSFs can span across market spaces. The CSFs symbolize opportunities to take advantage of economies of scale and scope.

CSFs and Competitive Analysis

CSFs determine whether you succeed in a market space. CSFs also help evaluate and improve a Service Provider’s strategic position in the market space. This requires CSFs to be refined into a unique value proposition for the customers. For example, an organization might have to maintain high levels of availability, the operational reliability of IT infrastructure, and enough capacity to support business continuity to remain competitive in a market space. Cost-efficiency, customer satisfaction, wide Service range, regulatory compliance, and global presence are common CSFs for most market spaces. Others might require specialized domain knowledge. Type I and Type II providers tend to have a good understanding of the customer’s business.
It is important to undertake a strategic analysis for each market space, major customer, and Service Portfolio. This helps you determine your current strategic position and the position required for success. This requires data from various sources, such as customer surveys, Service-level reviews, industry standards, and competitive analysis done by in-house research teams or third parties. You should measure each CSF on a scale. Where possible, you should adopt the common scales used within a market space because this allows benchmarking and competitive analysis.
<table>
<thead>
<tr>
<th>Critical Success Factor X</th>
<th>Critical Success Factor Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannot play</td>
<td>Entry level</td>
</tr>
<tr>
<td>Could play but difficult</td>
<td>Industry average</td>
</tr>
<tr>
<td>Could play</td>
<td>Industry best</td>
</tr>
<tr>
<td>Can play</td>
<td>Leader</td>
</tr>
</tbody>
</table>

Adapted from Critical Success Factors and competitive positions in playing fields © Crown Copyright 2007 Reproduced under licence from OGC
CSFs and Competitive Positions in Playing Fields

You also use CSFs to define playing fields. These function as reference frameworks that can be used to evaluate strategic positions and competitive scenarios. The playing field aids the strategic analysis of market spaces, customer portfolios, Service Portfolios, and contract portfolios. Managers use the applicable CSFs and scales to construct the required scenarios.

This analysis is essential to ensure that the organization is not caught off-guard by foreseeable changes in the market place that could destroy its value proposition. This commonly happens with Type I Service Providers because they are often not used to the business analysis found in Type II and Type III providers. Type I providers also have to deal with competition even if they have captive customers within their business.
Affordability
Choice of platforms
Set-up costs/lead-time
On-site technical support
Reliability

Benchmark may be based on industry averages, closest rival or most attractive alternative for the customer. Customer perception may be measured on some suitable scale or index acceptable within the industry or region.

Benchmarking Customer Perception (Index)

Your organization

D Differentiation

B Benchmark

P Perception (Index)

C Customer
Differentiation in Market Spaces

Service Providers should analyze each market space where they hold a presence and determine their position in relation to the options customers have with alternative providers.

There are CSFs that determine whether a Service Provider is competitive in a market space. These factors are defined according to the relative importance of specific benefits or outcomes as perceived by customers. These benefits could be affordability, number of Service channels or delivery platforms, lead times required to activate new accounts, and so on.

Suitable indices or scales will be required. You can plot a value curve by linking performance on each scale corresponding to a CSF. Market research will reveal the average value curve of the industry or the main competitors. You can use customer satisfaction surveys and reviews to plot a value curve specific to a market space or the customer portfolio.

Service strategies must create separation between the value curves. This is just a differentiation in market space. The differentiation is directly proportional to the value proposition offered, per your customer perception. The differentiation is created through a more optimal mix of Services, better Service Design, operational efficiency, and so on. You can create differentiation through various combinations of these factors. Service Management involves ensuring differentiation in each market space through appropriate decisions in relation to Service design, transition, operation, and improvement.
This is equally applicable to Type I providers. It is good to review the competitive position of each Service in its market space regularly. This becomes even more important in the context of changing business trends or major changes in the business environment that influence the customer’s decision to source a Service.
Little variation
Lots of variation
Failed process
Combined losses from deviation of performance (Taguchi Loss Function)
Denied of performance from committed levels
Adapted from Combined losses from deviation of performance (Taguchi Loss Function)
© Crown Copyright 2007 Reproduced under licence from OGC
Failed process
Little variation
Lots of variation
Combined losses from deviation of performance
Service Provider of customer and
Combination losses
Table of Contents
Preserving Value — Performance Deviations

Most experienced customers care about the Total Cost of Utilization (TCU) of a Service. Customers perceive the direct costs of actual consumption as well as other related costs incurred indirectly in the process of receiving the committed Utility and Warranty.

Creating value for customers is a highly visible objective for all Service Providers. However, when these objectives are conflicting, any value created for customers can easily get lost in the hidden costs that the customer incurs when utilizing a Service. The poor management of Services over the Lifecycle can result in customers paying much more than the Service price. This usually happens when the effect of hidden costs sets in. In such cases, the enduring value for customers turns out to be much lower than the value created. As a result, Service Providers must focus on eliminating hidden costs. This is a challenging task but if achieved, it will prove to be a CSF.
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Positive goal

High High

Performance lift. Gains in one factor positively affect the other in a virtuous cycle.

Negative default

Low

Performance drift. Losses in one factor negatively affect the other in a vicious cycle.

High

Efficiency

Effectiveness

Adapted from Efficiency and effectiveness
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Effectiveness and Efficiency in Operations

Services must be beneficial for both the customer and the Service Provider. You achieve economic viability when value creation for the customer results in value capture for the Service Provider.

Measures of efficiency depend on the type of input resource. For example, they could be based on minutes, full-time equivalents (FTEs), square feet of space for facilities and equipment, gigabytes of storage, or simply the financial equivalents of those units.

Efficiency is measured by monitoring the desired effect. In the context of Services, the two primary effects are Utility and Warranty. Improvements in Service Design and Service Operation can ensure efficiency gains.

Reducing Hidden Costs

The Service Provider should ensure that there is a reduction in hidden costs, such as resources costs and the costs incurred when making Changes.

Customers are encouraged when Service transaction costs are low. Customers find it more profitable to lease assets such as applications and infrastructure rather than buy them. Some of this value comes in the form of the reduced lock-in that would otherwise exist because of high switching costs.
Some ways to reduce lock-in are:

- Rent or lease assets rather than buy them.
- Contract out the Maintenance and Repair Operations (MRO) of the assets to a third party, provided a similar or better level of Service is available.

Sometimes Services, by themselves, become a source of lock-in for customers. Some examples of this are:

- Disruption in the learning curves of the users and other people assets of the customer
- Changes required in processes, applications, and infrastructure when switching to a new Service Provider

You must remember that customers value standardization in technologies, processes, and industry practices to increase network externalities.

<table>
<thead>
<tr>
<th>Principle</th>
<th>Guidance</th>
</tr>
</thead>
</table>
| Begin on the outside, not the inside of the service organization | A service organization should ask itself, ‘What do customers really want and when?’ and ‘What do the best alternatives give our customers that we do not?’

Customers, for example, frequently welcome discussion on ways to make better use of their service providers. They may also welcome personal relationships in the building of commitment from providers. |
### Table of Contents

<table>
<thead>
<tr>
<th><strong>Principle</strong></th>
<th><strong>Guidance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness to customers beats all other measurement goals</td>
<td>Care is taken not to construct control measures that work against customer responsiveness. For example, organizations sometimes measure Change Management process compliance by the number of RFCs disapproved. While this measurement may be useful, it indirectly rewards slow response. An improved measurement strategy would include the number of RFCs approved in a set period of time as well as the percentage of changes that do not generate unintended consequences. Throughput, as well as compliance, is directly rewarded.</td>
</tr>
<tr>
<td>Think of process and service as equals</td>
<td>Focusing on services is important but be careful not to do so at the expense of process. It is easy to lose sight of process unless measurements make it equally explicit to the organization. Reward those who fix and improve process.</td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Principle</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers matter</td>
<td>Use a numerical and time scale that can go back far enough to cover the explanation of the current situation. Financial metrics are often appropriate. For non-commercial settings, adopt the same principle of measuring performance for outcomes desired. For example, ‘beneficiaries served’.</td>
</tr>
<tr>
<td>Compete as an organization. Don’t let overall goals get lost among the many performance measures</td>
<td>Be mindful of losing track of overall measures that tell you how the customer perceives your organization against alternatives. Train the organization to think of the service organization as an integrated IT system for the customer’s benefit.&quot;</td>
</tr>
</tbody>
</table>

### Measurement Effectiveness

The performance measurements of most Service organizations, including mature organizations, are traditionally inward facing, despite the knowledge of the Deming Principle. The measurement focus is on internal goals rather than on external realities.
Monitoring should have “end-to-end” visibility. This means there should be alignment between the IT organization and business processes. The IT organization gains relevance if it answers the following questions:

- “What is the delay, together with business impact, on the Supply Chain due to an IT problem?”
- How long does it take to process procurement orders, and where are the worst delays?
- When is more than £1,000,000 worth of orders waiting to go through the distribution systems?”

(Source: Service Strategy book)

2.4 BUSINESS BENEFITS

ACTIVITY TIME

“Common business objectives

<table>
<thead>
<tr>
<th>Operational</th>
<th>Financial</th>
<th>Strategic</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorten development time</td>
<td>Improve return on assets</td>
<td>Establish or enhance strategic positioning</td>
<td>Increase market share</td>
</tr>
<tr>
<td>Increase productivity</td>
<td>Avoid costs</td>
<td>Introduce competitive products</td>
<td>Improve market position</td>
</tr>
</tbody>
</table>
## Table of Contents

<table>
<thead>
<tr>
<th><strong>Operational</strong></th>
<th><strong>Financial</strong></th>
<th><strong>Strategic</strong></th>
<th><strong>Industry</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase capacity</td>
<td>Increase discretionary spending as a percentage of budget</td>
<td>Improve professionalism of organization</td>
<td>Increase repeat business</td>
</tr>
<tr>
<td>Increase capacity</td>
<td>Increase discretionary spending as a percentage of budget</td>
<td>Improve professionalism of organization</td>
<td>Increase repeat business</td>
</tr>
<tr>
<td>Minimize risks</td>
<td>Increase revenues</td>
<td>Provide better quality</td>
<td>Recognized as producer of reliable or quality products or services</td>
</tr>
<tr>
<td>Improve resource utilization</td>
<td>Increase margins</td>
<td>Provide customized offerings</td>
<td>Recognized as low price leader</td>
</tr>
<tr>
<td>Improve efficiencies</td>
<td>Keep spending to within budget</td>
<td>Introduce new products or services</td>
<td>Recognized as compliant to industry standards</td>
</tr>
</tbody>
</table>
**Objectives of Business**

Being a self-evident, numerical measure, many organizations use ROI to decide on whether or not to adopt Service Management. However, ROI calculations can prove to be a challenge when they focus on the short term. Implementing Service Management can involve different degrees of ROI, depending on varying business impact. The complexities of implementation can also be difficult to quantify.

The ROI function depends on the size of the organization. Smaller organizations can calculate their returns without the aid of ROI. Larger organizations, where investments are diverse, need an ROI analysis.

It is difficult to identify the financial return from Service Management because it does not provide any tactical benefit. Without any evident business imperative, it can be quite a challenge to obtain funds for ITIL projects. The following techniques address this challenge:

- Business case
- Preprogram ROI
- Post-program ROI
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2.4.1 DETERMINING BENEFITS REALIZATION

Business Case

The business case is a means to identify business imperatives that necessitate Service Management. According to ITIL, a business case is a decision-support and planning tool that predicts the probable consequences of a business action in qualitative and/or quantitative terms. Financial analysis is the core of a good business case. The structure of a business case varies according to the needs of an organization.

“Sample Business Case Structure

A. Introduction

Presents the business objectives addressed by the Service

B. Methods and assumptions

Defines the boundaries of the business case, such as time period, whose costs and whose benefits

C. Business impacts

The financial and non-financial business case results

D. Risks and contingencies

The probability that alternative results will emerge.

E. Recommendations

Specific actions recommended.”

(Source: Service Strategy book)
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Business Objectives

A business case provides a detailed analysis of benefits or impacts to the business. A study of business impacts is important because they are linked to business objectives. The business objectives differ for commercial organizations and for nonprofit organizations, as follows:

- The business objectives for commercial provider organizations tend to be the objectives of the business itself, including financial and organizational performance.
- The business objectives for nonprofit organizations tend to be for the people served as well as for financial and organizational performance.

Preprogram ROI

Managers prepare budgets for long-term projects that will deliver returns in the future. The returns can be either in the form of additional cash inflows, such as earnings, or as reduced cash outflows, such as savings. This type of budgeting is called capital budgeting.

Managers make decisions while preparing capital budgeting. The two broad categories of these decisions are:

- Screening decisions: It deals with whether a new Service Management initiative overcomes a predetermined hurdle, such as minimum return.
Preference decisions: It provides some choice between alternatives. For example, you can choose between an internal Service Improvement Plan (SIP) and a Service-sourcing program.

Net Present Value and Internal Rate of Return

Returns do not immediately follow investments. This delay represents the time value of money, and it is termed discounted cash flows. These discounted cash flows have to be accounted for through capital budgeting.

You can take two approaches to capital budgeting:

- Net Present Value (NPV)
- Internal Rate of Return (IRR)

In the NPV method, the program’s cash inflows are compared to the corresponding outflows. The difference between the two is called NPV. NPV indicates whether the investment is worthwhile. The implications of various NPVs are:

- Positive — indicates a return greater than the required rate of return
- Zero — indicates a return equal to the required rate of return
- Negative — indicates a return less than the required rate of return
A company’s cost of capital is the minimum rate of return required. This amount is the average rate of return the company owes to its shareholders or creditors for using the funds they provide. Consequently, the cost of capital functions as a minimum screening device. NPV is preferred for screening decisions and IRR is preferred for preference decisions.

NPV offers the following advantages for Service Management programs:

- “NPV is generally easier to use
- IRR may require searching for a discount rate resulting in an NPV of zero
- IRR assumes the rate of return is the rate of return on the programme, a questionable assumption for environments with minimal service management programme experience
- When NPV and IRR disagree on the attractiveness of the project, it is best to go with NPV. It makes the more realistic assumption about the rate of return”

(Source: Service Strategy book)

There are some alternatives to NPV such as Pay-Back and Simple Rate of Return. However, Pay-Back does not give an accurate idea of the profitability of an investment and Simple Rate of Return does not take into account the time value of money.
**Types of Cash Flow**

<table>
<thead>
<tr>
<th>Typical cash outflows</th>
<th>Initial investment in assets, including installation costs Periodic outlays for maintenance Training and consulting Incremental operating costs Increase in working capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical cash inflows</td>
<td>Incremental revenues Reduced costs Salvage value from old assets, either from operational retirement or project end Release of working capital</td>
</tr>
</tbody>
</table>

(Source: Service Strategy book)

**Types of Cash Outflows and Inflows on Which NPV Must Focus**

Although unrealistic, it is assumed that all cash flows, except the initial investment, occur at the end of specific periods. Also, depreciation is not deducted even though it affects taxes. This is because the NPV method automatically takes into account the return on the original investment.

There are many techniques available to manage uncertain cash flows. Some of these are quite complicated because they involve computer simulations and advanced mathematics.

Cash flows related to process improvement and automation are often difficult to estimate. Although the tangible benefits are easy to estimate, the intangible benefits, such as lower Risks, greater
reliability, quality, and speed, are difficult to quantify. However, there is a simple solution.

For example, an organization invests in Service Management process-automation software. The organization has an 8% discount rate. The defined life of the software is 5 years. A prior NPV analysis of the tangible costs and benefits shows an NPV of -£139,755. If the intangible benefits are large enough, a negative NPV could turn positive. To compute the benefit required (inflow), first find the Present Value Factor. Let’s assume a value of 3.993. Now perform the following calculation:

\[
\text{NPV excluding intangible benefits, } \frac{\text{£139,755}}{\text{Present value factor (8%, 5 periods), 3.993}} = \text{£35,000}
\]

The result provides an approximate value. If the value of intangible benefits is at least £35,000, the NPV is acceptable and process automation can be pursued. If the senior managers believe the intangible benefits amount to less than £35,000, process automation should not be pursued.

The preference decisions are as follows:

Many opportunities slip by the screening decision process. Some opportunities might have to be passed because of financial or resource constraints. In such situations, you have to make ranking or rationing decisions. These decisions rank alternatives and are called preference decisions.

The NPVs of different projects are not comparable unless the investments are equal. Consequently, preference decisions use the IRR. The higher the IRR, the more profitable the project.
IRR signifies the rate of return over the entire life of the project. IRR is calculated by finding the discount rate that equates the present value of a project’s cash outflows to the present value of its inflows. In other words, IRR is the discount rate in an NPV of zero value.

To calculate IRR, first determine the discount rate that will give an NPV of zero. It’s easiest to divide the project investment by the expected net annual cash flow. You can find the IRR from the resultant factor. Then, compare the IRR to the rate of return required. Consider a project viable only if the IRR is high. Finally, rank all viable projects according to their IRR values.

**Post-Program ROI**

Often, organizations justify Service Management implementations through qualitative arguments, without a business case or plan. However, without clearly defined financial objectives, organizations are not able to measure the benefit brought about by Service Management. This approach also increases the chances of the organization’s business leaders opposing Service Management initiatives. Once stakeholders have experienced shortfalls in past frameworks, they may question the resultant value of a Service Management program.

Clearly defined financial objectives help measure the value that Service Management initiatives add. These objectives can convince business leaders, stakeholders, and customers of the value of Service Management. An organization should perform ROI analyses at frequent intervals to ensure the continual funding of investments in Service Management.
Determine programme objectives

Identify qualitative benefits

Communicate results

Calculate ROI

Data to monetary conversion

Isolate effects of programme

Programme costs

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Program Objectives

Clear objectives should determine the scope of the ROI analysis. Objectives can vary from simple terms to the adoption of industry practices. Here are some examples:

- “Deliver consistent and repeatable service
- Lower the overall total cost of ownership
- Improve quality of service
- Implement industry-wide best practices
- Provide an overall structure and process
- Facilitate the use of common concepts and terminology”

(Source: Service Strategy book)

Data Collection

For accurate and valid ROI, data collection is a vital activity. Data can be collected before or after implementation. The source and nature of data depends on the objectives of the program. Possible sources include quality metrics, Service transaction costs, and customer satisfaction questionnaires. However, you must remember that data collection for process transactions will differ from data collection for a function.

Isolate Program Effects

The next step is to isolate the effects of the Service Management program using techniques, such as forecast analysis, Impact estimates, and control groups.
Data to Monetary Conversion

After the effects have been established, you should monetize the impact data. Only monetary values can be compared to program values. The difficulty here is in assigning a value to each unit of data. Choose the technique according to the nature of the data:

- “A quality measure, such as a complaint or violation, is assigned or calculated, and reported as a standard value
- Staff reductions or efficiency improvements, in the form of loaded costs, are reported as a standard value
- Improvements in business performance, in the form of lessened impacts, are reported as a standard value
- Internal or external experts are used to establish the value of a measure”

(Source: Service Strategy book)

Calculate Program Costs

This requires you to track all costs linked to the program. These costs could include:

- “The planning, design and implementation costs. These are pro-rated over the expected life of the programme
- The technology acquisition costs
- The education expenses”

(Source: Service Strategy book)

Next, calculate the ROI using the NPV or IRR technique. Finally, determine the qualitative benefits of the program, as detailed in the discussion about business cases.
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**Service Portfolio Management Methods**

Service Portfolio Management is a dynamic and continual process if it defines, analyzes, approves, and charters Services, resources, portfolio data, business cases, and so on.

Let us look at the fourth Service Portfolio Management method in more detail.

**Charter**

All listed decisions and action items need to be shared with the business and linked to budgetary decisions and financial plans. The budget allocations, in turn, enforce resource allocation.

The projected value of each Service should be incorporated into financial forecasts and resource plans. This helps you track the status of Service investments. Newly chartered Services are progressed to Service Design. The Service Catalogue is refreshed for existing Services. Retired Services are removed through Service Transition.

The CIO must constantly monitor, measure, re-evaluate, and redistribute investments in line with changing business needs. Changing market conditions could invalidate earlier Return on Investment (ROI) calculations. Because of compliance and regulatory concerns, some Services may no longer be viable. You should aim for a portfolio with optimal levels of ROI and Risk. This ensures that the organization leverages its limited resources and capabilities for the maximum value.
2.4.2 DETERMINING VALUE OF INVESTMENT AND RETURN ON INVESTMENT FOR BUSINESS

Value to Business

The following are the most commonly used, and often misused, terms when discussing Service improvement results:

- Improvements
- Benefits
- ROI
- VOI

1. Improvements

Organizations can obtain improvement results by comparing the current outcomes with the earlier state. The results can be a measureable increase in a desirable metric or a measureable decrease in an undesirable metric.

2. Benefits

Benefits are the gains achieved by the realization of improvements. The benefits are not always expressed in monetary terms.

3. ROI

ROI is expressed as a percentage and is defined as the difference between the benefit achieved and the amount spent to achieve that benefit.
4. VOI

VOI is the extra value created by the establishment of benefits. It includes nonmonetary or long-term results. ROI is a subset of VOI.

ACTIVITY TIME

2.4.3 DETERMINING VARIABLE COST DYNAMICS

Variable Cost Dynamics

Variable Cost Dynamics (VCD) focuses on analyzing the many variables that affect Service cost, the sensitivity of the identified elements to variability, and the increasing changes in value that arise out of this variability. VCD has many other advantages. You can use a VCD analysis to spot minor changes in the unit cost because of the addition or removal of one or more incremental units of a Service.

This aspect of Service value can seem quite challenging because of the sheer number and type of variable elements that can be involved. The sensitivity analytics component of VCD is also a complicated analytical tool because of the number and types of assumptions and scenarios constructed around variable cost components.
A VCD analysis often follows logic similar to that of market spaces. The key advantage of this knowledge is a more accurate idea of a Service’s fixed and variable cost structures, how they change (either incrementally or monumentally), what the resultant Service landscape would be, how best to design and provision a Service, and what a Service’s value should be.

2.4.4 ALIGNMENT OF BUSINESS POLICY, FUTURE DIRECTION, AND DEMAND MANAGEMENT
The Option Tool

The Option tool is a tool for making decisions on the Service Portfolio investments’ timing and sequencing. Service Portfolio Management provides the framework within which you can make future strategic decisions.

The Value-to-Cost axis gives the ratio of a Service’s worth to its cost. A value of less than one indicates that the Service is worth less than it costs. A value greater than one indicates that the Service is worth more than it costs. While calculating Value-to-Cost, you may need to take into account nonfinancial measures, such as mission imperatives, compliance, trends, intangible benefits, strategic or business fit, social responsibilities, and innovation. Market spaces, customers, and customer needs are the other axes that are used as a guide’s strategic intent. For example, if a provider wishes to serve a new Business Unit where the customer is already over-served, the value generated will be less. If an axis has no bearing on the portfolio, you can disregard its guidance.
Adapted from Tight coupling between demand and capacity © Crown Copyright 2007 Reproduced under licence from OGC

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**Demand Management**

Demand Management is a vital part of Service Management. Poorly managed Services create uncertain demand. This increases the Risk to the Service Provider because it cannot recover the related costs from excess capacity. Customers are not willing to pay for idle capacity.

However, in specific cases, you need idle capacity to maintain Service levels. The higher capacity in these cases creates value through the higher level of assurance it ensures. You should not see such capacity as a waste because it is in active use.

Inadequate capacity affects Service quality and prevents the Service from meeting the requirements of the business. Although Service Level Agreements (SLAs), projections, planning, and coordinating with customers can reduce the uncertainty in demand, you can never eliminate it.

Another problem that Service Management faces is that of Services being consumed as they are being produced. This is inevitable because it is a pull system, where consumption cycles stimulate production cycles.

Through Demand Management techniques, such as off-peak pricing, volume discounts, and varying Service levels, you can manipulate demand into particular patterns. However, demand pulls capacity; capacity exists because of demand, not the other way around.
Adapted from *Example of activity-based Demand Management*

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Activity-Based Demand Management

Demand for Services comes mainly from business processes. Consequently, Patterns of Business Activities (PBAs) influence the patterns of demand. Using activity-based Demand Management, the Service Provider can coordinate the Service Management plans with the business plans of customers.

When the business plan calls for the allocation of human resources, the additional employees mean additional demand for the Service Desk function in terms of Service Requests and Service Incidents. New occurrences of business processes can also help you predict demand for the Service Desk. After the validation of the activity/demand model, you can make adjustments for variations such as new employees, changed business processes, and technology upgrades at the customer’s end.

PBAs and User Profiles

Business activities generate demand for Services. Customers have assets such as people, processes, and applications, which together create PBAs. These PBAs define business dynamics and include interactions with customers, suppliers, partners, and other stakeholders. Often, Services directly support PBAs, which accounts for the majority of business outcomes because they generate revenue, income, and costs.

To ensure clarity and completeness of detail, you should identify, document, and communicate the PBA to the people involved in the entire process. The attributes you can use to describe
business activity include frequency, volume, and location. These attributes link to requirements such as security, privacy, and tolerance for delays. However, changes in business processes, people, organizations, applications, and infrastructure can alter the profile of the business activity. As a result, PBAs are in the domain of Change control.

“Codifying Patterns of Business Activity

<table>
<thead>
<tr>
<th>PBA No. 45F Activities</th>
<th>Activity Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hi</td>
</tr>
<tr>
<td>Interact with customers remotely (frequency)</td>
<td></td>
</tr>
<tr>
<td>Interact with customers on-site (frequency)</td>
<td></td>
</tr>
<tr>
<td>Archive or handle customer information</td>
<td></td>
</tr>
</tbody>
</table>
Table of Contents

<table>
<thead>
<tr>
<th>PBA No. 45F Activities</th>
<th>Activity Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hi</td>
</tr>
<tr>
<td>Process sensitive information (privacy)</td>
<td></td>
</tr>
<tr>
<td>Generate confidential information</td>
<td></td>
</tr>
<tr>
<td>Provide technical support (frequency)</td>
<td>X</td>
</tr>
<tr>
<td>Seek technical assistance</td>
<td></td>
</tr>
<tr>
<td>Network bandwidth requirement</td>
<td>X</td>
</tr>
<tr>
<td>Data storage requirements (volume)</td>
<td>X</td>
</tr>
</tbody>
</table>
## Table of Contents

<table>
<thead>
<tr>
<th>PBA No. 45F Activities</th>
<th>Activity Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hi</td>
</tr>
<tr>
<td>Tolerance for delay in service response</td>
<td></td>
</tr>
<tr>
<td>Seasonal variations in activity</td>
<td></td>
</tr>
<tr>
<td>Print documents and images</td>
<td></td>
</tr>
<tr>
<td>Mailing of documents using third-party systems</td>
<td></td>
</tr>
<tr>
<td>Process transactions with wireless mobile device</td>
<td></td>
</tr>
<tr>
<td>Email using wireless device</td>
<td></td>
</tr>
</tbody>
</table>
### Codifying PBAs

It is important to maintain adequate differentiation among all PBAs so that each can have a unique reference. In addition, codifying patterns allows you to conduct multidimensional analysis while considering factors such as similarity and nearness. Through such simplification and standardization, the process of developing a catalog of patterns becomes more efficient. This not only reduces the number of patterns, but also makes analysis easier and solutions simpler.

(Source: Service Strategy book)
People’s roles and responsibilities within the organization determine their user profile. You can use the functions and operations of processes and applications to determine their user profile. In many business contexts, you treat business processes and applications as users because no employees are involved in their implementation and control. Process automation allows these processes to consume on their own. However, whether or not processes and applications can have user profiles is a matter of judgment.

“User profiles matched with business activity patterns (example)

<table>
<thead>
<tr>
<th>User Profile</th>
<th>Applicable pattern of business activity (PBA)</th>
<th>PBA code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior executive (UP1)</td>
<td>Moderate travel-domestic and overseas; highly sensitive information; zero latency on service requests; high need for technical assistance; need to be highly available to the business</td>
<td>45F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35D</td>
</tr>
<tr>
<td>Highly mobile executive (UP2)</td>
<td>Extensive travel - domestic and overseas; sensitive information; low latency on service requests; moderate need for technical assistance; high customer contact; need to be highly available to customers</td>
<td>45A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>35D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22A</td>
</tr>
</tbody>
</table>
Table of Contents

<table>
<thead>
<tr>
<th>User Profile</th>
<th>Applicable pattern of business activity (PBA)</th>
<th>PBA code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office-based staff (UP3)</td>
<td>Office-based administrative staff; low travel domestic; medium latency on service requests; low need for technical assistance; full-featured desktop needs; moderate customer contact; high volume of paperwork; need to be highly productive during work hours</td>
<td>22A 14B 3A</td>
</tr>
<tr>
<td>Payment processing system (UP4)</td>
<td>Business system; high volume; transaction-based; high security needs; low latency on service requests; low seasonal variation; mailing of documents by postal service; automatic customer notification; under regulatory compliance; need for low unit costs; need to be highly secure and transparent (audit control)</td>
<td>12F</td>
</tr>
</tbody>
</table>
## Linking User Profiles to Multiple PBAs

Linking user profiles to multiple PBAs allows you to connect different PBAs through the interactions between their respective user profiles. User profiles are created using one or more PBAs, are in the domain of Change control, and represent recurrent, interrelated patterns.

<table>
<thead>
<tr>
<th>User Profile</th>
<th>Applicable pattern of business activity (PBA)</th>
<th>PBA code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer assistance process (UP5)</td>
<td>Business process; moderate volume; transaction-based; moderate security needs; very low latency on service requests; medium seasonal variation; mailing of replacement parts by express; automatic customer notification; need to be highly responsive to customers”</td>
<td>24G 10G</td>
</tr>
</tbody>
</table>
By matching patterns using PBAs and user profiles, you can understand and manage customer demand in a systematic way. Pattern matching also requires your customers to improve their understanding of their business activities and to view these activities as consumers of Services and producers of demand. Using PBAs and user profiles to communicate demand enables the Service Provider to obtain all the information needed to sort and serve the demand with matching Services, Service quality, and Service Assets. This eliminates waste and improves the performance of both the customer and the Service Provider.

2.4.5 ALIGNMENT WITH THE SERVICE PORTFOLIO AND SERVICE CATALOGUE MANAGEMENT
Table of Contents
Business Process

A business process can be spread across technologies, applications, geographies, and users and still be centered in one place — the data center. To integrate the business process, IT usually adopts a bottom-up approach, linking technology to application components that were not intended to interact at the business process layer. This approach results in a disconnected and inflexible IT solution that is out of touch with business goals.

A more effective approach is to focus on modeled abstractions of business activities. These focal points represent various business activities. A business process could be represented as a single business Service or an entire set of business Services, a complete application or separate application functions, a separate transaction, or an entire set of fulfillment elements. In all these cases, the process exists in the domain of business.
Service Perspectives

If IT provides a Service to the business but the business does not see the Service in any business context, it is an IT Service. When you give importance to the value that a Service creates, the line between IT Services and business Services starts to blur. You must consider the customer when adopting a business or an IT perspective. Each Service, whether a business Service or an IT Service, provides a basis for value and requires governance, delivery, and support. As a result, both IT Service Management (ITSM) and Business Service Management (BSM) are perspectives of the same concept, that is, Service Management.
IT Service Management

Organization charts are useful for administration, but they do not account for customers, the Services provided to customers, and the workflow through which you provide these Services. Consequently, an organization chart does not represent what the organization does, how it does it, or for whom.

In an organization, the deciding factor for employees is their expertise in a particular technology or function, rather than their abilities in strategic planning, business expertise, forecasting, or using metrics. Technology or functional managers must avoid seeing their peers as competitors applying a cooperative and cross-functional ITSM approach. This approach ensures that you handle the cross-silo issues at lower levels, which allows functional managers to concentrate on high-priority customer issues. It also encourages initiative in low-level contributors.

Process as a Means for Managing Organizational Silos

Cross-functional issues that typically remain unaddressed provide an opportunity to improve the functioning of the organization. The gaps or “white spaces” in the organization chart is where the boxes interface and exchange information. The organization chart must not be taken to represent the organization itself. This mistake could result in managers managing the organization chart rather than the organization. Managers should try to create complete processes to resolve inter-silo problems.
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Some processes manage or produce a product or Service for customers external to IT. Organizational performance can only improve if these processes permit it. As a result, ITSM processes require us to think of IT as a comprehensive set of business resources and capabilities.
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ITIL
- Business Service Management
- IT Service Management
- IT Systems Management

Value to Business

Business Activity

IT Activity

Infrastructure and Application Activity

Technology Resources

Value to IT

Adapted from The IT Management continuum
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Business Service Management

IT priorities must be in consonance with other drivers of business value. The organization should link to business processes and Services for IT to organize its Services around business goals. For this, the IT leadership needs to communicate with business owners to gain a clear understanding of the desired outcomes.

Designing Supporting Systems, Especially the Service Portfolio

It is important to use the most appropriate management systems and tools to support and automate efficient processes. The Service Portfolio supports all Services and explains a provider’s Service in terms of business value. Consequently, it is the most crucial management system. It communicates the response of the Service Provider to business needs. Business value terms are a means to evaluate the competitiveness of Services across Service Providers.

You must register the Service Portfolio as a document under the Configuration Management System (CMS), and it should preferably form part of a comprehensive Service Knowledge Management System (SKMS).
The Service Portfolio – A Central Repository

After making the strategic decision to charter a Service, you come to a stage when Service Design starts engineering the Service. This ultimately becomes part of the Service Catalogue. Ensure that the Service Portfolio has all possible information relating to Services and their status in the organization. You must include the following status options in the Service Portfolio:

- Requirements
- Defined
- Analyzed
- Approved
- Chartered
- Designed
- Developed
- Built
- Test
- Released
- Operational
- Retired

Service Catalogue Management

The Service Catalogue is a storehouse for all information relating to the Services that the business offers to its customers. The Service Catalogue Management process ensures that a single source of accurate and up-to-date information on all operational
and proposed Services is provided by producing and maintaining a Service Catalogue. The catalogue must be easily available and accessible to those who need it.

2.5 PLANNING AND DEFINING SCOPE

**Value Creation — Mind the Gap**

It is not always easy to calculate the economic value of a Service. Most of the time, the value is much more difficult to quantify than qualify. There are many forms and definitions of Service value. This is because value depends on the customer’s business outcomes as well as on the customer’s perceptions.

The more intangible the value, the more important do the definitions and differentiation of value become. Consequently, it is crucial for Service Providers to demonstrate value, influence perceptions, and respond to customer preferences.

Customers, on the other hand, have reference values on which they base their perceptions of added value from a Service. The reference value may be vaguely defined or based on facts. The Utility and Warranty of a Service bring out positive differences. A negative difference occurs when a customer suffer losses because of poor quality or hidden costs while utilizing the Service. The need for effectiveness in helping customers realize outcomes drives efficiency in operations.
Adopted from Utility increases the performance average © Crown Copyright 2007 Reproduced under licence from OGC
Warranty reduces the performance variation. Relative probability effect.
Utility and Warranty

Warranty must back Service Utility to avoid customer apprehensions about the possible losses due to poor Service quality.

The diagram “Utility increases the performance average” explains the effect of Service Utility as the increase in possible benefits from the customer asserts performance, which leads to an increase in the possibility of achieving the outcome.

The diagram “Warranty reduces the performance variation” explains Service Warranty as the decrease in possible losses for the customer from performance variation. Most customers will be satisfied if providers fulfill each unit of Service demand with the same Utility level and with less variation.
Adapted from Value of a Service in terms of Return on assets for the customer

Performance

Utility

Warranty

Service

Performance

Average Performance

Return on assets of customer

Return on assets
Value of a Service in Terms of Return on Assets for the Customer

Customers expect to see a strong link between Service utilization and the positive effect on the performance of their own assets, resulting in higher Return on Assets (ROA).

It is important to ensure to the customers that the various groups engaged in different phases of the Service Lifecycle are all working toward a common goal. As proof of this, the customers might also expect evidence that policies, procedures, and guidelines are in place to reveal all the costs and Risks associated with Service Delivery and support.
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Service Relationships and Dependencies

It is important for everyone within the Service Provider organization to understand the relationship of each Service with its supporting components and Services. Targets contained within supporting agreements, such as OLAs and contracts, support the targets agreed between the Service Provider and its customers. When changing an individual aspect of a Service, you must also consider other areas of the Service to ensure that any alteration necessary to support the Change is included in the overall design. It is beneficial to establish a central Service Design authority to integrate Services and processes across all parties effectively.

The following are the four technology domains that are the supporting components of every Service and contribute to its overall performance:

- **Infrastructure**: This manages, controls, and organizes infrastructure elements, including mainframes, servers, network equipment, database systems, Storage Area Networks (SANs), Network-Attached Storage (NAS), systems software, utilities, backup systems, firewalls, development and test environments, management tools, and so on.

- **Environmental**: This manages and controls environmental aspects for crucial equipment rooms, including physical space and layout, power, air-conditioning, cabling, physical security, and so on.
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- **Data:** This manages and controls data and information, and the associated access, including test data, where applicable.

- **Applications:** This manages and controls applications software, including both bought applications and applications software developed in-house.

**Identifying and Documenting Business Requirements and Drivers**

You need to retain accurate information on business requirements and drivers to provide the most appropriate catalog of Services with acceptable Service quality level that is aligned with business needs. Business drivers consist of the people, information, and tasks that support the fulfillment of business objectives. To achieve this, it is important that IT develops and sustains close, regular, and appropriate relationships and exchanges information to identify the operational, tactical, and strategic requirements of the business.

To maintain alignment, you need to acquire information and build agreement in two main areas:

- **“Information on the requirements of existing services – what changes will be required to existing services with regard to:**
  - New facilities and functionality requirements
  - Changes in business processes, dependencies, priorities, criticality and impact
  - Changes in volumes of service transactions
Table of Contents

- Increased service levels and service level targets due to new business driver, or reduced for old services, lowering priority for those due for replacement
- Additional needs for Service Management information.

**Information on the requirements of new services:**

- Facilities and functionality required
- Management information required and management needs
- Business processes supported, dependencies, priorities, criticality and impact
- Business cycles and seasonal variations
- Service level requirements and service level targets
- Business transaction levels, service transaction levels, numbers and types of users and anticipated future growth
- Business justification, including the financial and strategic aspects
- Predicted level of change, e.g. known future business requirements or enhancement
- Level of business capability or support to be provided, e.g. local business-based support.”

(Source: Service Design book)
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To deliver a Service that meets customer requirements and business needs, you must document and build agreement on the clear, concise, and unambiguous specifications of requirements. This prevents issues and discussions from arising later because of variances in customer and business expectations.

At the business requirements gathering stage, you should:

- Appoint a project manager, create a project team, and build agreement on project governance by applying a formal, structured project methodology.
- Identify all stakeholders, including the documents they require and the benefits they obtain from the implementation.
- Analyze, prioritize, agree on, and document requirements.
- Establish and agree on outline budgets and business benefits. The management must set the budget.
- Resolve any potential conflict between Business Units and agree on corporate requirements.
- Sign-off the agreed requirements and a process for Changes in the agreed requirements. Carefully manage and control the process of developing requirements because it is an iterative or incremental approach.
- Develop a customer engagement plan that outlines the main relationships between IT and the business. The plan will explain how to manage these relationships and the necessary communication between wider stakeholders.
Service requirements can sometimes be expensive. Consequently, you need to maintain a balance between the Service achievable and the cost. You must document all decisions to omit any Service requirements from the design of the Service.

### Transition Planning and Support

Some organizations do not have a defined process to handle the transition of Services from design to operation. As a result, after the organizations design the Services, they find it difficult to transition the Services into live operations. The Transition Planning and Support process enables organizations to support the transition of Services into operational environment successfully.

The scope of Service Transition Planning and Support activities includes:

- Incorporate design and operation requirements into transition plans.
- Manage and operate Transition Planning and Support activities.
- Maintain and integrate Service Transition plans across the customer, Service, and contract portfolios.
- Manage Service Transition progress, Changes, issues, Risks, and deviations.
- Review all the Service Transition and Release and Deployment plans for quality.
Managing Change in Service Operation

In any organization, Service Operation should strive to achieve stability. To ensure stability, the Service Operation staff must manage Changes such that there are no adverse Impacts on the stability of the current IT Services. Service Operation staff needs to monitor Change triggers, assess Changes, and measure the success of Changes.

Service Operation and Project Management

How do your organizations utilize Project Management and link it to Service Operation?

Organizations view Service Operation as “everyday business or work” and often set defined procedures to execute this work. This is a standard way of handling routine work. It is because of this working style that organizations tend to shy away from using Project Management processes. In fact, these processes are suitable for most organizations and are appropriate to adopt. For example, when an organization is undertaking major infrastructure upgrades or deploying new or changed procedures, there are sizable tasks where formal Project Management is helpful in improving control and managing costs/resources.
Communication Strategy and Plan

A Service improvement project should include effective communication that will enable an IT organization to formalize its CSI activities and inform participants and stakeholders about Changes made to processes, activities, roles, and responsibilities. A well-developed communication plan can deal with the targeted audiences’ response and feedback.

2.6 RESOURCE AND CAPABILITY PLANNING

Service Design Model

The IT Service Design model mainly depends on the model selected for IT Service Delivery. Before you adopt a design model for a major, new Service, you must review the present capability and provisions with respect to all the IT aspects of Service Delivery. This structured review determines the organization’s capabilities and state of readiness for delivering new or revised Services in support of defined business drivers and needs. You can decide the delivery of an IT Service or IT system through the information obtained from this type of review. You must remember that there are plenty of options available and the key for designing and operating innovative solutions for the most difficult business challenges lies in keeping all the available options for consideration.
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There are two models for the design and delivery of IT Services, namely delivery model options and design and development options.

2.6.1 DESIGN AWARENESS AND DELIVERY MODEL CHOICES

Delivery Model Options

You can determine the gap between current and desired capabilities through a readiness assessment. An IT organization can use many different delivery strategies, each of which has its own benefits and drawbacks. The set of delivery strategies range from a relatively simple and basic situation that the company manages itself to a complete Knowledge Process Outsourcing (KPO) situation. On one hand, this wide range of alternatives provides flexibility and on the other, it brings complexity and Risk.

You can implement all the above-mentioned provisions in both offshore and on-shore situations. In on-shore cases, both organizations are present in the same country/continent while in offshore cases, the organizations are in different countries/continents. You can have many, complex, sourcing arrangements in the IT industry. Mergers and acquisitions can further complicate the situation. When the merging companies have different Service Delivery strategies, you must conduct a period of review and consolidation to find the correct sourcing strategy for the newly merged organization. Mergers and acquisitions can also be
beneficial in providing organizations with the chance to secure the best practices from each. This helps improve the overall Service capability and achieve synergies across the organization. When mergers take place, Service Management personnel also get the chance to improve and develop their careers.

### Design and Development Options

The Design, Operation, and Transition stages of the Service Lifecycle require delivery strategies. Be extremely careful while selecting strategies for specific stages in the Lifecycle because it is important for the organizations involved to clearly understand their roles and responsibilities. You must also understand every other organization’s role and responsibility to ensure acceptance. Finally, it is important to clearly define and build agreement and acceptance for the handover processes.

You must create a checklist of the key advantages and disadvantages of each delivery strategy. The selected strategy will be based on the capabilities and needs of the organization.

### 2.6.2 SERVICE ASSETS AND STRATEGIC ASSETS

#### Service Assets

The resources and capabilities of an organization are its assets. The organization uses these assets to create value in the form of goods and Services. Resources give direct inputs to production. The organization uses management, planning, people, and knowledge to transform resources. The organization’s ability to coordinate, control, and deploy resources to produce value
represents its capabilities. These capabilities are usually experience-driven, knowledge-intensive, information-based, and firmly embedded within an organization’s people, systems, processes, and technologies.

Acquiring resources is easier than acquiring capabilities. This is because the organization develops its capabilities over time, depending on the breadth and depth of experience gained from the number and variety of customers, market spaces, contracts, and Services. Similarly, the organization also profits from the experience gained by solving problems, handling situations, managing Risks, and analyzing failures.

What are the factors that create distinctive capabilities for an organization; capabilities that its competitors cannot offer to the customer?

A combination of experience in a market space, reputation among customers, long-term contracts, subject matter experts, mature processes, and infrastructure in key locations creates a set of distinctive capabilities that are difficult for competitors to offer. To be successful, an organization must capture knowledge and feed it back into its management systems and processes. This is particularly true for Service Providers for the development of Strategic Assets.
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For example:

Two Service Providers might have the same types of resources such as applications, infrastructure, and access to finance. However, their capabilities could differ in terms of management systems, organization structure, processes, and knowledge assets.

The actual performance of each Service Provider reflects these differences. Capabilities cannot produce value without adequate and appropriate resources. A Service Provider’s productive capacity is dependent on the resources under its control. The Service Provider will use these capabilities to develop, deploy, and coordinate this productive capacity.
Customer assets are the basis for defining value.
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Customer Assets Are the Basis for Defining Value

A Service Unit is a set of Service Assets that specializes in creating value in the form of Services. Services define the relationship between Business Units and Service Units. In many cases, Business Units, or customers, and Service Units are different units within the same organization. In other cases, Service Units might be separate legal entities.

Organization

What are organization assets?

They are active configurations of people, processes, applications, and infrastructure that perform all organizational activity through the principles of specialization and coordination. These include functional hierarchies, social networks of groups, teams and individuals, as well as the systems they use to work together toward shared goals and incentives.

Process

What are process assets?

Process assets include algorithms, methods, procedures, and routines that direct the execution and control of activities and interactions. Process assets are usually very diverse and are specialized to various degrees from generic management processes to sophisticated, low-level algorithms embedded in software applications and other forms of automation.
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Process assets signify action and transformation. Examples of process assets are order fulfillment, accounts receivables, Incident Management, Change Management, and testing.

Knowledge

What are knowledge assets?

They are accumulations of awareness, experience, information, insight, and intellectual property. The management, organization, process, and application assets use and store the knowledge assets. People assets store tacit knowledge in the form of experience, skills, and talent.

One acquires tacit knowledge through experience, observation, and training. When a person is moved from one team or organization to another, he transfers his tacit knowledge within and across his new team.

An organization’s rivals will have difficulty in replicating knowledge assets that are in the form of tacit knowledge. Conversely, owners will lose these assets easily. To protect themselves against such losses, organizations codify tacit knowledge into explicit forms, such as knowledge embedded in process, application, and infrastructure assets. Examples of knowledge assets are policies, plans, designs, configurations, architectures, process definitions, analytical methods, service definitions, analyses, reports, and surveys.
People

What is the value of people assets?

The value of people assets is the capacity for creativity, analysis, perception, learning, judgment, leadership, communication, coordination, empathy, and trust.

Teams as well as individuals in an organization have capacity that they have gained from knowledge, experience, and skills that are conceptual, technical, and social.

The characteristics of people assets are:

- Can absorb and carry forward all forms of knowledge
- Are the most versatile and powerful of all asset types
- Have the ability to learn and adapt
- Have capacity for action
- Are the only asset type that can create, combine, and consume all other asset types
- Can tolerate ambiguity and uncertainty
- Have enormous potential and, consequently, are most expensive in terms of development, maintenance, and motivation
- Can be hired or rented but cannot be owned
- Are also resources with productive capacity
- Are mobile, multipurpose, and highly adaptive, with the innate ability to learn
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Information

What are information assets?

They are collections, patterns, and meaningful abstractions of data applied in contexts such as customers, contracts, services, events, projects, and operations. Information assets exist in various forms, such as documents, records, messages, and graphs. All asset types produce information assets but the management, processes, knowledge, people, and applications primarily consume them. The value of information assets can vary with time, location, and format, and depreciate very quickly.

Applications

What are applications assets?

Applications assets include the artifacts, automation, and tools used to support the performance of other asset types. These include software, hardware, documents, methods, procedures, routines, scripts, and instructions. The abilities of application assets that can support the properties, functions, and activities of the management, organization, people, knowledge, people, and information are:

- Ability to automate
- Ability to codify
- Ability to enable
- Ability to enhance
- Ability to maintain
- Ability to mimic
Examples of application assets are accounting software, voice mail, imaging systems, encryption devices, process control, inventory tracking, electronic design automation, mobile phones, and bar code scanners.

**Infrastructure**

What are infrastructure assets?

Infrastructure assets include information technology assets, such as software applications, computers, storage systems, network devices, telecommunication equipment, cables, wireless links, access control devices, and monitoring systems. They also include facilities such as buildings, electricity, HVAC, and water supply.

**Financial Capital**

What are financial assets?

Financial assets are those assets required to support the ownership or use of all types of assets. Examples of financial assets are cash, cash equivalents, and other assets, such as marketable securities and receivables that are convertible into cash with a degree of certainty and ease.
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Challenges to overcome

Service levels delivered

Value of business entrusted

Customers and markets served

Capabilities

Mutual reinforcement

Resources

Demonstrated value as a Service Provider

Adapted from **Growth and maturity of Service Management into a trusted asset**
© Crown Copyright 2007 Reproduced under licence from OGC
Growth of Service Management into a Trusted Asset

Service Management starts with capabilities that manage and control resources to support a range of Services. You can gradually overcome challenges in delivering progressively higher Service levels. The fine-tuning of capabilities and resources continues until the objective is achieved and customers get a real sense of value from the Service Provider.

Customers recognize the benefits in a long-term relationship, and expect the provider to deliver increasing value, apart from adding new customers and market spaces. This makes further investments in Service Management viable.

In the beginning, stakeholders might trust the provider with only low-value contracts or noncore Services. Service Management must then deliver the performance expected of a Strategic Asset. This performance is appreciated through contract renewals, new Services, and new customers, symbolizing larger business value. Managing this increased value requires further investments in assets such as processes, knowledge, staff, applications, and infrastructure. These can then lead to higher Service-level commitments as the Service Management process grows in maturity.

The growth in maturity capability levels in Service Management leads to a greater ROA for the Service Provider.
2.6.3 BUDGETING, COSTING, AND SERVICE ASSETS

“A basic code of good business behavior is a bit like oxygen: We take an interest in its presence only when it is absent.”

(Amartya Sen, Nobel Laureate in Economics)
Basis for Defining Value

This diagram is important because it can be used as a transition between the concepts of Service Assets and Financial Management. The diagram shows the interrelated concepts of provisioning value and perceived Service value potential. Provisioning value is easy to calculate because purchasing and human resource information is readily available. New accounting methods that incorporate a Service-oriented approach help identify the Service value potential.

Financial Management

As a strategic tool, Financial Management is useful to all three types of Service Providers, that is, external, internal, and Shared Services Units. In today’s business environment, an internal Service Provider must adopt Financial Management practices to maintain the same level of financial transparency and accountability as their Business Unit and external counterparts. This is necessary because technology and innovation are fast becoming the main revenue drivers for many companies.

Financial Management benefits businesses by quantifying the financial value of IT Services and assets and qualifying operational forecasting. Consequently, Financial Management requires IT and the business to work together to identify, document, and agree upon the value of Services and to implement and manage Service demand modeling. You have to think of IT in terms of Services to transform how IT is viewed in the organization.
Concepts, Inputs, and Outputs

Financial Management collects data inputs from across the enterprise and helps in generating and distributing information as an output that feeds vital decisions and activities.

Let us look at the vital decisions and activities of an output feed in detail.

1. Service Valuation

The Service valuation process starts when Financial Management calculates and assigns a monetary value to a Service or Service component. The pricing of a Service is a cost-to-value translation. This translation helps manage the demand and consumption of Services.

Service valuation involves two activities:

- Identify the cost baseline for Services.
- Quantify the perceived value added by a provider’s Service Assets to obtain a final Service value.

According to ITIL, value is created when Service Providers are able to deploy their capabilities and resources and deliver a greater Utility of their Services to customers with some level of assurance.

You have to evaluate the Service value elements of Warranty and Utility in monetary terms. Consequently, Service valuation focuses primarily on two key valuation concepts:

- Provisioning value
- Service value potential
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To provide a Service, IT incurs costs. Provisioning value is the actual underlying cost to IT, related to provisioning a Service. Input comes from financial systems and consists of payment for the actual resources that IT uses in the provisioning of a Service.

The cost elements in IT-related Services include:

1. “Hardware and software license costs
2. Annual maintenance fees for hardware and software
3. Personnel resources used in the support or maintenance of a service
4. Utilities, data centre or other facilities charges
5. Taxes, capital or interest charges
6. Compliance costs”

(Source: Service Strategy book)

The baseline of Service value is the sum of the actual Service costs. The minimum value of a Service is usually calculated from the baseline.

The customers of an IT Service develop their perception of the Service’s value based on the value-added components that are part of the entire Service package. The monetized value of the value-added components along with the provisioning value constitutes the ultimate value of the Service.
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2. Demand Modeling

Poorly managed Services increase both costs and Risks. Because of the close relationship between Service demand and capacity (consumption and production), Financial Management has to clearly spell out the funding variations due to Service demand changes. Financial demand modeling identifies the Total Cost of Utilization (TCU) to the customer and predicts the possible Service demand changes in the future. The Service Catalogue provides all the information relating to Service demand. This can be used for demand modeling and management.

Demand modeling uses Service-oriented financial information to predict anticipated usage by the business and the provisioning requirements of IT. This helps determine funding requirements, variations, and the causes of variation. It also helps manage Service demand. This requires inputs such as pricing and incentive adjustments meant to influence the consumption patterns of customers.

Many mature organizations apply Service valuation to their Service Catalogue to define a value for each Service, Service component, and Service Level Package (SLP). This allows the provider to develop demand plans and linked financial requirements. This Service demand planning is used to estimate financial funding requirements for the entire business down to the unit level or lower. The Service Catalogue can then indicate the consumption of both Services and budgets in real time.
Financial Management enables customers to project their future demand and prepare budgets accordingly. This prevents over-consumption by the business and any resulting disputes regarding the value of the Service. Capacity planning also provides key information relating to Service demand, such as usage data and trend reporting from the viewpoint of technical components, for example, bandwidth, resources, processing capacity, and so on, which have a financial impact. It also tracks possible variations in demand because of strategic Events, such as product launches, entry into new domains, and acquisitions or divestitures. Demand modeling can leverage data from Capacity Management because of their close relationship.

3. Service Portfolio Management

Financial Management is instrumental to Service Portfolio Management. A company must analyze and evaluate the internal cost of providing a Service. If the Service cost is greater than what other providers charge for the same Service, the company can decide to outsource that Service to focus its resources on Services where it can offer lower costs or higher quality. For example, if Service A costs the provider £50 per month per user and if another third party with focused skills and economies of scale can offer the same service for £33 per month, the company could outsource that Service.

The basic principle underlying this approach is to match your Services and products to your core capabilities. It’s advisable to exit a Service line that is not cost-effective or is not delivering the required quality as compared to alternatives. However, many
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IT organizations avoid identifying Service-oriented costs and making these visible to the business. This results in a portfolio of Services that are not cost-effective and that fail to meet customer expectations.

4. Optimizing Service Provisioning

Financial Management is a central source of inputs for Service Provisioning Optimization (SPO). SPO evaluates the financial inputs and limitations of Service components and delivery models to identify ways of provisioning Services at lower costs or with better quality.

This sort of analysis is best applied to Services that have been marked for retirement because of inefficient provisioning in comparison to other providers and declining usage because of factors such as obsolescence. Financial Management reveals existing cost structures and provides a financial analysis of alternative delivery models, a Service mix, and so on. It also validates whether a Service provisioning alternative would, in fact, reduce costs or improve Service value. This financial analysis is the essence of the interaction between Financial Management and SPO.

5. Confidence in Relation to Planning

An important goal of Financial Management is to ensure proper funding for the delivery and consumption of Services. To meet this goal, proper Financial Management planning is required. Planning helps IT organizations:

- Forecast future demand for IT Services.
Focus on the demand and supply variances of IT Services. Financial Management begins the planning process by collecting inputs from all areas of the IT organization and then categorizes the inputs into three main areas of planning. These are:

- Operating and capital planning, dealing with general and fixed asset ledgers
- Demand planning
- Regulatory and environmental or compliance-related planning

Each category of planning represents financial results that are required for visibility and Service valuation.

Let us now understand the planning process involved in each category of planning.

The operating and capital planning processes involve translating IT expenditures into corporate financial systems, communicating to other business domains on expected changes in the funding of IT Services, and updating the status of any Changes in IT assets. Operating and capital planning processes are fairly standardized.

Regulatory and environment-related planning processes receive triggers generated from within the business. However, Financial Management must ensure that proper financial inputs, whether cost based or value based, to the related Service value are in place.

The following is an example of the Impact of regulatory and environment-related planning processes:
A consumer products corporation planned to replace all servers that were more than 3 years old. The corporation communicated the replacement plan to the entire organization. In addition, it prepared a business case to justify the need for replacement and an ROI to show budget estimates for the disposal and replacement of the servers. The corporation, while implementing the replacement, discovered that the regulations of the local government might hinder the replacement process. According to the regulation, special disposal practices were required because their servers had measurable amounts of lead. The special disposal practices increased disposal costs and led to a negative impact on the ROI calculation because it exceeded acceptable tolerance levels.

In this business case, the corporation lacked a planning mechanism because it failed to recognize the true costs of replacement and the requisite funding. In addition, the corporation overstated the benefits of replacement. All this resulted in modifications to the funding model.

Confidence refers to the thought that financial inputs and models for Service demand and supply provide accurate and statistically significant data. Data confidence helps Financial Management achieve its objectives, prevent the possibility of errors while calculating data, and improve decision-making capabilities. Planning confidence requires Service-oriented demand modeling, expressed in terms of measurable financial requirements and a high level of statistical accuracy.
6. **Service Investment Analysis**

Financial Management performs Service investment analyses for an IT organization by:

- Providing the shared analytical models and knowledge.
- Setting thresholds to guide the organization in determining the level of analytical sophistication required in various projects, based on size, scope, resources, cost, and related parameters.

The analytical models and knowledge that Financial Management provides help the IT organization assess the expected value or return of a given initiative, solution, program, or project. The threshold helps an IT organization determine the level of analysis required for projects.

The goal of a Service investment analysis is to derive a value indication for the entire Lifecycle. The inputs required to derive a value indication for a Service are the value gained and the costs incurred to deliver the Service.

Financial Management uses methods, models, activities, and techniques to perform IT investment analyses. Financial Management uses the following models:

- Service valuation
- Managed Service Provisioning model
- Shared Services model
- Funding model alternatives
- BIA
Assumptions about the Service are key to analyzing investments. These assumptions have a significant impact on the outcome of the analysis. For example, a Service obtained through an instantly self-deployable, packaged software solution meant for a single user will have a different investment profile than a Service meant for multiple language users. The software in the first instance resides on a single desktop, requiring little user support. In the second case, the software requires custom development, global customer interaction, and other resources to create, deploy, and support an organization solution with multiple language users. An exhaustive list of assumptions gives a more realistic and accurate view of the investments.

7. Accounting

Financial Management accounting is different from traditional accounting. It requires some additional categories to track Service-oriented expenses or capital items. Financial Management acts as a bridge between corporate financial systems and Service Management. Service-oriented accounting can give you greater understanding of the provisioning and use of Services and data inputs for the planning process.

The functions and accounting types required are:

- Service recording — assigning cost entries to relevant Services and sub-Service components.
- Cost types — segregating higher-level costs, such as hardware and labor, helps with reporting and analyzing Service demand and usage in financial terms.
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- Cost classifications — classifying the end purpose of costs within Services. Possible classifications could include capital/operational (for accounting methodologies required by the business or regulations), direct/indirect, fixed/variable, and cost units.
- Service-oriented accounting enables a higher level of Service Strategy development and implementation.

8. Compliance

Compliance involves proving that you are using proper and consistent accounting methods, in relation to financial asset valuation, capitalization practices, revenue recognition, access and security controls, and so on. You can easily ensure compliance if proper practices are known and documented. It becomes necessary then to make everyone responsible for being aware of regulatory and environmental Risks that can Impact Service Operation and the customer’s business.

Over the last decade, a lot of significant regulatory and standards-related issues and opportunities that affect Financial Management have been brought in. Some of the legislation has had huge impact on financial audit and compliance activities. Demand from all stakeholders for accurate, meaningful data on the value of a company’s transactions and assets puts more pressure on Financial Management. You should be mindful of the wide variations there can be in the impact of such legislation. Public frameworks, such as COBIT, and the guidance and approval of public accountants and auditors are helpful to Service Management.
The implementation of public frameworks and standards such as COBIT, ISO/IEC 20000, Basel II, and other industry-specific regulation might seem like pure costs with no evident benefits. However, compliance with regulations tends to enhance data security and quality processes. This creates a greater need to understand the costs involved in compliance. Services provisioned to one particular industry at a specific price might not necessarily be provisioned to a different industry at that exact same price. There are cases where the compliance costs have been significant enough to affect the pricing of a Service.

9. VCD

VCD focuses on analyzing the many variables that affect Service cost, the sensitivity of the identified elements to variability, and the increasing changes in value that arise out of this variability. VCD has many other advantages. You can use a VCD analysis to spot minor changes in unit cost because of the addition or removal of one or more incremental units of a Service. This analysis helps in understanding the possible Impacts of Events such as acquisitions, divestitures, Service Portfolio changes, or alternative Service Provisioning models.
This aspect of Service value can seem quite challenging because of the sheer number and type of variable elements that can be involved. The sensitivity analytics component of VCD is also a complicated analytical tool because of the number and types of assumptions and scenarios constructed around variable cost components. The following are some of the probable variable Service cost components that could be part of this type of analysis:

- “Number and type of users
- Number of software licences
- Cost/operating footprint of data centre
- Delivery mechanisms
- Number and type of resources
- The cost of adding one more storage device
- The cost of adding one more end-user licence”

(Source: Service Strategy book)

The analysis of VCD often follows logic similar to that of market spaces. The key advantage of this knowledge is a more accurate idea of a Service’s fixed and variable cost structures, how they change (either incrementally or monumentally), what the resultant Service landscape would be, how best to design and provision a Service, and what a Service’s value should be.
Model, Activities, and Techniques

To understand Service valuation activities, you have to understand the following terms:

- Direct versus indirect costs
- Labor costs
- Variable costs

Costs related to a specific Service are called direct costs. Costs shared among multiple Services are indirect costs. These costs help decide which line items to maintain, depending on the data available and the amount of effort required. For example, hardware maintenance Service components are too numerous to be broken down. Direct and indirect costs help assign line item costs to only the more important components. After correctly identifying costs, you might have to define rules to spread these costs among multiple Services.

An organization assigns personnel costs to all its Services. These costs are termed labor costs. In addition, an organization can also assign administration costs for all the IT Services and create rules on how to allocate these costs among multiple Services.
Some costs are not fixed but vary depending on many factors, such as number of users or number of instances. The costs assigned to these Services are termed variable costs. An organization has to identify Services that lead to cost variations because, over time, it will be necessary for such Services to be predictable. The variables that help identify these Services and predict the variable costs are:

- **Tiers** — customers can obtain scale efficiencies when price breaks occur within Service Providers. These price breaks are called tiers.
- **Maximum cost** — a Service can reach the maximum level of variability. The cost prescribed at this level is termed maximum cost.
- **Average cost** — you can determine the cost of the Service based on the average of the variability of the Service. These costs are called average costs.
Adapted from The Funding Lifecycle © Crown Copyright 2007 Reproduced under license from OGC
Important Decisions for Financial Management

Many concepts related to Financial Management have a bearing on Service Strategy. Let us understand some of these concepts.

Accounting generally sees IT as a cost or profit center. Regardless of the term used, what matters is how IT is funded. A clear understanding of the operating model goes a long way in clarifying Service Provisioning costs. Funding is a mark of the business’ confidence in IT. There are several important questions relating to the funding of IT. The IT financial cycle begins with funding for resources that create output. The customer sees this output as value, and this triggers the restart of the funding cycle.

As a cost center, funding for IT consists of replenishing the actual costs of delivering Service. But as a profit center, funding depends on the sum of costs and the value added. Even Type I providers have to estimate the value added because they continue to increase the range of Services they offer and undertake Service improvements and analyses of provisioning alternatives.

Corporate culture largely decides what operating model is followed. The homogeneity of business products affects how an organization sees IT financial models. A complex operating model is not required where all product lines use IT Services equally. The complexity of the business structure and the geographic spread of the organization are also important factors.
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An important decision is when to fund – annually or according to a particular model (rolling plan or zero-based/trigger-based model). If IT is self-funded, the perceived value-add will be larger. A constant model is based on mutually agreed Services. It is free of the limitations of an annual budget because both the consumer and the provider approve any changes to funding.

**Chargeback**

Some IT organizations are self-funded organizations, with complex and mature financial mechanisms. The chargeback model best suits these organizations because it provides added accountability and visibility.

An organization provides visibility by:

- Identifying Service Portfolios and catalogs.
- Valuing IT Services.
- Applying values to demand or consumption models.

An organization provides accountability by:

- Delivering Services at agreed levels.
- Providing funds to Services.

However, accountability becomes difficult to explain when perceived value varies from funding because of a varying understanding of what a Service is and what value it delivers to the business. As a result, charging provides accountability only if the operating model is also taken into account.
A chargeback operating model brings accountability and transparency to IT Services. The objectives of the chargeback model are:

- Influence demand for IT Services by encouraging behavioral change.
- Add value to the business.
- Provide predictability.

Chargeback models differ according to the simplicity of the calculations and the ability of the business to understand them. Some sample chargeback models and components include:

- Notional charging
- Tiered subscription
- Metered usage
- Direct plus
- Fixed or user cost

The right chargeback model is the one that delivers the greatest value to the business.

2.7 CONTROLLING QUALITY

Overview

Opportunities to improve can be identified throughout the Service Lifecycle. CSI is the phase of the Lifecycle primarily responsible for controlling quality throughout and within each phase of the Lifecycle, at the Service and process levels.
Quality can be improved in ways that can be easily measured. Other ways are not so easy. Does it mean that we should not seek to quantify the intangible benefits?

We have studied many techniques throughout the course materials that can help us quantify and justify improvement. Many of these techniques are introduced here again as a means to control quality throughout an ITSM initiative.

2.7.1 QUALITY OPPORTUNITIES

ACTIVITY TIME
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Value to the business

Service Lifecycle

Continual Service Improvement
By itself

CSI + SO + ST + SD + SS

CSI + SO + ST + SD

CSI + SO + ST

CSI + SO

CSI + SO

Service Strategies – SS

Service Design – SD

Service Transition – ST

Service Operations – SO

Adapted from Bernard-Doppler service improvement levels of opportunity

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Interfaces with Other Service Lifecycle Phases

The success of CSI depends on the improvement opportunities provided all through the Service Lifecycle. For example, CSI will achieve limited success if it focuses only on the Service Operation phase. It will be like leaving a problem untreated and treating the symptom of the problem instead. This is because the problem might often begin at the Service Strategy or Service Design Service phase. So, the implementation of a Service improvement process has to have a broader outlook to be of much greater value to the business.

The Service Portfolio acts as the connection point between each of the phases. It is the “spine” that keeps the Lifecycle phases connected to each other.

Service Strategy

In this Lifecycle phase, you can use Kaplan and Norton’s Balanced Scorecard tools for measuring and reporting for an enterprise-wide view of the organization. External factors, such as new security or regulatory requirements, new strategies because of mergers or acquisitions, changes in technology infrastructure, new business Services to be introduced, and feedback from the other core phases of the Service Lifecycle drive Service improvement opportunities.
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Service Design

The elements of Service Design ensure the usage of a customer-centric viewpoint while creating capability, process specification and planning, and acceptance for Service Management practices. Service Design is responsible for designing a management information framework that defines the need for CSFs, Key Performance Indicators (KPIs), and activity metrics for both Services and ITSM processes. New strategies, architecture, policies, and business needs drive the need for continual improvement within Service Design.

Service Transition

Service Transition mainly focuses on the best practices of creating support models, workflow management, and knowledge bases and developing communication and marketing to use when transitioning Services to production. The introduction of new strategies and designs presents a good opportunity for continual improvement. Service Transition also defines the actual CSFs, KPIs, and activity metrics; creates reports, and implements the needed automation to monitor and report on the Services and ITSM processes.
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**Service Operation**

Service Operation offers best-practice advice and guidance on all the routine Operations Management aspects of an organization’s IT Services. Service Operation monitors and does the initial reporting linked to people, processes, and infrastructure technology. This reporting is essential for ensuring the high-quality, cost-effective provision of IT Services meeting business needs. There should be defined inputs and outputs for the monitoring of each technology component and process activity, which can be compared against the norms, goals, or established SLAs. A discrepancy between the actual and the expected delivery gives rise to Service improvement opportunities. This approach provides for CSI activities to be in place within each core discipline of the Service Lifecycle.
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Service Strategies
Strategies, Policies, Standards

Output

Feedback
Lessons Learned for Improvement

Service Design
Plans to create and modify services and service management processes

Output

Feedback
Lessons Learned for Improvement

Service Transition
Manage the transition of a new or changed service and/or service management process into production

Output

Feedback
Lessons Learned for Improvement

Continual Service Improvement
Activities are embedded in the service lifecycle

Service Operation
Day-to-day operations of services and service management processes

Adopted from CSI and the service lifecycle © Crown Copyright 2007 Reproduced under licence from OGC
CSI Throughout the Lifecycle

Improvement opportunities keep occurring throughout the Service Lifecycle. As a result, it is unnecessary for an IT organization to wait for improvement opportunities only when a Service or Service Management process is transitioned into operations. Each Lifecycle phase provides output to the next Lifecycle phase, which is also a CSI concept.
ITSM Monitor Control Loop

CSI uses the methods and practices found in many ITIL processes, such as Problem Management, Availability Management, and Capacity Management, which are used all through the Service Lifecycle. CSI can determine improvement needs, prioritize, and suggest required improvements from gathered information by combining it with new business needs, technology specifications, IT capabilities, budgets, trends, and maybe external legislative and regulatory requirements.

Before synthesizing the right information, you must filter large amounts of raw data. Then, using the strategic, tactical, and operational management layers, you must analyze and study the information. You must ensure that the three layers are in alignment with the business goals and objectives. Process maturity and IT Service maturity facilitate the derivation of meaningful information from the collected data.

The staff responsible for the hand-offs between the Service Lifecycles need to give open and honest feedback. The staff must fully understand questions such as “What went well?” and “What could be improved?” to ensure further improvements in each Lifecycle phase. A holistic approach to CSI can be brought about effectively through feedback from Service Operation to Service Transition, Service Transition to Service Design, and then from Service Design to Service Strategy. Because CSI cannot attain the desired results on its own, it is important to leverage CSI activities and initiatives in each Service Lifecycle phase. When CSI is involved in each Service Lifecycle phase, organizational value increases.
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2.7.2 INTANGIBLE AND MEASURABLE BENEFITS

Net Present Value

Net Present Value (NPV) is the difference between the program’s cash inflows compared to the corresponding outflows. NPV indicates whether the investment is worthwhile. The implications of various NPVs can be positive, zero, or negative.

NPV offers the following advantages for Service Management programs:

- “NPV is generally easier to use
- IRR may require searching for a discount rate resulting in an NPV of zero
- IRR assumes the rate of return is the rate of return on the programme, a questionable assumption for environments with minimal service management programme experience
- When NPV and IRR disagree on the attractiveness of the project, it is best to go with NPV. It makes the more realistic assumption about the rate of return”

(Source: Service Strategy book)

Some alternatives, such as Pay-Back, do not give an accurate idea of the profitability of an investment and the Simple Rate of Return does not account for the time value of money. Other techniques available to manage uncertain cash flows are quite complicated, with the involvement of computer simulations and advanced mathematics.
Cash flows related to process improvement and automation are often difficult to estimate. Although the tangible benefits are easy to estimate, intangible benefits, such as lower Risks, greater reliability, quality, and speed, are difficult to quantify.

Establishing the Business Case

In the business case, the data and evidence provided should be related to the costs and expected benefits of undertaking process improvement. When articulating a business case, note the following things:

- Process redesign activities are more complex and, consequently, more expensive than what was initially expected.
- The impact of organizational Change is usually underestimated.
- Changed processes usually require changes in competencies and tools, increasing expenses.

When developing a business case, the focus should not be limited to ROI. It should also be on the business value that the Service improvement brings to the organization and its customers (VOI) because ROI alone does not capture the real value of Service improvement. The organization will not be able to disclose or review much of the achievable benefit if it focuses only on ROI. This, in turn, results in some useful initiatives not being approved or incorrect reviews of initiatives that could be successful.
Realizing the benefits of investing in CSI can vary depending on the customer base, the size of IT, and the maturity of the ITIL process implemented. True benefits can only be captured in collaboration with users/customers and ITIL process owners. As a result, the focus is to work with stakeholders to develop business- and IT-specific indicators that link business value measures to the contributions of IT.

When presenting a business case for an ITIL process-improvement project, you need to help executives understand the business value of the ITIL process framework. You must capture the baseline of performance measurements that are affected by the proposed implementation. This is the principle of a business case. A careful preparation of the baseline will facilitate meaningful business information and level setting for business issues, allowing for strategic alignment. Your focus should be to develop cause-and-effect metrics to link the benefits to the measurements selected, along with the impact on other areas of the enterprise.
Here is a table that presents a balanced focus of the people, process, and technology aspects:

<table>
<thead>
<tr>
<th></th>
<th><strong>“As is</strong></th>
<th><strong>To be</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>People</strong></td>
<td>Operating in silos, no common language, focus and no seamless handoffs between groups.</td>
<td>Common language, integrated matrix approach and common focus.</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Lacks common processes, not consistent and repeatable.</td>
<td>Seamless process framework, end-to-end Service delivery, consistent and repeatable.</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Multiple redundant tools, no tools, domain-based tools not integrated with people and processes.</td>
<td>Integrated suite of tools which enable IT Service modeling, process integration and shared data access.</td>
</tr>
</tbody>
</table>

(Source: CSI book)

In business case development, another aspect that you need to consider is a situation where values are lost because of not undertaking process-improvement activities. If appropriate actions are not taken in these situations, the business and IT will be severely impacted. In fact, the value of process improvement
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will turn from value addition to value retention.

As a final note, in developing a business case, you should ensure that success criteria are clearly defined, properly measured, and the time when they will be measured is defined.

During business case development, business executives ask the following questions:

- “What are the benefits of ITIL process improvements?
- How does it impact my business?
- Revenue increase
- Cost reduction
- Value on Investment”

(Source: CSI book)

CFOs ask the following questions:

- “What is the ROI?
- What is the payback time?”

(Source: CSI book)

IT asks the following questions:

“How do ITIL benefits translate to business benefits? Find one or two compelling reasons why the organization should spend so much time and money.”

(Source: CSI book)
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Where are we now?

What do we want?

What do we need?

What can we afford?

What will we get?

Baseline of current service levels

Business vision, mission,
goals and objectives

External and internal drivers

Business budgets, IT specifications

IT perception of customer expectations

Delivery and perception of the service

Does it still meet our wants/needs?

What did we get?

What will we get?

What can we afford?

What do we want?

Where are we now?

Adapted from Business perspective improvement model © Crown Copyright 2007 Reproduced under licence from OGC
Measurement of Actual Benefits

After identifying the benefits of estimating proposed process improvements and preparing business cases, you should measure the actual benefits achieved. These measurements confirm whether the improvement activity achieved the intended outcomes.

Yet another consideration in the measurement of benefits is that the quality of data and the measurement precision before and after the improvement could differ. This makes the direct comparison invalid. In these cases, you will need to normalize the data before validating the benefits.

In 2006, the state of North Carolina in the United States implemented some improvements based on the ITIL framework. This took place in a span of less than 3 months. The name of the state’s IT department is ITS. The state achieved the results of the tactical quick-win efforts targeted in tandem with the training program and its awareness campaign. The results are:

- “IT has improved its ability to resolve incidents within their target timeframe by 32%.
- IT has improved its ability to resolve Service Requests within its target timeframe by 20%.
- Change Management process compliance increased more than two-fold resulting in fewer incidents and reduced downtime.”

(Source: CSI book)
The first two processes developed and implemented were Incident and Change Management. As in many organizations, the state already had an existing Change and Incident process. Before any formal improvement program was implemented, the state already started showing immediate improvements by identifying and communicating the key metrics that were going to be reviewed by the senior management. The state staff began following their existing process directly because they knew that reporting against some key performance measures had started and had been discussed by the senior managers. Apart from these discussions, clear guidance to improve the performance measures was also given.

ACTIVITY TIME

2.8 STRATEGIC INFLUENCING

Overview

IT governance can be achieved by establishing the appropriate direction (strategy), communicating that direction, and controlling the achievement of the strategy through measurements and reporting. These are the primary concepts of Direct and Control. It begins with establishing the appropriate strategy and communicating that strategy throughout the organization. Without a solid understanding of the direction, it makes it very difficult to know what to measure and whether we are on track to achieve the strategy.
Many organizations seek to drive strategic Change and do not achieve success. This can be due to a lack of focus on the communication of strategic intent and direction. Communication is vitally important to the success of strategic Change and plays an important role in influencing the adoption of strategic Change. Other elements that influence the adoption and integration of strategic direction include training and knowledge transfer.

2.8.1 DEFINING AWARENESS COMMUNICATION ACTIVITIES

Managing Commitment and Communications

It is important to communicate and share information for any Service Transition Change process. This type of communication is directly proportional to the magnitude of the Change. In addition, you must clearly provide the rationale behind the Change, the benefits and effects expected of the Change, and the plan for its implementation.

However, you must communicate information and benefits to the right audience. At times, you might not be in a position to reveal all information about all Changes. In these situations, you must admit that you are not able to give all the details of the Change and provide a reason for not sharing the information, for example, security. Before planning the communication, it is very important that you understand the commitment of people.
Communication Strategy

- Identifying and communicating business objectives
- Setting a vision of the business objectives
- Removing barriers of resistance – building partnerships

- Communication
  - Plan
  - Ownership
  - Style
  - Delivery mechanisms
  - Competences – skills, training
  - Other related ongoing activities
  - Audience internal and external
  - Involve all levels (stakeholder and operations)
  - Key success factors
  - Timescales

- Monitor audience feedback
- Ensure the right message meets the right people at the right time!
- Involve staff at all levels
- Monitor audience feedback
- Ensure the right message meets the right people at the right time!

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ITIL v3 Intermediate Certification Level | MALC | Management of Strategic Change

Example of communications strategy and plan contents
Adapted from Communications Strategy and Plan contents
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Effective Communication Strategy

For an effective communication strategy, you must establish surveys and measures to monitor the response of the people involved on a regular basis. The results of the surveys and measures give feedback for the process. In addition, the survey includes the response of the people after or during the Change. At this point, you might have individuals who need personal contact from the Service Transition team to maintain a comfort level and to accept the process completely.

Refer to the diagram to understand the sequence of Events or the communication path to plan the communication process.
Communication Methods

Some common communication methods you can use are:

- Large workshops: You can conduct workshops if you want to deliver a clear and consistent message to the target audience on the overall Service Transition approach. This should ideally be at the beginning of the communication strategy to create understanding, ownership, and excitement within the teams.

- Organization newsletter: You can use this medium to reiterate the message you already delivered to the team. However, you must use this method to reinforce an already delivered message and not when sharing information for the first time.

- Training sessions: Roles and processes change often as part of Service Transition. Consequently, you must focus on target trainees and provide them enough time to grasp the new or changed way of working.

- Team meetings: These are helpful to Service Transition team leaders who will make sure that they reinforce any messages in their weekly meetings. The employees or the team might feel comfortable with this type of meeting because they are in their own comfort zone and with the people they work with daily. As a result, they are more likely to ask questions and get a better understanding of the process.
Face-to-face interactions: The key stakeholders involved in the transition process must take out time to visit their staff in their work environment. This will help set a positive example of the support by senior management. In addition, the employees can ask questions regarding their position and the process.

Q&A feedback postings: This method enables the employees to raise questions and provide feedback anonymously. You can do this by putting up boards and mailboxes for the feedback.

Corporate intranet: You can upload information on the corporate intranet to share information and communicate with the transition team.

Reinforcement memos: The senior management must circulate memos to reinforce key information or share updates on implementation activities. This updates and informs people who are not involved in all stages of Service Transition.

Posters/roadmaps: This medium provides good-quality, colorful communication that shows implementation activities, progress, or general updates. This helps keep the communication alive and delivers a consistent message.

Advice notes with pay slips: You can attach key information to pay slips because this ensures 100% communication updates to the team.
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- Z-cards/encapsulated reference cards: This is in the form of small credit cards or small-sized documents that hold important information. The employees need to carry these cards or documents in their wallets or purses at all times during the transition process.

ACTIVITY TIME

2.8.2 PEOPLE EDUCATION AND KNOWLEDGE TRANSFER MANAGEMENT
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Adapted from The flow from data to wisdom © Crown Copyright 2007 Reproduced under licence from OGC
Knowledge Management Process

The Knowledge Management process excludes the capture, maintenance, and use of asset and configuration data, which is dealt with in Service Asset and Configuration Management (SACM). The Data–to–Information–to–Knowledge–to–Wisdom (DIKW) model represents Knowledge Management.

People Education and Knowledge Transfer Management

For the success of any organization, it is important to capture the knowledge acquired over the years. The purpose of Knowledge Management is to store information systematically so that the right people can retrieve it at the right time. With Knowledge Management, knowledge remains inside the system and the organization utilizes it to take informed decisions to improve Service quality.

The objectives of Knowledge Management are:

- Improve the Service Provider’s efficiency and quality of Service, increase user satisfaction, and reduce Service costs.
- Improve the staff’s knowledge of the Service, enabling them to understand the benefits and use of the Service.
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- Ensure that the Service Providers have clear and adequate knowledge of the:
  - Users of the Service
  - Utilization of the Service
  - Service Delivery constraints
  - Customer’s difficulty in realizing the benefits expected from the Service

Knowledge Management covers the complete Service Lifecycle. You use Knowledge Management in all the phases of the Lifecycle and at every stage. As a result, you can say that the scope of Knowledge Management extends to the management of knowledge and the information and data captured in each stage of the Service Lifecycle from which knowledge is created.

ACTIVITY TIME

2.9 CUSTOMER LIAISON
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Adapted from Customer outcomes are used to tag Services and Service Assets
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Business Relationship Managers

Business Relationship Managers (BRMs) are responsible for developing strong and lasting business relationships with customers. For this, it is crucial to understand customer outcomes as well as the customer’s business. BRMs are “customer focused.” They identify and exploit opportunities using a customer portfolio.

Some organizations call BRMs Account Managers, Business Representatives, or Sales Managers. Internal IT Service Providers need BRMs to develop their internal market and be responsive to its needs. They work alongside Product Managers who develop and manage Services across the Lifecycle. Product Managers are “product focused.” They perceive the environment through the Service Portfolio.

By defining Services based on outcomes, you can ensure that managers implement Service Management from the perspective of what is valuable to the customer. This ensures that Services create value not just for customers, but for Service Providers as well.
Services are framed by the customer outcomes they support

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BRM Responsibilities

The BRM must identify the best combination of Lines of Service (LOS) and Service Level Packages (SLPs) for each customer outcome they are responsible for. BRMs must relate customer outcomes to the relevant user profile. They then match the user profile to a suitable SLP to create a customized Service offering for each customer outcome. Core Service Packages (CSPs) and SLPs can cater to different customer preferences and perceptions through basic, performance, or excitement Service packages.

BRMs function as the customer’s representatives by working closely with Project Managers to ensure that the needs of the customer portfolio are fulfilled through a proper mix of LOS and SLPs in the Service Catalogue.

2.9.1 BUSINESS RELATIONSHIP MANAGEMENT

Functions of BRMs

For BRMs to function effectively and efficiently in an organization, they need to:

- Understand the customer.
- Understand the opportunities.

Understanding the Customer

Faced with various constraints, such as the costs or Risks arising out of complexity, uncertainty, and conflicts in the business context, organizations use any assets available to them to attain their business objectives. Regardless of whether or not the
business has ownership of the assets, it must ensure that the assets perform at their full potential.

Often, assets are obtained from various types of financial arrangements, such as agreements or contracts for Services. Business managers are responsible for delivering specific results using the best means possible. Services are one of the means managers can use to boost the performance of business assets. The value of a Service is best evaluated in terms of its contribution to improved business results. Minimizing or eliminating variation in the performance of customer assets is also an important aspect of providing value. Service Management professionals must focus on the performance of customer assets because they constitute the basis of defining the value of a Service.

Understanding Opportunities

The business provides specific assets to customers. On their part, business own and configure these assets to provide value to their customers. For example, a lending bank creates value for its customers by processing a loan application on time. The benefit customers receive in this case is access to financial capital. The bank benefits from the onset and accrual of interest. Consequently, the lending process is an asset for the business that gives specific business outcomes.

It is vital for managers to have in-depth understanding of the business they serve or target. To maintain clarity on outcomes, you can classify and codify them with reference tags that are usable across all Service Lifecycle areas.
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“Example of a scheme to tag customer outcomes

<table>
<thead>
<tr>
<th>Category</th>
<th>Tag</th>
<th>Outcome statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced capabilities</td>
<td>EC1</td>
<td>Decision making and action in response to business events is faster. Increase in knowledge, skills, and experience for business processes. Business processes are enhanced with superior logic. Industry best practices are available through application updates. Supply chain is extended. Availability of specialized knowledge and expertise.</td>
</tr>
<tr>
<td></td>
<td>EC2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC6</td>
<td></td>
</tr>
<tr>
<td>Increased performance</td>
<td>P1</td>
<td>Increase in throughput of business processes. Decrease in average collection period (accounts receivables). Increase in return on assets. Increase in customer satisfaction.</td>
</tr>
<tr>
<td></td>
<td>P2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P4</td>
<td></td>
</tr>
<tr>
<td>Enhanced resources</td>
<td>ER1</td>
<td>Resources are freed up for new opportunities. Increase in productivity of staff. Increased flexibility in operations. Increase in available resources.</td>
</tr>
<tr>
<td></td>
<td>ER2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER4</td>
<td></td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Category</th>
<th>Tag</th>
<th>Outcome statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced costs (RC)</td>
<td>RC1</td>
<td>Decrease in fixed costs of business process Decrease in unit costs of employee benefits administration Lower start-up time for new or expanded operations</td>
</tr>
<tr>
<td></td>
<td>RC2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RC3</td>
<td></td>
</tr>
<tr>
<td>Reduced risks (RR)</td>
<td>RR1</td>
<td>Decrease in operational risks from variation in performance of assets Decrease in operational risks from shortage in capacity of assets Business continuity is assured. Passed audit. Business processes are compliant with regulations</td>
</tr>
<tr>
<td></td>
<td>RR2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RR3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RR4</td>
<td></td>
</tr>
</tbody>
</table>

(Source: Service Strategy book)

**Tagging Customer Outcomes**

Customer outcomes lacking proper support are opportunities for the business to offer new Services as solutions. Existing Services in the catalog could offer support for some outcomes. Services that are in the pipeline in the design and development stages could support some other outcomes. You should regularly review outcomes even if they are currently well supported because Changes in the business environment can reduce the extent or quality of support.
When Services share market spaces they also tend to share capabilities, resources, costs, Risks, challenges, opportunities etc.

Services with high degree of overlap could be consolidated under the same operations. Variants of Services have very high degree of overlap. Similar Services can have the same core Service package.

Adapted from Visualization of Services as value-creating patterns © Crown Copyright 2007 Reproduced under licence from OGC.
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Service as Value-Creating Patterns

Managers should visualize Services as value-creating patterns of customer assets and Service archetypes. Even with similar archetypes and asset types, some combinations can deliver greater value to customers. Services with closely matching patterns can be consolidated or bundled as shared Services. If the application’s asset type is present in many patterns, Service Providers can increase their investments in capabilities and resources that enable Services linked to applications. Similarly, if the Security archetype is present in many patterns, it indicates that security has developed into a core capability. A specific collection of patterns can emerge because of an intended strategy or a collection of patterns can make a specific Service strategy particularly attractive (emergent strategy).

This visual method also aids communication between the different functions and processes of Service Management. These visualizations help establish formal definitions of Services. Matching the value-creating context (customer assets) and the value-creating concept (Service archetypes) can prevent underperformance.

“Probing questions to gain insight

<table>
<thead>
<tr>
<th>With respect to themselves</th>
<th>With respect to their customers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Who are our service providers?</strong></td>
<td><strong>Who are their customers?</strong></td>
</tr>
</tbody>
</table>
**Table of Contents**

<table>
<thead>
<tr>
<th>With respect to themselves</th>
<th>With respect to their customers</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>How do services create value for them?</em></td>
<td><em>How do they create value?</em></td>
</tr>
<tr>
<td><em>What assets do we deploy to provide value?</em></td>
<td><em>Which of their assets receive value?</em></td>
</tr>
<tr>
<td><em>Which assets should we invest in?</em></td>
<td><em>Which of our assets do they value most?</em></td>
</tr>
<tr>
<td><em>How should we deploy our assets?</em></td>
<td><em>How do they deploy their assets?”</em></td>
</tr>
</tbody>
</table>

(Source: Service Strategy book)

**Insight into the Customer’s Business**

These incisive questions help analyze the business outcomes that customers want from Services. The questions reveal the challenges as well as the opportunities related to specific customer or business contexts.
Developing Differentiated Offerings

The combination of core and supporting Services is a critical part of market strategy. Service Providers should analyze the current business conditions, the needs of the customer segments or customer types they serve, and the alternative providers available to them. The decisions are critical because they help the provider assure value to customers in the long term, even when industry practices, standards, technologies, and regulations change.

Packaging supporting Services with core Services impacts the design and operation of Services. The provider has to decide which of the two to standardize. Different packaging approaches can result in the same level of differentiation. However, the costs and Risks involved will be different in each case. Service Transition processes help make these decisions. There is a tendency to overlook costs and Risks for supporting Services during the initial stages of planning and development. In addition, because different core Services share supporting Services, often demand for supporting Services, and their consumption, can have poor visibility and can be difficult to manage.

While delivering value from core Services, providers should not neglect supporting Services. Satisfaction surveys show that poorly managed supporting Services can cause user dissatisfaction even when the core Service is being delivered effectively.

You can also offer some supporting Services independently, such as help desks or technical assistance. The best time to consider these possibilities is during strategic planning and reviews. Service Providers can deploy different strategies for
core Services and supporting Services. For example, a provider might decide to standardize and consolidate supporting Services to take advantage of economies of scale and cut operating costs while offering customized CSPs for particular customers. Alternatively, they might standardize the CSP and use supporting Services to cater to the unique needs of customers or market segments. These strategic decisions can impact the general success of a Service Provider at the level of the Service Portfolio. This is crucial for Service Providers who need to balance the varying needs of several businesses or Business Units while keeping costs to a minimum across the entire portfolio to maintain competitiveness on the market.

**Monitoring Service Performance Against SLAs**

You must not include anything in an SLA that cannot be effectively monitored and measured at a commonly agreed point. This is critical because including items that cannot be effectively monitored always causes disputes and eventual loss of faith in the SLM process.

To ensure proper monitoring, a Service Provider must:

- Evaluate the existing monitoring capabilities and upgrade them to monitor all activities mentioned in the SLA.
- Match the monitoring to the customer’s true perception of the Service.
- Create a true picture of the end-to-end Service by checking all Service components.
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• Make sure that all users report Incidents immediately to aid fixing.
• Use the Service Desk and a comprehensive CMS to check the customer’s perception of availability.
• Ensure correct response and resolution times are logged on the Incident/Problem logging screens.
• Procure correct data about transaction response times (the time between sending a screen and receiving a response).

To do this, a Service Provider must:

• Make sure that the SLA has text along the following lines: “The Services covered by the SLA are designed for high-speed response and no significant delays should be encountered. If a response time delay of more than x seconds is experienced for more than y minutes, this should be reported immediately to the Service Desk.” (Source: Service Design book)
• Make sure that the customer agrees to an acceptable target for the number of such Incidents that can be tolerated in the reporting period. Include this target in the SLA.
• Make an Incident category of “poor response” (or similar) and ensure that any such Incidents are logged accurately and that they are related to the appropriate Service.
Create reports of occasions where SLA transaction response time targets have been breached, and instigate investigations via Problem Management to correct the situation.

Implement some form of automated client/server response time monitoring in close consultation with Service Operation.

Use Change Management tools to access and implement RFCs in case the SLA includes targets to check RFCs.

Collating, Measuring, and Improving Customer Satisfaction

A Service Provider must be able to successfully manage customer expectations, especially “soft” issues that cannot be monitored by mechanical or procedural means, such as the customers’ overall feelings. To do this, you need to:

- Set correct expectations.
- Set appropriate targets.
- Put a systematic process in place to manage expectations going forward.

Reviewing Underpinning Agreements and Service Scope

IT Service Providers need the backing of their own support teams and suppliers to commit to SLA targets. While external supplier contracts are mandatory, many organizations make simple agreements with internal support groups, usually referred
OLAs can be simple but must have specific back-to-back targets for support groups, which underpin the targets included in SLAs.

For example:

“If the SLA includes overall time to respond and fix targets for incidents (varying on the priority levels), then the OLAs should include targets for each of the elements in the support chain. It must be understood, however, that the incident resolution targets included in SLAs should not normally match the same targets included in contracts or OLAs with suppliers. This is because the SLA targets must include an element for all stages in the support cycle (e.g. detection time, Service Desk logging time, escalation time, referral time between groups etc, Service Desk review and closure time – as well as the actual time fixing the failure).

The SLA target should cover the time taken to answer calls, escalate incidents to technical support staff, and the time taken to start to investigate and to resolve incidents assigned to them. In addition, overall support hours should be stipulated for all groups that underpin the required Service availability times in the SLA. If special procedures exist for contacted staff (e.g. out-of-hours telephone support) these must also be documented.”

(Source: Service Design book)
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The Service Provider must monitor OLAs against OLA and SLA targets, and provide achievements data as feedback to the appropriate manager of each support team. This helps identify potential problem areas, which may need to be addressed internally or by a further review of the SLA or OLA.

Producing Service Reports

A Service Provider must start monitoring as soon as the SLA is agreed and accepted.

A suggested schedule for reports is:

- Operational reports — weekly or even more frequently.
- Exception reports — whenever an SLA has been broken.
- Periodic reports — at regular intervals. It is good practice to circulate these to customers, their representatives, and appropriate IT managers a few days in advance of Service level reviews, so that any queries or disagreements can be resolved before the Service review meetings.

It is also good practice to define, and agree on with customers, SLA reporting mechanisms, intervals, and report formats as well as the format of Service review meetings.

Content of Periodic Reports

The Service Provider may also bring out interim reports that might be required by the IT management for OLA or internal performance reviews and/or supplier or contract management.
The interim reports must have accurate information from all areas and all processes, such as Incident Management, Problem Management, Availability Management, Capacity Management, Change Management, and Configuration Management. Accuracy is critical because the information in these reports is analyzed and collated into a concise and comprehensive report on Service performance, as measured against agreed business targets.

**Conducting Service Reviews**

When conducting Service reviews, a Service Provider must:

- Hold periodic review meetings with customers (or their representatives) to review the Service achievements in the last period and preview any issues for the coming period.
- Assign actions to the customer and its own organization to improve weak areas where targets are not being met. Record all actions.
- Review the progress of actions at the next meeting to ensure that action items are being followed up and correctly implemented.
- Focus on each breach of Service level to determine exactly what caused the loss of Service and what could be done to prevent any recurrence.
- Review, renegotiate, review, and agree on different Service targets, if needed.
- Review the underpinning agreement if the Service break has been caused by the failure of a third-party or internal support group.
Analyzing the cost and impact of Service breaches provides valuable input and justification for SIP activities and actions. The constant need for improvement needs to be balanced and focused on those areas most likely to give the greatest business benefit.

**Reviewing and Revising SLAs, Service Scope, and Underpinning Agreements**

It is very important to keep all agreements and underpinning agreements, including SLAs, underpinning contracts, and OLAs, up-to-date. To do this, bring these documents under Change and Configuration Management control and get them periodically reviewed. The review must confirm that the covered Services and their targets are still relevant and nothing invalidates the agreement between the Service Provider and the customer.

**Developing Contacts and Relationships**

SLMs must develop trust and respect with the business, especially with key business contacts. The Service Catalogue, especially the Business Service Catalogue with its information that enables SLM to understand the relationships between Services and the Business Units and business processes that depend on those Services, helps SLM become more proactive. The Service Catalogue must also have information on all the key business and IT contacts relating to the Services, their use, and their importance. To do this correctly and consistently, SLM must:

- Validate stakeholders, customers, and key business managers and Service users.
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- Help with maintaining accurate information within the Service Portfolio and Service Catalogue.
- Take action per the needs of the business, customers, and users, and understand current and planned business processes.
- Cultivate a full understanding of business, customer, and user strategies, plans, business needs, and objectives, ensuring that IT is working in partnership with the business, customers, and users to develop long-term relationships.
- Sample the customer experience, providing feedback on customer issues to IT. (This applies to both IT customers and external business customers in their use of IT Services.)
- Make sure that the correct relationship processes are in place to achieve objectives and that they are subjected to continuous improvement.
- Complete customer surveys, assist with the analysis of the completed surveys, and ensure that actions are taken on the results.
- Be an IT representative for organizing and attending user groups.
- Sell and exploit the Service Portfolio and the Service Catalogue, and use the Services within all areas of the business.
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- Do everything needed to ensure that IT provides the most appropriate levels of Service to meet business needs currently and in the future.
- Advocate Service awareness and understanding.
- Increase awareness of the business benefits to be gained from the exploitation of new technology.
- Smoothen the development and negotiation of appropriate, achievable, and realistic SLRs and SLAs between the business and IT.
- Make the business, customers, and users understand their responsibilities/commitments to IT, that is, the IT dependencies.
- Help with the maintenance of a register of all outstanding improvements and enhancements.

Complaints and Compliments

The SLM process must have a process to log and manage complaints as well as compliments. However, to manage these, the Service Provider and the customer must agree upon the definitions of a complaint and compliment. They must try to record to communicate all complaints and compliments to the relevant parties. They must take action and resolve all complaints to the satisfaction of the originator. They must include an escalation contact and a procedure for all complaints that are not resolved within an appropriate timescale. They must escalate all outstanding complaints to the senior management, where appropriate, and produce reports on the numbers and types of
complaints, identified trends, and actions taken to reduce the numbers received.

2.9.2 SERVICE STRUCTURE, VALUE NETS, AND VALUE CHAINS

From Value Chains to Value Networks

The process of creating value creates the links in a value chain. Each Service generates value through a sequence of Events leading to the delivery, consumption, and maintenance of that particular Service. When senior executives analyze each stage in the chain, they find opportunities for improvements.

However, most of the value of Service Management is intangible and complex because it includes knowledge and benefits such as technical expertise, strategic information, process knowledge, and collaborative design. The value often lies in how these intangibles are combined, packaged, and exchanged.

Why are linear models inadequate to understand the value of Service Management?

Linear models have proved to be inadequate to describe and understand the complexities of value for Service Management. This is because they often treat information as a supporting element rather than as a source of value. These models use information to monitor and control rather than to create new value.
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Value chains provide a strategy for vertically integrating and coordinating the dedicated assets required for product development. In the assembly line approach, upstream suppliers add value and then pass it down to the next supplier. This traditional Service model has three roles: the business, the Service Provider, and the supplier.

The Service Provider gets goods and Services from its suppliers and assembles them to produce new Services to meet the needs of the business. The business, or customer, is the last link in the chain.

Linear model economics is based on the law of averages. According to this law, if the aggregate cost of a Service is competitive, the Service Provider does not need to seek a cost advantage at each link in the chain. However, global sourcing and modern distribution technologies have undermined this logic. Today, a Service Provider does not have the luxury of compensating for weak performance in one area with the strength of another.

In Service Strategy, the focus must be on the value-creating system itself, rather than on the fixed set of activities along a chain. By using open and inexpensive information, businesses can use resources and capabilities without owning them. This allows organizations to control and track information that would have been too costly to capture and process just years ago.
If you see Service Management as a pattern of collaborative exchanges, rather than an assembly line, you will see that the idea of value creation is due for revision. You need to start thinking of Service Management as a value network or net.

Any group of organizations engaged in both tangible and intangible exchanges is viewed as a value network, as shown in the given diagrams.
Adapted from Basic value chain and value network © Crown Copyright 2007 Reproduced under licence from OGC
2.9.3 TERMINATION AND RETIREMENT OF SERVICES

Adapted from Service Portfolio process © Crown Copyright 2007 Reproduced under licence from OGC
Service Portfolio Management Methods

Service Portfolio Management has four main phases:

- **Define**: Inventory Services, validate portfolio data, and produce business cases.
- **Analyze**: Maximize the value of the portfolio and balance supply and demand.
- **Approve**: Finalize the portfolio and authorize the use of resources and Services.
- **Charter**: Communicate decisions, distribute resources, and charter Services.

1. **Define**

In this phase, you collect information from all existing and planned Services, including Services in the conceptual stage. This exercise helps you understand the opportunity costs of the existing portfolio and make decisions regarding the reallocation of resources.

2. **Analyze**

In this phase, you define the strategy by starting with the following top-down questions:

- “What are the long-term goals of the service organization?”
- What services are required to meet these goals?
- What capabilities and resources are required for the organization to achieve those services?
- How will we get there?”

(Source: Service Strategy book)
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These questions throw light on perspectives, positions, plans, and patterns. The answers to these questions outline not only the analysis but also the desired outcomes of Service Portfolio Management. To get answers to these questions, organizations need to involve senior leaders and subject matter experts because they understand the related Risks, Impact, and dependencies.

How does one select which investment to make?

Senior executives have to manage limited resources. As a result, they need to understand the Impact, Risks, and dependencies involved. This allows them to make informed decisions about investments in Service initiatives. These investments should come with the right levels of Risk and reward, may be cross-functional, and have varying time spans. The executives must ensure that the anticipated value matches the Risk level.

Service investments can be grouped into three strategic categories:

- “Run the business (RTB) – RTB investments are centered on maintaining service operations
- Grow the business (GTB) – GTB investments are intended to grow the organization’s scope of services
- Transform the business (TTB) – TTB investments are moves into new market spaces”

(Source: Service Strategy book)
Adapted from Option space: focused on maintaining Services (RTB)

1.0 Value-to-Cost

Existing Market Spaces New

- Do Not Invest
- Retire
- Invest
- Run
- Unlikely Near-Term Investment
- Likely Near-Term Investment
- Over-served
- Under-served
- Do Not Invest
- Transform
- Grow
- Probable Future Investment
- Possible Future Investment

Customers

Existing New

Over-served

Customer Needs

Under-served

Near-Term Investment

Probable Future

Possible Future

Transform

Grow

In

Invest

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This type of analysis affirms the Risk tolerance of the enterprise, reveals the nature of the organization, and affects its modes of operation. If Services are predominately distributed in RTB, this indicates that IT is mostly a cost center operation. If Services are predominately distributed in TTB, this indicates that IT is more likely an investment center.

3. Approve

In this phase, approvals are granted or denied for the plans proposed through the Design and Analyze phases. Along with approvals, you also authorize new Services and resources.

For existing Services, the outcomes of these approvals can be:

- Retain – self-contained Services with defined asset, process, and system boundaries that are important to the organization’s strategy.
- Replace – Services with uncertain and overlapping business functionality.
- Rationalize – Services with multiple releases of the same operating system or multiple versions of the same software.
- Refactor – Services that meet the technical and functional needs of the organization can have fuzzy process or system boundaries. A case in point would be a Service handling its own authentication or continuity functions. These types of Services can be refactored to include only the core functionality, with common Services used to provide the remainder. Reorganizing can also be used for Services that embed reusable Services within themselves.
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- Renew – Services that meet functional fitness criteria, but not technical fitness. An example of this would be a Service whose fulfillment elements include a mainframe system and a frame relay network that continues to support critical business processes while the strategic plan of the organization is to retire the mainframe platform and source a Multiprotocol Label Switching (MPLS) Wide Area Network (WAN).
- Retire – Services that fail to meet the minimum levels of technical and functional fitness.

4. Charter

This phase begins with listing all decisions and action items. These need to be shared with the business and linked to budgetary decisions and financial plans. The budget allocations, in turn, enforce resource allocation.

The projected value of each Service should be incorporated into financial forecasts and resource plans. This helps you keep track of the status of Service investments. Newly chartered Services are progressed to Service Design. The Service Catalogue is refreshed for existing Services. Retired Services are removed through Service Transition.

The CIO must constantly monitor, measure, re-evaluate, and redistribute investments in line with changing business needs. Changing market conditions could invalidate earlier Return on Investment (ROI) calculations. Because of compliance and regulatory concerns, some Services may no longer be viable. You should aim for a portfolio with optimal levels of ROI and Risk.
This ensures that the organization leverages its limited resources and capabilities for the maximum value.

Perform Transfer, Deployment, and Retirement

To start deployment, you must first transfer the financial assets that need to be executed as part of Deployment Management. These assets include:

- Changes in supplier financial agreements and charges.
- All annual support and maintenance costs, including systems to manage Services such as the CMS.
- Charges for the purchase of new licenses or renewal fees.
- Costs for annual disaster recovery contracts with third parties.
- Working capital.

The next step is to transfer a Business Unit, Service, or Service Asset. You must note that transferring these elements will affect the organization as a whole.

The next step in the process is to deploy or publish processes and materials for the users to refer to. These materials might include policies, processes, procedures, manuals, overviews, training products, organizational Change products, and so on.

Next, deploy the Service Management capability.

After sharing the materials, check whether the users are competent and confident to operate, maintain, and manage the Service. At this time, remove or archive redundant Services and assets.
Next, execute the Service transfer.

Transferring the Service involves a range of activities from transferring financial data to business and organizational information. Let us look at each of these in detail:

- Perform Service tests and follow a Service Evaluation process before transferring a Service. This helps review the performance of the Service and the issues and Risks associated with it.
- Perform configuration audits of Service Assets and configurations.
- Add or remove Services to finalize the Service Catalogue.
- Communicate the Change to relevant stakeholders by sending a Service notification.

Next, you must deploy the Service Release and perform the necessary activities to distribute and install the Service and its supporting Services, applications, data, information, infrastructure, and facilities. To do this, you must:

- Distribute and deliver the Service and Service components.
- Build, install, and configure the Service and Service components with any new information.
- Test the system and the Service per the defined test plan and collate the test results.
- Record all Incidents.
- Correct any deviations.
After you deploy a Service, you might need to retire it after a specific interval of time. This ensures that the Service does not include defunct aspects. Failure to perform retirement or decommissioning activities might lead to license contraventions or the staff using unsupported software.

To retire or decommission a Service, you must:

- Remove the deployed copies of software and data from retired hardware.
- Identify licenses and other assets that can be reused in the organization.
- Dispose equipment according to environmental policies and procedures.
- Move assets that can be redeployed to a secure area.

You must also remove any redundant assets at this stage. These might include redundant data, information, and records related to the previous Service or products. They might also include support contracts with third-party contractors and so on.

We have been through all the steps to deploy the Service. But, we are not finished!

We still need to verify that the deployment happened correctly, and the users, Service Operations, other staff, and stakeholders are capable of using or operating the Service.
Review and Close Service Transition

This is the last step in which you need to perform a formal review to finalize that Service Transition is complete. The Service Transition review must:

- Check that all transition activities are completed. For example, documentation and information is captured, updated, secured, and archived.
- Check that capture metrics are accurate.

Independent evaluation verifies the actual performance and outcomes of the new or changed Service against the user- or customer-expected Service performance and outcomes. On the successful completion of the evaluation, Services are formally closed. Then, Service Operations and CSI take up the Services. As a result, the output from one stage becomes input to another stage.

2.10 GROUP/INDIVIDUAL EXERCISE

Refer to the Workbook to do the exercise.

2.11 SAMPLE TEST QUESTIONS

Refer to the Workbook to do the questions.
UNIT 3: RISK MANAGEMENT

Overview

Risk Management helps in identifying the Risks that can disrupt Services and bring loss of good will among customers. It puts processes in place to monitor Risks, deal with the Risks by applying the right control balance, and provide support to the decision-making process through the Risk analysis and evaluation framework.

Unit Learning Objectives:

At the end of this unit, you will be able to:

- Identify the challenges, Critical Success Factors (CSFs), and Risks to Service Management.
- Identify the different types of Risks.
- Analyze how Risk is evaluated.
- Distinguish the corrective actions for Risks.
- Understand how to control Risk.
- Understand how Risks are transferred.

3.1 PURPOSE AND OBJECTIVES
Risk Management is defined as the identification and control of risk exposure, which may impact the achievement of an organization’s goals and objectives.

Importance of Risk Management to the Success of the IT Service Provider

It puts processes in place to monitor Risks, deal with the Risks by applying the right control balance, and provide support to the decision-making process through the Risk analysis and evaluation framework. Risk Management is important for IT Service and support organizations to assess the vulnerability of configuration and capability failures. Risk Management identifies and quantifies Risks and the justifiable countermeasures that Service Providers must implement to protect the availability of IT systems. Risk identification and the provision of justified countermeasures play a crucial role in achieving the required availability levels for a new or enhanced IT Service.

Value Contribution of Risk Management to the Business

Risk Management helps in identifying the Risks that can disrupt Services and bring loss of good will among customers. Risk Management contributes to value creation by identifying the Risks of IT component unavailability and confidentiality and/or integrity exposure, which might impact the achievement of business objectives of an organization.
3.2 CHALLENGES, CSFS, AND RISKS ASSOCIATED WITH SERVICE MANAGEMENT

At some critical times, managing Risk in an IT Service organization is more important than at other times. During Service Transition, you must manage Risk to prevent unplanned disruption to the business. In Service Design, two processes focus on Risk - IT Service Continuity Management and Information Security Management. CSI works within these processes to identify potential Service improvements.

Let us look at this in more detail.

Risks, CSFs, and Challenges Associated with Service Transition

Risks threaten Service Management continually. This is why taking the appropriate decision and action at the right time becomes essential for the effective management of Services.

While implementing Service Transition, you must identify the potential Risks to Services currently in transition and Services in the pipeline. To identify the implementation Risks in Service Transition, you must perform a baseline assessment of current Service Transitions and planned projects.

Some common implementation Risks are:

- Too much business because of excessive Risk-averse Service Transition practices and plans
- Wrong knowledge sharing, meaning wrong people having access to information
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- No systems and tools maturity and integration, resulting in people “blaming” technology for other limitations
- Poor process integration, causing process isolation and a silo approach to delivering IT Service Management (ITSM)
- Loss of productive hours, higher costs, revenue loss, or even business failure because of poor Service Transition processes

CSFs for Service Transition are essential to improve Service quality based on business requirements and to make it cost effective.

Some CSFs are:

- Execute good Service Management and IT infrastructure tools and technology.
- Appreciate and exploit the cultural and political environment.
- Understand the Service, the technical configurations, and their dependencies.
- Understand the processes, procedures, skills, and competencies required to manage Service Transition practices.
- Develop personnel with the appropriate knowledge, skill sets, and Service culture.
- Define specific roles and their responsibilities.
- Create an environment that fosters knowledge sharing.
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- Create and execute an improved cycle time to deliver Change with minimum time, cost, and quality prediction deviations.
- Ensure improved customer and user satisfaction ratings during Service Transition.
- Demonstrate that establishing and improving the benefits of the Service Transition practices and processes outweigh the associated costs.
- Effectively communicate the organization’s approach to Risk Management during Service Transition activities.
- Understand and analyze the Risks that have affected or might affect the successful transition of Services in the Service Portfolio.

Some of the common challenges to successful Service Transition are to:

- Enable a huge customer group and all stakeholder groups, including almost every business process and Service that Service Transition impacts.
- Manage multiple contacts and the related processes and relationships through Service Transition.
- Manage the lack of integration in the processes and disciplines that impact Service Transition, such as finance, engineering, and human resources.
- Manage the inherent differences between the legacy systems and new elements resulting in unknown dependencies.
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- Maintain a balance between a stable production environment and Services that keep changing according to business needs.
- Maintain a balance between practical options (pragmatism) and organizational formalities (bureaucracy).
- Create an environment that promotes standardization, simplification, and knowledge sharing.
- Enable business changes and contribute to business change programs.
- Establish leaders to lead Changes and improvements.
- Establish “who is doing what, when, and where” and “who should be doing what, when, and where.”
- Foster a culture that encourages people to collaborate and work effectively.
- Develop standard performance measures and measurement methods across projects and suppliers.
- Make sure that the quality of delivery and support matches the business use of the new technology.
- Make sure that Events do not affect the Service Transition time and budget early in the Service Lifecycle.
- Understand the different stakeholder perspectives that underpin effective Risk Management.
- Understand and assess the balance between managing Risk and taking Risks because this affects the overall strategy of the organization and the potential mismatch between project Risks and business Risks.
Evaluate the effectiveness of reporting in relation to Risk Management and corporate governance.

Risks, CSFs, and Challenges Associated with Information Security Management

Information security measures are steadily increasing in scope, complexity, and importance. It is risky, expensive, and inefficient for organizations to have their information security depend on cobbled-together, homegrown processes.

Information Security Management (ISM) ensures the right management of information security Risks and the responsible use of enterprise information resources. ISM protects the interests of those relying on information, and the systems and communications that deliver the information, from Risks such as:

- **Information availability**: Systems that provide information need to have the right information at the right time, oppose attacks, and recover from or prevent failures.
- **Information confidentiality**: This should be maintained and should not be observed or disclosed to the wrong person.
- **Information integrity**: This should be maintained so that information is complete, accurate, and protected against unauthorized modification.
- **Information authenticity and nonrepudiation**: This should be maintained so that information exchanges and business transactions between enterprises, or with partners, is trustworthy.
ISM must address the entire business processes and cover the physical and technical aspects to be effective. The Information Security Manager must understand the importance of security and should not consider it as just a step in the Lifecycle of Services and Systems. Information Security should be an integral part of all Services and systems.

**Risks, CSFs, and Challenges of ITSCM**

Some of the main IT Service Continuity Management (ITSCM) Risks are:

- No commitment from the business to ITSCM processes and procedures
- No commitment from the business and no suitable information on future plans and strategies
- No senior management commitment or no resources and/or budget for the ITSCM process
- Too much focus on technology issues and not much on IT Services and business needs and priorities
- Performing Risk Analysis and Management in isolation and not in conjunction with Availability Management and Security Management
- Outdated ITSCM plans and information that lose alignment with business information, plans, and Business Continuity Management (BCM)
Two CSFs for the ITSCM process are:

- Delivery and recovery of IT Services to meet business objectives
- Awareness of the business and IT Service Continuity Plans in the organization

A big challenge to ITSCM is providing the right plans in the absence of the BCM process. The absence of the BCM process makes the expensive ITSCM solutions and plans useless and makes the business fail to identify inexpensive, non-IT solutions. This is because BCM cannot find any related plans and arrangements within the business.

Some types of outsourced business identify continuity as a responsibility of IT and are reluctant to share their BCM information with an external Service Provider. The business presumes that disaster recovery is the responsibility of IT and that IT Services will run under any conditions continuously. But, this is wrong.

Even if the BCM process is established, it is still a challenge to align and integrate with ITSCM. ITSCM must obtain the right information on business needs, Impacts, and priorities from the BCM process. Maintenance of the documents and plans must be under strict Change Management and Configuration Management control.
ITSCM and Continual Service Improvement

To apply corrective action for a Risk, organizations need to implement CSI initiatives. Organizations should integrate all CSI initiatives taken to improve Services and ITSCM because they need to consider any Service requirement Changes that might be required for the continuity plan. It is good practice to refer to Change Management before designing Service Improvement Plans (SIPs).

BCM must manage Risks so that the organization operates at predetermined levels. You must construct a plan to recover business processes in case a Risk comes true and disrupts the business.

An IT organization identifies, assesses, and manages its Risks through ITSCM. This capability allows the organization to appreciate its work environment and provides it with the ability to make decisions on which Risks to eliminate. CSI can further enhance the efforts of ITSCM to improve the business.

Each organization manages its Risks, but not necessarily in a way that supports it in making decisions. Risk Management helps an organization in using a well-defined Risk process in a cost-effective way.
To achieve benefits and exploit opportunities, including enabling innovation through new technologies

To adapt to changes in the market and/or customer needs

To avoid the impact of failure (perceived or actual) through public or commercial embarrassment, or financial loss

To manage external changes in culture, political environments, etc.

To maintain business continuity and service provision where there is failure by suppliers, security breach or natural disaster

To control acquisition (or development) of new products or services through appropriate arrangements

To comply with legal and regulatory requirements e.g. Data Protection Act, Sarbanes-Oxley, HIPAA, EU Directives, Health and Safety, audit

To demonstrate conformance to best practice and standards e.g. ISO 20000, COBIT, ISO 27001, ISO 17799, quality requirements

To achieve and demonstrate true corporate governance and address other policy initiatives

Delivering Business Services

Adapted from Reasons for a Risk Management process © Crown Copyright 2007 Reproduced under licence from OGC
It is important to carry out Risk management for reasons, such as:

- **Health and safety policy and practice:** For the provision of a safe work environment
- **Security policy:** For protecting organizational assets, such as information, buildings, and data
- **Business continuity policy:** For ensuring that the organization functions continually even during a disaster, such as a loss of Service or a fire

When working with suppliers, Risk Management assesses, from a business perspective, the vulnerabilities in supplier arrangements that could pose a threat to customer satisfaction, brand image, market share, share price, profitability, and regulatory impacts or penalties.

The Risks that are associated with an outsourced supplier will probably be more in number and more difficult to manage than the Risks associated with internal supply. You must have a proper communication and escalation channel to identify and manage the Risks arising from any new relationship. Risks must be assessed before undertaking a contract and they must be updated continually.

Organizations and suppliers must develop their own Risk profile and identify their respective Risk owners. If the relationship between the organization and suppliers is functioning well, they can share their Risk assessment with each other. They can manage the Risks through a Risk Register.
A CSI program uses the results of the Risk assessment and management activities to identify Service improvement opportunities. It uses Risk mitigation, elimination, and management methods to improve Services.

You must assess Risks carefully before making any additions to the customer portfolio. In the same way, customers look to filter Risks from Service Providers to the minimal level. The organization should apply Risk analysis and Risk Management for the Service Pipeline and Service Catalogue to identify, control, and minimize Risks within the Lifecycle phase.

### 3.3 RISK IDENTIFICATION

**Risk**

Risk is defined as ambiguity of outcome. The failure to capitalize on opportunities is a Risk – the Risk of underserved market spaces and unfulfilled demand. While addressing Risks, you must ensure that the probable benefits outweigh the costs of the exercise. For example, innovation, although risky, can deliver significant benefits in the form of Service improvements.
To view Risks as opportunities, it is important to identify the Risks correctly in the Lifecycle.

The different types of Risks are:

i. Service Provider Risks
ii. Contract Risks
iii. Design Risks
iv. Operational Risks
v. Market Risks
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Define a framework

- Embed and review
- Gain assurances about effectiveness
- Implement responses

Risk management

Identify the Risks

- Identify probable Risk owners
- Evaluate the Risks
- Set acceptable levels of Risk (tolerance/’appetite’)
- Identify suitable responses to Risk

Risk analysis

Adapted from **Generic framework for Risk Management**
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Risk Framework and Risk Identification

The task of Risk Management is to ensure that organizations use the Risk framework in a cost-effective manner. The Risk framework has a series of well-defined steps to understand Risks and their possible Impacts and, in the process, help in improved decision-making.

Risks identification involves two processes:

- **Risk Analysis**: It gathers information on Risk exposure so that organizations are well informed about Risks to take the right decisions and manage the Risks on time.

- **Risk Management**: It puts processes in place to monitor Risks, deal with Risks by applying the right control balance, and provide support to the decision-making process through the Risk analysis and evaluation framework. Risk Management covers topics such as BCM, security, program/project Risk Management, and Operational Service Management.
Risks acceptable to the provider

Demand-side Risks

Supply-side Risks

Risks acceptable to the customer

Service Management as Risk Filter

Adapted from Risk management plays a crucial role in Service Management

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Design Activity Risks

Risks occur in design activities when an organization does not adopt a structured and holistic approach to the design activities. Many organizations today do not focus on design or architecture but focus on their own functional requirements. This is a Risk because inconsistent and unintegrated information may be available throughout the IT Service Provider organization, within all design activities. Organizations should avoid this Risk by managing the inherent Risks or those that may crop up in every design activity.

You must identify the following Service Design Risks to ensure that they are not realized:

- The Service Design or Service Management process will be unsuccessful if you do not meet any of the Service Design Prerequisites for Success (PFSs).
- The low maturity levels of one process disable the attainment of full maturity in other processes.
- Business needs are unclear to IT staff.
- Business timescales are such that you give inadequate time for appropriate Service Design.
- Inadequate testing results in bad design and, consequently, bad execution.
- A wrong balance is struck among innovation, Risk, and cost while seeking a competitive edge, where the business desires.
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- Insufficient infrastructures, customers, and partners cannot meet the overall business needs.
- A synchronized interface between IT planners and business planners has not been provided.
- Policies and strategies, especially the Service Management strategy, are unavailable from Service Strategy or clearly stated Service Strategy content is not available.
- Inadequate capital and budget are available for Service Design activities.
- There is a Risk of Services developed in seclusion using their “own” assets and infrastructure. This can seem less expensive in isolation but can be much more expensive in the long term. This is because of the financial savings of corporate buying and the extra price of assisting different architectures.
- Inadequate time is given to the design phase or the staff tasked with the plan are inadequately trained.
- There is inadequate meeting of or commitment to the application’s functional development, leading to an inadequate interest in Service Design needs.
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ITSCM Risks

ITSCM Risks occurs in the absence of the continued or high availability of IT for business survival. ITSCM Risks can be measured using a Business Impact Analysis (BIA) exercise and Risk analysis. BIA identifies an organization’s most important Services and is a key input to strategy. BIA quantifies the “soft impacts” or “hard impacts” that a loss of Service would have on an organization.

Some of the Risks that a BIA identifies are:

- Financial loss
- Surplus costs
- Reputation damage
- Loss of goodwill
- Loss of competitive lead
- Regulatory breach of law, health, and safety
- Personal safety Risk
- Instant and long-term market share loss
- Political, corporate, or personal shame
- Loss of operational capability, for example, in commanded and controlled environment
Risk Response Measures

Organizations must adopt an equalized approach that concentrates on both Risk reduction and recovery simultaneously. Using this approach, Risks can be restricted to the continued provision of the IT Service through Availability Management. Even the best of planning cannot eliminate all Risks. You should adopt recovery capability measures only if nothing else works. An organization should assess all Risks to reduce the potential requirement to recover the business and IT.

Generally, ITSCM does not directly cover longer-term Risks, such as those from changes in business direction, diversification, restructuring, major competitor failure, and minor technical faults like noncritical disk failure.
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Chemical leak
Storm damage
Fire/explosion
Loss of PBX/ACD
Server failure
Major network failure
Corrupt database
Corrupt
coffee spill on PC
Threat
Storm damage
Chemical leak

Likelihood of occurrence

Most likely

Acceptable risk

Least likely

Least severe

Acceptable risk

Most severe

Severity/Impact
Table of Contents

The example of a Risk profile contains many Risks outside the scope of what is defined as acceptable Risk. Appropriate Risk responses or Risk-reduction measures (ITSCM mechanisms) must be determined to manage the Risks. The focus of these measures are on bringing down the Risk to an acceptable level or mitigating it. It is important that you try to implement Risk responses to control the Impact and occurrence of Risks.
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“Example of Risks and threats

<table>
<thead>
<tr>
<th>Risk</th>
<th>Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of internal IT systems/networks, PABXs, ACDs, etc.</td>
<td>Fire&lt;br&gt;Power failure&lt;br&gt;Arson and vandalism&lt;br&gt;Flood&lt;br&gt;Aircraft impact&lt;br&gt;Weather damage, e.g. hurricane&lt;br&gt;Environmental disaster&lt;br&gt;Terrorist attack&lt;br&gt;Sabotage&lt;br&gt;Catastrophic failure&lt;br&gt;Electrical damage, e.g. lightning&lt;br&gt;Accidental damage&lt;br&gt;Poor-quality software</td>
</tr>
<tr>
<td>Loss of external IT systems/networks, e.g. e-commerce servers, cryptographic systems</td>
<td>All of the above&lt;br&gt;Excessive demand for services&lt;br&gt;Denial of service attack, e.g. against an internet firewall&lt;br&gt;Technology failure, e.g. cryptographic system</td>
</tr>
<tr>
<td>Risk</td>
<td>Threat</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Loss of data</td>
<td>Technology failure</td>
</tr>
<tr>
<td></td>
<td>Human error</td>
</tr>
<tr>
<td></td>
<td>Viruses, malicious software, e.g. attack applets</td>
</tr>
<tr>
<td>Loss of network services</td>
<td>Damage or denial of access to network service provider’s premises</td>
</tr>
<tr>
<td></td>
<td>Loss of service provider’s IT systems/networks</td>
</tr>
<tr>
<td></td>
<td>Loss of service provider’s data</td>
</tr>
<tr>
<td></td>
<td>Failure of the service provider</td>
</tr>
<tr>
<td>Unavailability of key technical</td>
<td>Industrial action</td>
</tr>
<tr>
<td>and support staff</td>
<td>Denial of access to premises</td>
</tr>
<tr>
<td></td>
<td>Resignation</td>
</tr>
<tr>
<td></td>
<td>Sickness/injury</td>
</tr>
<tr>
<td></td>
<td>Transport difficulties</td>
</tr>
<tr>
<td>Failure of service providers, e.g.</td>
<td>Commercial failure, e.g. insolvency Denial of access to premises</td>
</tr>
<tr>
<td>outsourced IT</td>
<td>Unavailability of service provider’s staff Failure to meet contractual service levels&quot;</td>
</tr>
</tbody>
</table>

(Source: Service Design book)
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Relative Loss

Risk Curve

Current risk level

Adapted from Example risk profile
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Risk Representation

The Risk representation approach recognizes that if you leave Risks unmanaged, they usually grow exponentially over time. As a result, you need stronger Risk representation. Primarily, the Risk representation aims to promote stakeholder discussion and agreement. The discussion could include:

- Is the Risk positioned appropriately in terms of time and potential or actual loss?
- Could you have deployed Risk mitigation later?
- Should you have deployed Risk mitigation earlier?

After a Service Change passes the evaluation of predicted and actual performance, the results of the predicted performance and the actual performance are compared. You must ensure that the absence of unacceptable Risks between predicted performance and actual performance. You can determine the deviations report from this output activity.
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“Factors for considering the effects of a Service Change

<table>
<thead>
<tr>
<th>Factor</th>
<th>Evaluation of Service Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>S – Service provider capability</td>
<td>The ability of a service provider or service unit to perform as required.</td>
</tr>
<tr>
<td>T – Tolerance</td>
<td>The ability or capacity of a service to absorb the service change or release.</td>
</tr>
<tr>
<td>O – Organizational setting</td>
<td>The ability of an organization to accept the proposed change. For example, is appropriate access available for the implementation team? Have all existing services that would be affected by the change been updated to ensure smooth transition?</td>
</tr>
<tr>
<td>R – Resources</td>
<td>The availability of appropriately skilled and knowledgeable people, sufficient finances, infrastructure, applications and other resources necessary to run the service following transition.</td>
</tr>
<tr>
<td>M – Modelling and measurement</td>
<td>The extent to which the predictions of behaviour generated from the model match the actual behaviour of the new or changed service.</td>
</tr>
<tr>
<td>P – People</td>
<td>The people within a system and the effect of change on them.</td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Factor</th>
<th>Evaluation of Service Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>U – Use</strong></td>
<td><em>Will the service be fit for use? The ability to deliver the warranties, e.g. continuously available, is there enough capacity, will it be secure enough?</em></td>
</tr>
<tr>
<td><strong>P – Purpose</strong></td>
<td><em>Will the new or changed service be fit for purpose? Can the required performance be supported? Will the constraints be removed as planned?“</em></td>
</tr>
</tbody>
</table>

(Source: Service Transition book)

#### Availability Management Risks

The identification of Risk in Availability Management is important to ensure the smooth and effective functioning of business operations. While designing for availability, Availability Management should ensure that there is a focus on design elements so that Services are immediately restored when IT Services fail.

Some of the ways in which you can identify Risks in availability are:

- Identifying Vital Business Functions (VBFs)
- Component Failure Impact Analysis (CFIA)
- Single Point of Failure Analysis (SPoF)
- Fault Tree Analysis (FTA)
- Risk Analysis and Management
### 3.4 RISK EVALUATION – CFIA, FTA, BIA, SFA, RISK ANALYSIS, AND MANAGEMENT

#### Teaching Strategy Table

This topic has multiple concepts. Consequently, it is best taught via several activities. Given below are details of the activities:

<table>
<thead>
<tr>
<th>Activities</th>
<th>Suggested Activity Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall Prior Learning</td>
<td>5 mins</td>
</tr>
<tr>
<td>Recall what was taught in the previous session and list key points.</td>
<td></td>
</tr>
<tr>
<td>Teach Back</td>
<td>30 mins</td>
</tr>
<tr>
<td>Study topic 3.4 from the Reference Material and teach it to the class.</td>
<td></td>
</tr>
</tbody>
</table>
Risk Evaluation

Risk evaluation is an important process in an organization. It is important for organizations to manage, control, or avoid Risks before they occur to be able to run or function effectively and efficiently. There are many techniques available for Risk evaluation. Some of the techniques are:

- Component Failure Impact Analysis (CFIA)
- Fault Tree Analysis (FTA)
- Business Impact Analysis (BIA)
- Service Failure Analysis (SFA)
- Risk Analysis
- Risk Management

CFIA

You can avoid or reduce the impact of business operation and user failure through CFIA outputs. CFIA achieves this by providing and indicating:

- “SPoFs that can impact availability
- The impact of component failure on the business operation and users
- Component and people dependencies
- Component recovery timings
- The need to identify and document recovery options
The need to identify and implement risk reduction measures”

(Source: Service Design book)

This also acts as a stimulus for input to ITSCM for maintaining balance between recovery options and Risk-reduction measures.

Advanced CFIA requires an expanded CFIA matrix. This provides the additional fields needed for the more detailed analysis. The additional fields can be:

- Component availability weighting
- Probability of failure
- Recovery time
- Recovery procedures
- Device independence
- Dependency

FTA

FTA is a technique used to determine the chain of events that disrupts IT Services. Along with calculation methods, FTA offers detailed availability models. Along with availability models, FTA assesses the improvement in availability that the optional, individual technology component design can achieve.

The uses of an FTA are:

- Providing information for availability calculations
- Performing operations on the resulting fault tree
- Choosing the desired level of detail in the analysis
An FTA distinguishes four Events:

i. **Basic Events:** They are the terminal points for the fault tree, such as power failure and operator error. There is no in-depth investigation in this Event.

ii. **Resulting Events:** They are the intermediate nodes in the fault tree that arise from a combination of Events. Usually, the failure of an IT Service is the highest point in the fault tree. The final Events are obtained after an in-depth investigation of the basic Events are completed.

iii. **Conditional Events:** They occur only under specific conditions. For example, the failure of air-conditioning equipment only affects IT Services if the temperature of the equipment increases beyond serviceable values.

iv. **Trigger Events:** They trigger other Events. For example, power-failure-detection equipment can trigger the automatic shutdown of IT Services.

You can use logic operators to combine these four Events:

i. **AND-gate:** A Resulting Event occurs only when all input Events occur concurrently.

ii. **OR-gate:** A Resulting Event occurs when one or more of the input Events occurs.
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iii. **Exclusive OR-gate**: A Resulting Event occurs when only one Input Event occurs.

iv. **Inhibit gate**: A Resulting Event only occurs when the input condition is not met.

**BIA**

The Requirements and Strategy stage of the ITSCM Lifecycle consists of two sections:

- Requirements: This team performs BIAs and Risk analyses.
- Strategy: This team documents the required Risk-reduction measures and recovery options that would be used to support the business.

Let us now look at the BIA performed during a requirements analysis.

A BIA exercise quantifies the Impact of a loss of Service on the business. The Impact can be a hard Impact or a soft impact. A hard Impact is tangible. Financial loss to the organization is an example of a hard Impact. A soft Impact is intangible. Public relations, morale, health, safety, and loss of competitive advantage are examples of soft Impacts.
The strategy team uses a BIA exercise to identify the most-crucial Services to the organization. A BIA exercise identifies:

- The resulting form of damage or loss. A damage or loss can result in:
  - Loss of income
  - Any additional costs
  - Hampered reputation
  - Damage to goodwill
  - Damage to competitive advantage
  - Violation of law, health, and safety
  - Risk to safety
  - Instant and long-term damage to market share
  - Political, corporate, or personal embarrassment
  - Damage to operational capability, for example, in a command-and-control environment

- The escalation of the degree of damage or loss from a Service disruption and the severity of the disruption during various time frames, such as time of day, week, month, or year

- The staffing, skills, facilities, and Services required to enable critical business processes to continue operating at a minimum acceptable level
Table of Contents

- The recovery time for the minimum levels of staffing, facilities, and Services
- The recovery time for all required business processes and supporting staff, facilities, and Services
- Priority for the business recovery of IT Services

The output of a BIA exercise is a graph showing the anticipated impact of the loss of a business process or IT Service over time.
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Adapted from graphical representation of business impacts © Crown Copyright 2007 Reproduced under licence from OGC
You can use the given graph to drive business and IT continuity strategies and plans. You must adopt additional preventative measures for processes and Services with higher Impacts earlier. However, for the processes and Services that have a lower Impact, you should place more emphasis on continuity and recovery measures. For processes that have a high-intensity Impact or an intermediate Impact, you should adopt a more-balanced approach. These items are drivers to decide the level of ITSCM mechanisms that an organization must consider or deploy.

The business, based on a cost-benefit analysis, might decide to accept lower levels of Service or increased delays. In addition, the business might decide to implement comprehensive disaster-prevention measures. With these assessments, the business maps the critical Service, application, and technology components to critical business processes for identifying the required ITSCM elements.

The business ranks its requirements, and confirms and prioritizes the associated ITSCM elements according to these requirements. The results of the BIA provide invaluable input to several areas of process design that help appreciate the required Service levels.
You must measure the impacts differently for the different scenarios of each business process. Some examples of business scenarios where Impact measurement differs are the inability to settle trade in a process that deals with the money market or the inability to create invoices on some days. Another example is a money-market-dealing environment, where the loss of market data information could lead to the following losses:

- Loss of money due to discontinued trading.
- Loss of customers to another organization.
- Loss of a settlement system, leading to a breach of regulatory rules or settlement periods and resulting in fines and damaged reputation. This might be more serious than the Impact of the ability to trade because this type of loss shatters customer expectations.

Business impacts are constantly changing. For example, a business can function without a particular process for a short time but the absence of the process can impact the business over time. However, this example does not apply to all organizations because some do not show the Impacts immediately. However, the Impacts might keep accruing and affect the organization at a stage where it would not be possible for the business to continue operations. To avoid the Impact on the business, ITSCM ensures the identification of contingency options to apply the correct measures at the correct time.
Table of Contents

You must seek the views of the senior business area representative on the Impact of Service loss while conducting a BIA. In addition, you must collect the views of supervisory and junior staff. The different staff levels provide various views that can help you cover all aspects of the Impact of the Service loss while concluding the overall strategy.

Usually, it is not easy to recover the entire Service quickly. In some cases, you can re-establish business processes without a partial complement of staff, systems, and other facilities. Re-establishing business processes helps maintain an acceptable level of Service to clients and customers. You must define the business recovery objectives in terms of timescale, as follows:

- The time required for a predefined team of core staff and the minimum facilities to recover
- The time required for the remaining staff and facilities to recover

The recovery requirements plan might not be a detailed one. You must balance the potential Impact against the cost of recovery to ensure cost-effectiveness. The recovery objectives should necessarily provide a starting point for evaluating different business recovery and ITSCM options.

**SFA**

Many users face Service interruptions while using a Service. SFA is a technique that provides a structured approach to identify the underlying causes of Service interruptions.
Here are the characteristics of an SFA:

- Utilizes a range of data sources to assess the reasons for availability shortfalls.
- Provides a holistic view by improving technology, the IT support organization, processes, procedures, and tools.
- Utilizes the methods and techniques of Availability Management. SFA runs as a project or an assignment. It gains knowledge from other methods and techniques and formulates recommendations for Service improvement.
- Identifies opportunities to improve Service availability levels.
- Aligns with the Problem Management and Availability Management processes to resolve Incidents.

These are the primary objectives of an SFA:

- Improve Service availability by creating a set of improvements for implementation or by providing inputs to the availability plan.
- Identify the causes of Service interruption to users.
- Evaluate the efficiency of the IT support organization and other key processes.
- Document important findings and recommendations.
- Measure availability improvements derived from SFA-driven activities.
Table of Contents

ITIL processes, the business, and the users are the major source of inputs for SFA initiatives. Typically, the business, IT, or both sponsor initiatives together.

The uses of SFA are:

- Enhanced levels of Services can be availed at a low cost.
- Expensive consultancy assignments related to availability improvement can be avoided with the help of the in-house skills and competencies of SFA.
- Cross-functional teamwork can take place because SFA depends on ITIL processes. This encourages lateral thinking, challenging traditional thoughts, and providing innovative and often inexpensive solutions.
- Programs related to improvement opportunities can be imbibed. The programs can make a real difference to Service quality and user perception.
- IT Service Management processes can be checked at regular intervals.
- A structured approach is designed to maximize the time of individuals allocated to SFA and to improve the quality of the delivered report. This approach is similar to many consultancy models used in the industry. Through SFA, Availability Management acts as an internal consultant to the business.
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1. Select opportunity
2. Scope assignment
3. Plan assignment
4. Build hypotheses
5. Analyse key data
6. Interview key personnel
7. Findings and conclusions
8. Recommendations
9. Report
10. Validation

Adapted from *The structured approach to Service Failure Analysis (SFA)*
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Components of the Structured Approach

The components of the structured approach are:

- Select opportunity.
- Scope assignment.
- Plan assignment.
- Build hypothesis.
- Analyze data.
- Interview key personnel.
- Note the findings and conclusions.
- Make recommendations.
- Report.
- Validate.
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- Risk Analysis
- Risk Management

Adapted from Risk Analysis and Management © Crown Copyright 2007 Reproduced under licence from OGC
Risk Analysis and Management

Risk Analysis and Management is important for IT Service and support organizations to assess the vulnerability of configuration and capability failures. Risk Analysis and Management identifies and quantifies Risks and the justifiable countermeasures that you must implement to protect the availability of IT systems. Risk identification and the provision of justified countermeasures play a crucial role in achieving the required availability levels for a new or enhanced IT Service.

Risk analysis must be implemented during the design phase so that IT and Services can identify the following Risks:

- IT component unavailability
- Confidentiality and/or integrity exposures

Most Risk Assessment and Management methods use a formal Risk assessment approach and the resulting Risk mitigation is implemented with cost-justifiable countermeasures.

Risk Management identifies, selects, and adopts countermeasures justified by the identified Risks to assets. Risk Management identifies the potential Impact of Risks on Services if failures arise, and reduce the Risks to an acceptable level. The Risk Management activity is associated with ITSCM, Security Management, and Service Transition.
Management of Risk Principles

Implement

Communicate

Plan

Assess

Embed and Review

M_o_R Approach
Risk Register

M_o_R Approach
Issue Log

M_o_R Approach
Risk Management Policy

M_o_R Approach
Risk Management Process Guide

Adapted from Management of Risk © Crown Copyright 2007 Reproduced under licence from OGC
Management of Risk

Management of Risk (M_o_R) provides an alternative, generic framework for Risk Management across the strategic, program, project, and operational parts of an organization. It includes all the activities required to identify and control the exposure to any Risk type, positive or negative, which may impact the achievement of an organizations’ business objectives.

- M_o_R principles are based on corporate governance principles and help develop an efficient Risk Management practice.
- The M_o_R approach states that an organization should agree to and define the following documents:
  - “Risk Management Policy
  - Process Guide
  - Plans
  - Risk registers
  - Issue Logs”

(Source: Service Design book)

- M_o_R processes include steps to describe inputs, outputs, and activities for controlling Risks. These processes control the Risks by:
  - Identifying threats and opportunities within an activity that could disrupt the process of achieving the objective.
Table of Contents

- Assessing the aggregated net effect of the identified threats and opportunities associated with an activity.
- Planning for a specific management response to reduce threats and maximize opportunities.
- Implementing the planned actions for Risk Management, monitoring their effectiveness, and taking corrective action when required.

- M_o_R embedding and reviewing includes putting principles, approach, and processes in place, and reviewing and improving them continually. It also involves communicating the Changes in threats, opportunities, and any other aspects of Risk Management on time.
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"Key terms that apply to the Service Evaluation process

<table>
<thead>
<tr>
<th>Term</th>
<th>Function/Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service change</td>
<td>A change to an existing service or the introduction of a new service; the service change arrives into service evaluation and qualification in the form of a Request for Change (RFC) from Change Management</td>
</tr>
<tr>
<td>Service Design package</td>
<td>Defines the service and provides a plan of service changes for the next period (e.g. the next 12 months). Of particular interest to service evaluation is the Acceptance Criteria and the predicted performance of a service with respect to a service change</td>
</tr>
<tr>
<td>Performance</td>
<td>The utilities and warranties of a service</td>
</tr>
<tr>
<td>Performance model</td>
<td>A representation of the performance of a service</td>
</tr>
<tr>
<td>Predicted performance</td>
<td>The expected performance of a service following a service change</td>
</tr>
<tr>
<td>Actual performance</td>
<td>The performance achieved following a service change</td>
</tr>
<tr>
<td>Deviations report</td>
<td>The difference between predicted and actual performance</td>
</tr>
<tr>
<td>Term</td>
<td>Function/Means</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Risk</td>
<td>A function of the likelihood and negative impact of a service not performing as expected</td>
</tr>
<tr>
<td>Countermeasures</td>
<td>The mitigation that is implemented to reduce risk</td>
</tr>
<tr>
<td>Test plan and results</td>
<td>The test plan is a response to an impact assessment of the proposed service change. Typically the plan will specify how the change will be tested; what records will result from testing and where they will be stored; who will approve the change; and how it will be ensured that the change and the service(s) it affects will remain stable over time. The test plan may include a qualification plan and a validation plan if the change affects a regulated environment. The results represent the actual performance following implementation of the change</td>
</tr>
<tr>
<td>Residual risk</td>
<td>The remaining risk after countermeasures have been deployed</td>
</tr>
<tr>
<td>Service capability</td>
<td>The ability of a service to perform as required</td>
</tr>
<tr>
<td>Term</td>
<td>Function/Means</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Capacity</td>
<td>An organization’s ability to maintain service capability under any predefined circumstances</td>
</tr>
<tr>
<td>Constraint</td>
<td>Limits on an organization’s capacity</td>
</tr>
<tr>
<td>Resource</td>
<td>The normal requirements of an organization to maintain service capability</td>
</tr>
<tr>
<td>Evaluation plan</td>
<td>The outcome of the evaluation planning exercise</td>
</tr>
<tr>
<td>Evaluation report</td>
<td>A report generated by the evaluation function, which is passed to Change Management and which comprises:</td>
</tr>
<tr>
<td></td>
<td>A risk profile</td>
</tr>
<tr>
<td></td>
<td>A deviations report</td>
</tr>
<tr>
<td></td>
<td>A recommendation</td>
</tr>
<tr>
<td></td>
<td>A qualification statement.</td>
</tr>
</tbody>
</table>

(Source: Service Transition book)
The Evaluation Process

The evaluation process must include:

- An evaluation process
- An evaluation plan
- The intended and unintended effect of Change
- The evaluation of predicted and actual performance

The Evaluation Report

The evaluation report consists of a:

- Risk profile
- Deviations report
- Qualification statement (if suitable)
- Validation statement (if suitable)
- Recommendation

Assessing and Managing Risks in Service Operation

The most important aspect of Risk Management in Service Operation is to assess the Risk of potential Changes or Known Errors.

In addition, Service Operation staff must also capture and assess the Risk and Impact of:

- All past, or potential, failures – either reported by Event Management or Incident/Problem Management or through warnings raised by manufacturers, suppliers, or contractors.
Continual Service Improvement and Availability Management

Throughout the Service Lifecycle, the CSI process uses methods and practices found in many ITIL processes. CSI uses output in the form of flows, matrices, statistics, or analysis reports to provide a detailed look into the design and operation of Services. CSI uses this information in accordance with new business requirements, technology specifications, IT capabilities, budgets, trends, and legislation to determine what needs to be improved, prioritize scope, and suggest improvements when required.

Information from Availability Management to CSI in the form of a report or presentation forms part of the gathering activity of CSI. Availability Management uses CSI to help the IT support organization recognize where it can add value by exploiting technical skills and competencies in an availability framework. Information from Availability Management is made available to
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CSI through the Availability Management Information System (AMIS). CFIA, FTA, SFA, and so on are the various Availability Management methods that CSI uses in its activities.

3.5 CORRECTIVE ACTION

“Architectures and designs should be kept, clear, concise, simple, and relevant. All too often, designs and architectures are complex and theoretical and do not relate to the ‘real world’.”

(Source: Service Design book)

Most of today’s organizations do not focus on design activities but on functional requirements. This is not sensible on the organizations’ part because changes in business needs or Service improvements can trigger design activities. Organizations must adopt a structured and holistic approach to design activities to achieve consistency and integration throughout the organization, within all design activities.
1. Identify goals.
2. Define what you should measure.
5. Analyze the data: Targets met? According to plan? Relations? Trends?
6. Present and use the information, assessment summary, action plans, etc.
7. Implement corrective action: Operational goals, Tactical goals, Strategy, Vision

Adapted from 7 step Improvement Process © Crown Copyright 2007 Reproduced under licence from OGC
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The 7-Step Improvement Process

The diagram shows the steps or goals involved in the improvement process. The seven steps to improve CSI are:

1. Define what you should measure.
2. Define what you can measure.
3. Gather the data.
4. Process the data.
5. Analyze the data.
6. Present and use the information.
7. Implement corrective action.

To understand how CSI helps implement corrective action, we will look at the last step.

Step Seven: Implementing Corrective Action.

The last step in the 7-step improvement process explains how to implement corrective action. Managers should perform the following activities to implement corrective action:

- Identify issues from the reports and suggest solutions to solve the issue.
- Prepare a list of ways to implement the corrective action and improve the Service.
The organization has to prioritize the activities that require corrective action. The corrective action should be based on the goals and objectives of the organization and the types of Service breaches. In addition, the corrective action should also be based on external factors, such as regulatory requirements, changes in competition, or even political decisions.

Organizations should discourage the implementation of corrective action using a large amount of resources for a single Event or for the Events that are of not much priority for the organization. This will prevent the corrective action from consuming the resources kept for emergencies.

The organization’s decision to improve a Service or Service Management process will result in the following outcomes:

- Continuation of the Service Lifecycle
- Proposal for a new Service Strategy
- Introduction of Changes through Service Design and Service Transition

However, CSI activities continue in all phases of the Service Lifecycle.
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To improve a Service or Service Management process or transition a new Service tool or process into production, you require:

- Resources to create or modify the Services.
- New technology or modifications to the current technology.
- Changes to Key Performance Indicators (KPIs) and other activity metrics.
- New Operational Level Agreements (OLAs) and Underpinning Contracts (UCs) or modifications to the current OLAs and UCs.

Sometimes, organizations forget or skip a step in the 7-Step improvement process. This is because of the carelessness of staff and results in a process breakdown. To avoid this breakdown, the organization has to create levels or orders of management.

The levels or orders of management and their composition are:

- The highest level consists of strategic thinkers.
- The second level consists of the vice president and directors.
- The third level consists of managers and high-level supervisors.
- The fourth level consists of staff members and team leaders.
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You need to prepare short reports for the strategic thinkers who are the highest level. Strategic thinkers use the reports and strive to avoid Risks, protect the organization’s image and brand, improve profits, and encourage cost savings.

You need to prepare detailed reports for the second-level management. The reports should summarize the results of the analysis and indicate warnings and alerts for the issues that might pose a threat to the business.

The managers and high-level supervisors who are the third level strive to:

- Adhere to the objectives of the improvement plan.
- Evaluate the performance of the team and the process.
- Provide insight to the staff on resource constraints and continual improvement initiatives.

Staff members and team leaders also strive to improve Services and processes. Typically, they participate in improvement initiatives for their personal benefits. Organizations must inform the staff that rewards will be given to those who implement improvement initiatives; the staff can consider the reward as a personal benefit. You must set organizational metrics to evaluate the staff members’ performance, appreciate their skills, reward them, and encourage them to participate in training programs to upgrade their skills.
CSI is not a temporary but an ongoing activity that is performed during a Service failure within IT Services. Some CSI changes are to:

- Ensure that the IT staff works toward CSI throughout the Service Lifecycle to improve Services and Service Management processes.
- Strive toward the improvement of Services by paying attention to improvement activities, creating well-defined plans, constantly monitoring Service activities, analyzing data, and reporting information to the management.
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The given diagram illustrates the activities needed for CSI. In addition, it lists the skills required to perform the activities.

1. **Define What You Should Measure**

The decision-making team of IT and the business performs this step. The team understands the internal and external factors influencing the necessary elements that need to be measured to support the business, governance, and regulatory legislation.

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“Roles involved in the ‘Define what you should measure’ activity”

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher management level</td>
<td>Managerial skills</td>
</tr>
<tr>
<td>High variation</td>
<td>Communication skills</td>
</tr>
<tr>
<td>Action-oriented</td>
<td>Ability to create, use (high-level) concepts</td>
</tr>
<tr>
<td>Communicative situations</td>
<td>Ability to handle complex/uncertain</td>
</tr>
<tr>
<td>Focused on future</td>
<td>Education and experience”</td>
</tr>
</tbody>
</table>

(Source: CSI book)
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“Roles involved in the ‘Define what you can measure’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual effort</td>
<td>Analytical skills</td>
</tr>
<tr>
<td>Investigative</td>
<td>Modeling</td>
</tr>
<tr>
<td>Medium to high variation</td>
<td>Inventive attitude</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>Education</td>
</tr>
<tr>
<td>Specialized staff and business management</td>
<td>Programming experience&quot;</td>
</tr>
</tbody>
</table>

(Source: CSI book)

2. Define What You Can Measure

Internal and external Service Providers perform this step because they understand the limitations and capabilities of the measuring processes, procedures, tools, and staff.

“Roles involved in the ‘Gathering the data’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural</td>
<td>Accuracy</td>
</tr>
<tr>
<td>Routine tasks</td>
<td>Precision</td>
</tr>
<tr>
<td>Repetitive</td>
<td>Applied training</td>
</tr>
<tr>
<td>Automated</td>
<td>Technical experience</td>
</tr>
<tr>
<td>Clerical level</td>
<td>Programming experience“</td>
</tr>
<tr>
<td>Low variation</td>
<td></td>
</tr>
<tr>
<td>Standardized”</td>
<td></td>
</tr>
</tbody>
</table>

(Source: CSI book)
3. **Gather Data**

Individuals involved in the process activities taking place on a daily basis within the Service Transition and Service Operation Lifecycle phases perform this step.

“Roles involved in the ‘processing the data’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated</td>
<td>Numerical skills</td>
</tr>
<tr>
<td>Procedural</td>
<td>Methodical</td>
</tr>
<tr>
<td>Structures</td>
<td>Accurate</td>
</tr>
<tr>
<td>Mechanistic</td>
<td>Applied training</td>
</tr>
<tr>
<td>Medium variation</td>
<td>Programming experience</td>
</tr>
<tr>
<td>Specialized staff</td>
<td>Tool experience</td>
</tr>
</tbody>
</table>

(Source: CSI book)

4. **Process the Data**

Individuals involved in the daily process activities within the Service Transition and Service Operation Lifecycle phases perform this step.

“Roles involved in the ‘Analyzing the data’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
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<tr>
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</tbody>
</table>
Table of Contents

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium variation</td>
<td>Program experience”</td>
</tr>
<tr>
<td>Specialized staff and business management</td>
<td>Tool experience”</td>
</tr>
</tbody>
</table>

(Source: CSI book)

5. **Analyze the Data**

Internal and external Service Providers perform this step. They understand the limitations and capabilities of the measuring processes, procedures, tools, and staff.

“Roles involved in the ‘Presenting and using the information’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Higher management level</td>
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</tr>
<tr>
<td>Focused on future</td>
<td>Education and experience”</td>
</tr>
</tbody>
</table>

(Source: CSI book)

6. **Presenting and Using the Information**

After you have analyzed the data, you can present the information and use it for decision-making. Individuals such as the internal and external Service Providers involved in providing Services
perform this step. These individuals appreciate the limitations and capabilities of the Service and the supporting processes. They are the key personnel involved in decision-making in IT and the business. It is necessary that they possess good communication skills.

“Roles involved in the ‘implementing corrective action’ activity

<table>
<thead>
<tr>
<th>Nature of Activities</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>Education</td>
</tr>
<tr>
<td>Specialized staff and business</td>
<td>Program experience</td>
</tr>
<tr>
<td>management</td>
<td></td>
</tr>
</tbody>
</table>

(Source: CSI book)

7. **Implement Corrective Action**

Individuals involved in providing Services perform this step.

The roles involved in this step are:

1. CSI Manager
2. Service Owner
3. Service Manager
4. Service Level Manager
5. Process Owner
6. Process Managers
7. Customers
3.6 CONTROLLING RISK

Complexity

Organized complexity is a feature of a complex system. This is unlike disorganized complexity (arbitrary systems) or organized simplicity (simple systems). Within an organization, for example, the operations group represents a system made up of people, processes, and technology. However, the elements of the operations group have to interact with each other to complete their tasks. Consequently, they are dependent on each other. The operations group, as a whole, has to interact with other groups in the IT organization.

This complexity is the reason for resistance to Change in some Service organizations. Complex systems come with their own challenges. They are closely related. They adjust easily and are self-organizing. As a result, they are self-stabilizing and resistant to policy. It is pointless to try to change them because the more you try to change them, the more they resist.
The cause for this is a limited learning horizon. It is not always possible for organizations to foresee the long-term effects of their decisions and actions. The time delay between action and response is often underestimated. Organizations must learn from experience to avoid being caught up in a never-ending cycle of reacting to Events and attempting to forecast them. Without constant learning, today’s solutions can prove to be tomorrow’s problems.

Breaking down Services into separate processes, each managed by specialist groups with expert knowledge, experience, and resources, is a viable but not a wise approach. Take the example of an automobile. It is not just a collection of parts. Individually, the parts do not count for much. Improving braking systems does not just involve enhancing the brake pads or rotors, but also involves changing the driver’s mental mode for applying brakes, road and weather conditions, and dynamic interactions between these different parts. It was this view of systems as a whole that enabled designers not to limit themselves to improvements in materials science and manufacturing but to move beyond to develop a counterintuitive idea – the Anti-Lock Braking Systems (ABS) – that accounts for varying weather conditions and driver skills.
Similarly, breaking Services and Service Management down into different processes works only if the connections between the processes are not lost. Service Management is required because it helps produce a Service that delivers value to the customer. If Service Management processes are treated separately, the major implications of decisions and actions might remain unknown until Problems and Incidents result.

**Coordination and Control**

Often, decision-makers pass on some roles and responsibilities to teams and individuals who are experts in particular systems and processes. This delegation is based on the principle of division of labor, with managers acting as leads and juniors functioning as their agents. This poses a major challenge in Service Management for improving coordination through enhanced cooperation and control among teams and individuals.

To create cooperation, you need to find ways to get groups with divergent and sometimes conflicting interests and objectives to work together for mutual gain. This applies equally to the Service Provider’s relationship with customers. How do you define Service levels in relation to particular levels of user satisfaction? What should a customer be charged for a given Service level? How soon should a Change request be approved? What Service levels can you demand from internal groups? How can multiple Service Providers work together to serve a common customer? You can partly solve cooperation problems by negotiating agreements that bring benefits to all parties. However, all the groups involved must be mutual interested. Unfair agreements
are a major cause of the failure of relationships. This is a major problem for Type I providers because they do not choose their Customer Portfolio.

Coordination can also be enhanced by maintaining a common understanding of the outcomes desired. This common understanding must relate to Service Strategies, goals, policies, and incentives. Further, customer outcomes, Service Catalogues, Service definitions, contracts, and agreements should all be described with a common vocabulary. To achieve further coordination and control, you can use shared processes that integrate groups and functions, shared applications that integrate processes, and shared infrastructure that integrates applications. A Service Knowledge Management System (SKMS) allows various groups to have simultaneous but distinct control perspectives of the same reality.

Control perspectives help managers focus on what is important and relevant to the processes under their control and ensure that good quality control information is available for them. This helps them be effective and efficient. Control perspectives are also useful to determine information requirements for implementing effective organizational learning and improvement. Financial Management is one such control perspective.
Service Providers will have autonomy and control over the design, development, and operation of the Service as well as the improvements necessary over time. They can configure the Service internals, engineer them, and optimize or standardize them per customer needs while maintaining the value delivered to the customer in specified terms. If there are any unclear demands and deliveries, you can factor these in the Service-level commitments, the Service prices, or both. This option allows both the customer and the Service Provider to manage Service outcomes.

“Risk Register

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<th>Weighted priority</th>
<th>Proposed actions or controls and costs</th>
<th>Owner</th>
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</table>

(Source: CSI Book)
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You can manage Risks through a Risk Register. A CSI program should use the results of the Risk assessment and management activities to identify improvement opportunities for Services. It can use Risk mitigation, elimination, and management methods to improve Services.

3.7 TRANSFER OF RISKS
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Risks flow both ways
Transfer of Risks

Services reduce the Risk exposure of customers. However, the Service Provider assumes these Risks. Risks flow both ways. For example, maintaining and operating Service Assets frees customers of the Risks associated with the assets. In return, customers compensate Service Providers for the transferred Risks. This compensation can take many forms, such as the pricing of Services.

This might not be possible for specific Type I providers, although it is a best practice used by their counterparts. Type I providers should talk to their customers about compensation for Risks within the framework of corporate policy. When they cannot compensate for the Risks, they should highlight this for the customer. This will allow the customers to compensate for the Risks by guaranteeing demand that eases the Risk shouldered by the provider for investing in the Services offered.

This is more relevant to Type I providers that have limited flexibility on market spaces, customers, and pricing. The infrastructure should be adaptive enough to support the different business infrastructure and operative environments of different customers. Costs are not negotiable while pricing is a matter of policy. Consequently, Service Providers should ensure adequate safeguards for their long-term interests while continuing to provide Services to their customers through an entire range of scenarios.
Service Providers must ensure that compensation matches the assumed Risks. However, they have to understand that some benefits of investments flow over the lifetime of Services and Service Assets. The Risks associated with new Services and customers often bring benefits in the form of demand from other customers (from economies of scale) and demand for other Services (from economies of scope).

3.8 SERVICE PROVIDER RISKS

Risks to the Service Provider

For Service Providers, Risks result from the combined uncertainty of the customer’s business and the provider’s operations. Risk exposure and the related damage are evaluated in financial terms and in terms of the loss of goodwill among customers, suppliers, and partners. Both types of losses are undesirable. However, it is still possible to write off financial losses against other gains. It is more difficult to win back lost goodwill in terms of organizational reputation, customer confidence, and credibility with prospects. Still, financial measures can be easily communicated across organizational boundaries and cultures. It’s more effective to see these financial measures as indicators, rather than direct measures.
Service Provider Risks vary across provider types. Risk Management plans and Business Unit budgets often take account of their Type I providers. Type II providers operating independently on a market face greater Risks but also benefit to the same degree. They assume Risks similar to Type III providers in relation to marketing, new Service development, financial accountability, and exposure to competition. However, they allocate Risks across a larger customer base and have more flexibility in managing Risks because they provide Services on more commercial terms than Type I providers do.

3.9 CONTRACT RISKS

Contract Risks

Contracts serve as a means for customers to implement their business strategy and reach particular goals. Contracts also help them distribute and manage most, if not all, operational Risks associated with business outcomes. Risks that could prevent the Service Provider from meeting contractual requirements are strategic Risks because they threaten present operations as well as build the customer’s future confidence in the Service. For example, inability to improve the capacity of highly leveraged assets, such as infrastructure, can potentially affect many different contracts. Infrastructure is a Strategic Asset, and Risks affecting such assets are strategic Risks.
Adapted from Contracts portfolios translate into a set of Risks to be managed

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Management of Risks

The damage of Risks and their underlying threats is not limited to any specific function of the process. As a result, it is essential to ensure coordination to manage Risks across the Lifecycle.

Risks depend on the requirements contained in the Contract Portfolio. These requirements set out the design requirements and operational requirements that Service Models and Service Operation plans have to meet. Both these complementary sets of requirements define the Risks that need management. Service Transition identifies Risks in contractual commitments. Risk Management applies right through to Service Operation because operational Risks result from technical and administrative failures in supporting the followed Service Model. Design Risks result from the inability to convert requirements into Services and Service Models attributes. These combined Risks represent the Risks that need active management across the Lifecycle.

3.10 DESIGN RISKS

ACTIVITY TIME
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Return on assets

Performance risks

Demand risks

Customer assets

Service levels delivered

Spare capacity

Revenue from unfulfilled demand

Cost to serve

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Design Risks

Customers expect Services to affect the performance of their assets positively. Organizations face the constant Risk of Services failing to deliver the expected Utility. This is a performance Risk. The major cause of this is generally poor design. There is also a Risk of the Utility declining with a major Change in the pattern of demand. For example, some Services might not be scalable. For a short period, the terms related to demand in SLAs might help the provider avoid penalties. However, this does not protect them against an unfavorable customer perception of the suitability of the Service.

There are two sides to the problem. Service Design might lack formal functions and processes. Designing Services is different from designing software applications and enterprise architecture. Service Design implements Service Management principles, such as separation of concerns, modularity, loose coupling, and feedback. Some Service Catalogues list Service components, functions, and processes as Service items. These Services are offered as applications, infrastructure, and supporting systems unintentionally. Inevitably, customers start to face problems later as defects begin to emerge in actual use.

Ideally, you should institutionalize a systematic approach to Service Design to prevent wasting opportunities and resources early in the Lifecycle. Service Design processes and methods help you reduce the performance Risks and demand Risks of Services. Service Design determines the best configuration of the Service Assets needed to provide the required performance
potential and handle variations within a specific range. Good designs also help ensure that Services are economical to operate and adaptable enough to alter and improve. This ensures that performance Risks and demand Risks do not result in high asset-utilization costs or opportunity costs from unutilized or under-utilized assets.

3.11 OPERATIONAL RISKS

Operational Risks

Operational Risks are common in all organizations. Contracts allow Risk sharing because customers transfer the ownership of specific types of costs and Risks to Service Providers. Service Management is concerned with two classes of Risks: Risks faced by Business Units and Risks faced by Service Units. Considering Risks across an entire value net, including partners and suppliers, makes them more complicated and difficult to manage, but this view provides better visibility and control because the Risks interact with each other. However, customers expect not to be affected by the operational Risks of the Service Provider. If the Service Provider is unable to manage Risks properly, it could expose customer assets to Risks and possible loss. Service Management must prevent this occurrence.
Service Transition systems and processes eliminate these types of Risks between organizations connected through Services. Service Operation capabilities transform operational Risks into opportunities to generate returns for customers. Their ability to remove Risks from the customer’s business is the core value proposition of many Services.

Value to customers actualizes in the Service Operation phase of the Lifecycle, when actual demand for Services materializes. Warranty assurances require the match of every unit of demand with a unit of capacity that is available, reliable, and continuous, according to a specific frame of reference.
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Performance expected of customer assets

Return on assets

Availability Risks
Continuity Risks
Capacity Risks

Opportunity costs
Penalties

Service levels demanded

Performance expected of customer assets

Adapted from Warranty commitments are a source of Risk © Crown Copyright 2007 Reproduced under licence from OGC

Return on assets

Target return on assets
Types of Warranty Risks

There are four types of Warranty Risks, each covering a particular aspect of Warranty.

To analyze short-term and long-term trends in demand from various sources, you begin with the Contract Portfolio. Each contract represents multiple streams of demand. Each of these sources of demand has particular short-term variation patterns. You must try to address these short-term variations in demand by reallocating resources without making any major investments in new capacity. This prevents the underutilization of assets during periods of low demand. If the pattern continues, you can consider investments in additional capacity. To address long-term demand variations, you must introduce new capacity and examine the Service Catalogue to spot opportunities for resource sharing and consolidation. Both Service Transition and Service Design have to be involved in this process.

When Changes in demand are permanent, the best option is often to increase base capacities, although this can be quite expensive. If the increase in demand is not permanent or significant, increasing capacity can lead to the underutilization of assets in periods of low demand. The way out of this is to have “multiskilled” assets that can serve more than one type of demand. This also helps deal with variation in capacity because of failures, outages, absenteeism, and other forms of disruption.
When demand variations are short and irregular, adjusting the capacity of specific types of resources might not be possible because of various limitations. You should analyze the features of various types of capacity to understand the nature of these constraints:

- **Asset specificity** — Services with specialized capacity are not as useful for other Services unless they share many features. A point-of-sale terminal has higher asset specificity than a PC workstation or storage device that is used for different purposes. Asset specificity is also applicable to people assets, according to the type of knowledge, experience, and skills that employees have. Multiskilled employees trained across the functions of general management and administrative skills can be employed in many tasks.

- **Scalability** — you can adjust or redistribute the capacity of specific resources, such as storage and network bandwidth. Other capacities, such as facilities, hardware, and headcount, have more limitations.

- **Set-up or training costs** — time, resources, and effort are required to set up an asset for a new task, purpose, or Service. Expected costs include adjustments, calibration, and evaluation of the asset to optimize its performance in the new role. People assets also involve similar costs with respect to the adjustment time between assignments, new training, and supervisory duties.
- Dependencies — the capacity of some assets cannot be used without the free capacity of other assets. For example, a high-speed printer cannot be used if it is not provisioned on a network accessible to users. Similarly, you cannot add staff to a Service function or process unless adequate resources, such as workstations, software licenses, office space, and financial budgets, are available.

- Overloaded assets — in some cases, capacity is blocked because it is already overloaded beyond a safe point. Because of commitments made in Service agreements and contracts, you cannot assign additional demand to such capacity. For example, if a Service contract supports a mission-critical function of a customer’s business, you should not allow any other Service to access the resources dedicated to the contract.

Some amount of idle capacity is needed to ensure preparedness for contingencies. Meeting unexpected spurts in demand requires a capacity buffer. This involves a fine balance between efficiency in resource utilization and the Service levels they can support.

Variability exists in both demand and capacity. Both types of variability affect the performance of Services because the imbalance causes a backlog. Manufacturing systems use production planning and control techniques to deal with this problem such as the kanban system for line balancing and redesigning process flow or assembly. Methods such as Six Sigma apply to Services.
Strategic plans and initiatives that need quick changes in productive capacity should be mindful of resistance to quick adjustments from the limitations of capacity. You need to consider these limitations as part of the process of developing Service designs, transition plans, and operational plans. If Service Assets with high inertia dominate a Service Model, you should consider improving or replacing those assets.

Some examples of operational Risks are:

- **Service Loss**: Loss of critical IT Services, which negatively impacts the employees, customers, and finances of an organization. Service loss is a major Risk to any business. Service loss can also result in loss of life and limb if the IT Services affected are used for health or safety.

- **The Risks to achieve successful Service Operation** are numerous. They can include:
  - Inadequate funding and resources.
  - Loss of momentum.
  - Loss of key personnel.
  - Resistance to change.
  - Lack of management support.
  - If the initial design is not robust, even successfully implementing Service Design will not yield the desired results. In this case, it is important to redesign.
In some organizations, both IT and the business might not accept Service Management. The IT staff may feel tied down while the business might see it as a chance for IT to gain more funding without actually improving anything. To avoid such a situation, the benefits of Service Management should be clearly stated for all stakeholders.

- Differing customer expectations.

### 3.12 MARKET RISKS

**Market Risks**

The Risk all Service Providers face is that their customers are spoilt for choice because of the multiple providers in the marketplace. Recently, Type I providers have faced the Risk of outsourcing as customers pursue contracts with external providers to achieve strategic objectives. Customers are willing to outsource if benefits compensate the costs and Risks of switching providers. Reducing the Total Cost of Utilization (TCU) gives customers incentive not to consider other options. Although the trend of outsourcing and shared Services is on the rise, insourcing (or the statement of status quo) remains a viable strategic option for customers. This is the Risk that Type III and, to some extent, Type II providers face. Efficient Service Management helps minimize competitive Risks by increasing the scale and scope of demand for a Service Catalogue. Alternatively, you can alter the contents of the Service
Catalogue in a way that customers appreciate the depth and width of the catalog in relation to their needs.

Let us look at the two ways to address market Risks in detail.

**Addressing Market Risk Through Differentiation**

What ensures good returns from investments made in Service Assets? How can you find new opportunities for assets that serve new customers? From a customer’s point of view, Services utilize assets that are both scarce, that is, the customers lack these assets; and complementary, that is, there is value in combining the customer and Service Assets. Service Providers allow customers to profit from using their assets in a controlled and coordinated way. From a related perspective, all Service Providers must maintain the assets most valuable to their customers and not easily available from others.
Benchmark may be based on industry averages, closest rival or most attractive alternative for the customer. Customer perception may be measured on some suitable scale or index accepted within the industry or region.
Unserved and underserved market spaces have the most potential. For example, Business Process Outsourcing (BPO) links to the need of customers to have top-class business processes in functions such as finance, human resources, and logistics. However, it does not wish to invest in the research and development of such processes. Customers pay to use the business process or obtain its outputs such as invoices, claims, or applications processes. They do not have to concern themselves with the Risk of operating or maintaining the process. Customers simply pay for a particular Service level to be delivered. Service Providers, on their part, can recover costs more easily through Service contracts, so they can invest in the innovation, improvement, and management of business processes and the required supporting infrastructure. Network effects and positive feedback start to flow when customers receive the expected value from the BPO provider. This influences the decisions of their peers.

This represents an opportunity for the Service Provider. The provider might decide to take on the Risks of investing in the design, engineering, and development of the business processes to be offered as Services. It would also make investments to automate and staff the processes and to increase their effectiveness and efficiencies. The provider can distribute the investment across many customers and minimize the Risk of not recovering its investments.
Consolidation of fragmented demand reduces financial risks.
Addressing Market Risk Through Consolidation

Consolidating demand reduces financial Risks for Service Providers. This leads to reduced operational Risks for customers. The increased scale and scope of demand reduces the cost of serving the next unit of demand. The cost of unused capacity also declines because of the careful grouping of demand. The provider can serve the similar demand of multiple customer organizations using the same Service Assets or Service Units. Separate sources of demand are matched with the capability to fulfill that demand. This gives rise to economy of scope for those Service Assets. There is an overall increase in the average Return of Assets (ROA) for the Service Unit and reduced variability in returns.

3.13 GROUP/INDIVIDUAL EXERCISE

Refer to the Workbook to do the exercise.

3.14 SAMPLE TEST QUESTIONS

Refer to the Workbook to do the questions.
Overview

Managing the planning and implementation of IT Service Management (ITSM) is about the alignment of business needs and IT provision requirements. This unit will describe how to implement or improve ITSM within an organization by describing the steps to ensure that the organization meets the business needs and the IT provision requirements. The focus of this unit will be on the Service Management processes in specific and on the application of ITSM to ITIL processes in general.

Unit Learning Objectives

At the end of this unit, you will be able to:

- Understand the activities of Plan, Do, Check, Act and the 4 Ps and aspects of strategy.
- Describe the considerations of policy, strategy, design, and transition.
- Understand the value of achieving business goals by guiding, leading, and monitoring.
- Identify the activities of controlling and evaluating.
- Justify the value of verifying and using feedback to control the Service Lifecycle.
- Apply organizational form and design to IT Service Management.
- Understand communication, coordination, and control.
4.1 PURPOSE AND OBJECTIVES

ACTIVITY TIME

“The essence of strategy is choosing what not to do”
(Michael E. Porter)

4.2 PLAN, DO, CHECK, AND ACT ACTIVITIES, INCLUDING THE ASPECTS AND 4 PS OF STRATEGY

Fundamental Aspects of Strategy

Strategy is simple but not easy. Strategic thought and action are difficult because:

- You need to have a level of comfort to deal with complexity, uncertainty, and conflict beyond the comfort zones of experience and codes of practice.
- You must be able to discern patterns, project trends, and estimate probabilities.
- You must consider all factors, including the interactions between them.
- You must delve into underlying principles and when all else fails, it is often necessary to fall back on the basic theory.
People often discount theory because it is associated with the abstract or impractical. However, theory is the basis of good practice. For example, the law of gravity is a theory just as the theories of probability and statistics are the basis of six-sigma methods.

Managers must rely on good business models rather than on mental models that give inconsistent outcomes on different occasions.

What is a good business model?

A good business model is one that describes the means of fulfilling an organization’s objectives. Service Providers need to have a good business model and good Service Strategy to retain customer value and their customers.

Service Providers must have a strategic view of Service Management and not take their position and role within their customer’s plans for granted. This is because customer Service preferences and perspectives change from time to time. Customers prefer solutions that break performance barriers and give higher-quality outcomes in business processes with little or no increase in cost. Service Providers must cultivate a careful approach to the relationships with customers and always be ready to deal with uncertainties in the value that defines that relationship.
Let us see an example.

The strategy of a line manager for a leading Internet Service Provider’s (ISP’s) was “Consumer connectivity first – anytime, anywhere.” While on the job, one day, the manager noticed an increased amount of traffic on the bulletin board of two satiric stock analysts. Rather than caution them about the marked increase in capacity usage, the manager offered the irreverent analysts a chance to create their own Internet site.

The two analysts created their site, “SwindleR,” which is now a heavily trafficked destination for financial advice.

The manager knew the Service Provider’s strategy well and used it to advantage. A robust Service Strategy resolves big issues so that staff can get on with the small details, for example, how best to provide Services rather than debating what Services to offer.

An organization can better serve customers and outperform its competitors by understanding the trade-offs involved in its strategic choices, such as Services to offer or markets to serve. Service Management is a Strategic Asset because it is consists of the Service Providers’ core capabilities. It is also the operating system for Service Assets to deploy assets and provide Services effectively.
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Operational effectiveness, along with good Service Strategy, enables the provision of the best Service to customers who believe that there are no reasonable alternatives. The Service Provider should have the capability of value capture, which is difficult to maintain with each plan. The Service Provider can create value by being distinct, but it is a challenge to maintain the value.

Service Providers can outperform one another in two ways:

- Get the customers to pay more for a Service.
- Provide a Service at a lower cost than others.

To be a strategist, IT executives must have the ability to synthesize opposing views. They must also be able to react and predict, adapt and plan. In fact, high-performing Service Providers can skillfully blend frames of reference when creating Service Strategy.
The Four Ps of Strategy

Service Strategy is at the core of the Service Lifecycle. Mintzberg’s “The Four Ps” are the entry points to Service Strategy that identify the different forms a Service Strategy may take. Service Providers must use all four Ps together, rather than one over the other, for future as well as intended Service strategies.

The Four Ps are:

- **Perspective** – defines a vision and direction. It articulates the business philosophy needed to interact with the customer or the way in which you provide Services.
- **Position** – describe the decision to adopt a well-defined position. This position can be whether the provider should compete on a value or low-cost basis, have specialized or broad sets of Services, or should have a base value toward Utility or Warranty.
- **Plan** – describes the means of transitioning from “as is” to “to be.”
- **Pattern** – describes a series of dependable decisions and actions over time. A Service Provider that offers dependable and reliable Services continuously is following a “high-Warranty” strategy.
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Business requirements

External requirements

Service and process measurements

Request for new service

Continual Service Improvement

Management responsibilities

PLAN

CSI

ACT

Modify CSI

CHECK

Monitor measure and review CSI

DO

Implement CSI

Business requirements

Improved employee morale

New changed services

More effective and efficient processes

Customer satisfaction

Business results

More effective and efficient processes

New changed services

Improved employee morale

Customer satisfaction

Business results

Continual Service Improvement

Management responsibilities

Do

Implement CSI

Check

Monitor, measure and review CSI

Plan

Modify CSI

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- IT Service Design Evaluation prior to Deployment
- Service Acceptance Evaluation prior to Closure
- Service Release Packaging and Build
- Service Operation and CSI
- Service Management Testing
- Service Delivery Testing
- Service Verification Testing
- Service Operational Readiness Testing
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Testing builds confidence in Service capability before the final acceptance of a Service during the pilot or in early life support. A test strategy and model is the basis for the Service being changed. Test management plans and controls the execution of testing.

The test criterion mirrors the probable Service Operation environment and profit deliverance. You must observe, understand, and document Changes and their Impact on Service testing and acceptance because these Changes are inevitable and often unpredictable. You can express the results of these changes in changed Acceptance Criteria and Service Package updates, along with Service Level Packages (SLPs). This will require team effort and the input of the business, customers, and other affected stakeholders, such as suppliers and operations. The Service designer will implement the Changes because the knowledge gained will help build enhanced and appropriate design flexibility in future, new, or changed Services.

In practice, test types overlap the different testing levels to give a full testing range across the Service Lifecycle.

A Service Release test checks the correct integration of Service components so that you install, build, and test the Release in the target environment.
The testing readiness of Service Operations ensures the smooth transition of a Service and its underlying application and technology infrastructure into the production environment. However, you must finalize the Service Level Agreement (SLA) in the pilot or, more usually, in the early phases before Service Transition is closed.

The aims of the Service Operation readiness test are to:

- Decide whether you can release a Service and its underlying Service Assets into the production environment, the first time and for subsequent deployments.
- Make sure that the business processes, customers, users, and Service Provider Interfaces (SPIs) can use the Service appropriately.
- Make sure that the Service teams can operate the Service and use Service Management systems appropriately.

The Service Operational readiness tests include:

- **Deployment readiness test** – ensures the deployment processes, procedures, and systems deploy, install, commission, and decommission the Release package and resultant new or changed Service in the production/deployment environment.
- **Service Management test** – ensures that Service performance is measured, monitored, and reported in production.
- **Service Operations test** – ensures that the Service teams operate the Service in production.
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- **Service level test** – ensures that the new or changed Service deliver the SLRs.
- **User test** – ensures user accessibility and the usage of a new or changed Service.
- **Service Provider Interface test** – ensures that the Service interfaces are working.
- **Deployment verification test** – ensures the right deployment of Service capability for each target deployment group or environment.

**Service Rehearsals**

A Service rehearsal is a simulation of as much of the Service as possible in a wide participatory practice session. Service rehearsals happen just before a Service is deployed in the live environment so that they find errors and unworkable procedures that can impact the business in live operation. However, Service rehearsals are complex, time-consuming, and expensive to prepare, deliver, and document.

The objectives of Service rehearsals include:

- Confirmation of the identity of all stakeholders and their commitment to Service operations or usage.
- Make sure that all stakeholder processes and procedures are in place and ready to receive and resolve Incidents, Problems, and Changes relating to the new or changed Service.
Test the effectiveness of “mistake-proofing” included within the Service procedures. Mistake-proofing, or Poca Yoke in Japanese, means the introduction of advance warnings of user mistakes or bad practice so that you take appropriated steps before the mistakes happen.

Usually, it is beneficial to involve stakeholder community representatives who have no previous experience or knowledge of the Service. It is likely that typical mistakes will come from typical users who have been involved in design and development because they will find it impossible to “unlearn” and will be influenced by their Service behavior expectations.

The successful delivery of a Service rehearsal has many stages, including preparation and analysis, mirroring the Plan–Do–Check–Act cycle. Typically, Service rehearsal involves the following activities:

1. Plan – the project or Service implementation teams request for a Service rehearsal after considering its suitability.
2. Do – meetings are held to:
   - Introduce the objectives, documents, involvement, recording, and so on.
   - Walkthrough the scenarios and scripts to establish the authenticity of the approach in detail.
   - Rehearse and observe the processing of key events and elements.
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- Check – the task is documented, which includes:
  - Analyzing and evaluating the rehearsals’ results and determining the implications.
  - Producing a written test report on the rehearsal along with suggestions.
  - Recording identified errors, issues, and Risks.
- Act – take action by considering the results of the rehearsal.

Service Pilots

A pilot detects and identifies gaps or issues in Service Management that do not deliver the requirements and impose Risks on the Service or the customers’ business and assets. It ensures that Service capability supports the delivery of Service requirements and SLRs. It checks the Service Utilities and Warranties.

To implement pilot Services, you must:

- Establish metrics and assure that the predicted performance and Service levels will be met.
- Evaluate the actual benefits and costs achieved during the pilot against the business case.
- Create approval for new processes and ways of working within the user base, Service Providers, and suppliers.
- Identify, assess, and mitigate the Risks associated with full deployment.
During the pilot, the Release and Deployment team should:

- Be prepared to raise contingency or recovery procedures.
- Involve important people who will be involved in the deployment.
- Make sure that people associated in the pilot are trained and understand their new or changed roles and responsibilities.
- Document essential operational and support procedures, information, and training material that cannot be effectively replicated in a test environment.
- Create viable training and support documentation and revise, where needed.
- Create customer, user, and stakeholder interaction with the Service in real-time situations.
- Capture the right metrics to compare to the Service Performance model.
- Create additional criteria that must be fulfilled before full deployment begins.
- Find out the possible Service support level and Service Management resources that will be needed and fix any issues.
- Find out issues and errors and fix as many of them before the final deployment. This includes the less-critical, minor Service errors and quirks that decrease the emotional acceptance of the Service significantly.
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- Improve, document, and where suitable, include them into plans for full deployment.

If the pilot is lengthy, carry out an independent evaluation to compare the real and predicted Service capability and performance on the stakeholders’, users’, and customers’ behalf.

ACTIVITY TIME

4.3 POLICY CONSIDERATIONS

“Policy is defined as the formally documented expectations and intentions of the management. Policy directs decisions and ensures consistent and appropriate development and implementation of processes, standards, roles, activities, IT infrastructure, and so on.”

ACTIVITY TIME

Establishing and Communicating Organizational Policies

You must establish organizational policies and communicate them to your organization’s members who are involved in or affected by these policies as soon as possible. This is to ensure that the members are aware of their responsibilities, and support and comply with the policies.
4.3.1 STRATEGY CONSIDERATIONS

It is important to understand the four Ps of strategy while considering the organizational strategy of planning and implementing IT Service Management.

Strategy as a Perspective

As a perspective, strategy describes the governing set of beliefs, values, and a sense of purpose that the entire organization shares. It gives the Service Provider its overall direction to accomplish its purpose and create its performance framework.

It is foolish to ignore or trivialize perspectives because they are difficult to change. For example, when the introduction of the quartz technology confronted Swiss watchmakers, they ignored it despite the technology being a Swiss invention. They dismissed the technology as a novelty that was unsuited to the skill-intensive workmanship perspective. Because of this ignorance, the Japanese nearly destroyed the Swiss watch industry. Only when the Swiss adopted the technology, were they able to reclaim the market share through a perspective that centers on fashion rather than on workmanship.

You can attain perspective by asking and clarifying questions that are within the context of the Service Provider’s stakeholders. These stakeholders primarily include its owners, its customers, and its employees. On the contrary, a well-defined perspective acts as reference for succeeding positions, plans, or patterns of action that the Service Provider might adopt and enact. Generally, the basis of a Service Provider’s public statements is strategy as
a perspective, and this statement reflects the value proposition to its customers. As a perspective, strategy is highly abstract and upholds the organization’s ultimate planning perspective. It drives the other Ps of strategy, and feedback from them keeps modifying this perspective.

After an organization attains a perspective, it must ask the following questions:

- “Does it capture what you intend to do for only the next three to five years, or does it capture a more timeless essence of your organization’s distinctiveness?”
- Is it clear and memorable?
- Does it have the ability to promote and guide action?
- Does it set boundaries within which people are free to experiment?”

(Source: Service Strategy book)

**Strategy as a Position**

The distinctiveness of a Service in a customer’s mind explains strategy as a position. It identifies the differentiated value proposition that is attractive to the customer in a competitive environment.

The three types of strategy as a position are:

- Variety-based positions
- Needs-based positions
- Access-based positions
Adapted from Variety-based (left) and needs-based (right) positioning.

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Variety-Based Positioning

Variety-based positioning addresses a particular variety of customer requirements and aims to meet them in a unique manner. It needs a narrow Service Catalogue but in-depth knowledge of Service levels, options, and packages. Service Assets must be well specialized to deliver this narrow catalog. Service Providers count their success in terms of performing exceptionally well in meeting a subset of their customers’ needs. New opportunities for the same Service Catalogue form the basis of the Service Provider’s growth. For example, a Service Provider may specialize in payroll Services for several groups within a Business Unit, several Business Units within an enterprise, or several enterprises within a region.
Adapted from Variety-based (left) and needs-based (right) positioning.

Variety-based (left) and needs-based (right) positioning.

Customer segments:
A  B  C  D  E

Customer needs:
1  2  3  4  5

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Needs-Based Positioning

Here, Service Providers choose to provide most or all of a particular type of customer need. A wide Service Catalogue covering various aspects of the customer’s business is required here. This is like the traditional way of grouping customers in segments and then aiming to serve the requirements of one or more targeted segments at best. Service Providers are not worried about meeting the needs of every customer type. New Services in the catalog from the same demand source form the basis of the Service Providers’ growth. For example, a Service Provider might specialize in supporting most or all of a group of hospitals’ business needs. The Service Catalogue covers infrastructure services, application maintenance, information security, document management, and disaster recovery services specialized for the healthcare industry. It preserves knowledge on electronic medical records, privacy issues, medical equipment, and claims processing.
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Access-Based Positioning

Here, Service Providers differentiate themselves through their ability to serve customers with particular needs with respect to location, scale, or structures. Because the customers’ size, location, and structure differ, Service Providers set up their business assets in a way that best serves their own business models and strategies.

Service Assets have to be specialized and organized for the most satisfactory demand patterns in any positioning type. Specialized Service Assets help the Service Providers deliver greater Utility levels to targeted segments. It also means Risks from the high asset specificity level when sudden or severe changes occur in the market space, with some providers never recovering from the effects of the Risks. For example, when a tax-collection agency begins to accept electronic filing of tax returns and electronic funds transfer (EFT), you observe a considerable change in its business activity patterns. As a result, some Service Providers, including the agency’s own internal units, have better access-based strategies to serve the agency than others.
<table>
<thead>
<tr>
<th>Customer segments</th>
<th>Location, scale, or structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>e</td>
</tr>
<tr>
<td>B</td>
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<tr>
<td>C</td>
<td>c</td>
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<tr>
<td>D</td>
<td>b</td>
</tr>
<tr>
<td>E</td>
<td>a</td>
</tr>
</tbody>
</table>

Customer needs

1, 2, 3, 4, 5

Adapted from "Combining variety-based, needs-based and access-based positioning" © Crown Copyright 2007 Reproduced under licence from OGC.
Combining Variety-Based, Needs-Based, and Access-Based Positioning

Service Providers can also use a combination of all three types of positioning. There are no general rules for these positioning strategies, simply plans and workable patterns, or definitions to comply with. However, you need to have a concrete plan to maintain strategic positions from which you can achieve the organizational mission and objectives.

After the organization attains a position, it must ask the following questions:

- “Does it guide the organization in making decisions between competing resource and capability investments?”
- Does it help managers test the appropriateness of a particular course of action?
- Does it set clear boundaries within which staff should and should not operate?
- Does it allow freedom to experiment within these constraints?”

(Source: Service Strategy book)
Adapted from Operational plans and patterns are driven by strategic positioning.

Operational plans

How service assets are specialized

What type of service levels are offered

To deliver service contracts

Customer portfolio

Service portfolio

Strategic plans
Table of Contents

**Strategy as a Plan**

As a plan or intended strategy, strategy is a course of action toward a strategic objective within a competitive scenario. Generally, the planning horizons are long term but its lengths can differ across organizations, industries, and strategic context. Their focus is normally on financial budgets, portfolio of Services, new Service development, investments in Service Assets, and improvement plans.

The focus of each plan is on achieving well-defined results or conditions in a particular situation. The results of the strategic assessments are the main inputs to a plan. The strategic position and perspective frame the strategic assessments. The need to achieve specific strategic objectives connects the plans. For example, Service Management is a synchronized set of plans with which Service Providers plan and execute their Service Strategies.

**Strategy as a Pattern**

As a pattern, strategy is the basis of developing strategies that are unique patterns in action reinforced over time by continual success. For example, rather than pursuing a plan to cut Service costs through Service sourcing, the Service Provider may first source telecommunication Services, then application hosting, then security Services, and so on, until a strategic pattern emerges. The patterns are rooted in a Service Provider’s way of doing business.
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There are two patterns of action:

1. Documentable and controllable patterns of action:
   Organizations document and control all noticeable patterns of actions such as management systems, organization, policies, processes, schedules, and budgets. They are the result of perspectives, positions, and plans directed by the senior leadership in service of a particular customer or market space.

2. Nondocumentable and indiscernible patterns of action:
   Here, organizations do not document or discern the patterns of action because of the unpredictability of results realized in pursuit of specific goals or objectives. The patterns are present in the form of the implicit knowledge of those who carry them out. However, the patterns deliver value to customers so the managers must capture and codify them into the organization’s documented practices.
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A Service Provider’s capability must have consistent and controllable patterns because they appear within the organization as a direct result of actions taken by managers and their teams. They are an organization’s signature and a source of competitive advantage. The organization can codify useful performance patterns into practice and make them available as reusable assets to other parts of the organization. You can place these patterns under Configuration Management when the patterns become systems and processes. This is because you will have stable, standard, and improved patterns. As business cycles continue, new patterns in action might arise and give feedback.

Organizations progress in their maturity level when their managers provide renewal or improvement activities in their organization. Consequently, strategy as patterns in action is a very powerful perspective of strategy because it engages all management levels and rests on systematic learning. You can view Service Management as an adaptive network of patterns through which you can realize strategic objectives.
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<th>Table of Contents</th>
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<tr>
<td><strong>Example patterns of action</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Priority patterns</strong></td>
</tr>
<tr>
<td>Set the allocation of resources. The ranking of new opportunities, for example: Service stability outweighs speed of deployment. New technologies must conform to a certain standard.</td>
</tr>
<tr>
<td>When legislation is in session, no changes are allowed. When legislation is in session, no changes are allowed.</td>
</tr>
<tr>
<td><strong>Timing patterns</strong></td>
</tr>
<tr>
<td>Set the rhythm of the organization. Staff are synchronized with customer and business cycles, for example: End-of-quarter and end-of-year required enhanced service levels.</td>
</tr>
<tr>
<td>Staff are synchronized with customer and business cycles, for example: End-of-quarter and end-of-year required enhanced service levels.</td>
</tr>
<tr>
<td><strong>How-to patterns</strong></td>
</tr>
<tr>
<td>R&amp;D staff must rotate through operations.</td>
</tr>
</tbody>
</table>
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Adapted from Three-step Change process © Crown Copyright 2007 Reproduced under licence from OGC

1. Unfreeze the organization from its present state
2. Make the desired type of Change
3. Freeze the organization in the new desired state

Unfreeze the organization from its present state

Make the desired type of Change

Freeze the organization in the new desired state
Organizational Change

Resistance to Change forces organizations to revert to previous behaviors unless organizations take steps to refreeze the new Changes. The roles and tasks of managers are not enough to bring Change in an organization. The managers must actively manage the process in the following ways:

1. Diagnosis: Managers must acknowledge the need for Change and the factors prompting it. For example, complaints about Service quality have risen, operating costs have soared, or morale is low while turnover is high. There is less point in focusing on improving costs if the customer is concerned about quality.

2. Establishing the desired state: This starts with the organization’s strategy and desired structure. For example, is the strategy based on reducing costs or improving quality, should the organization adopt a product or geographic structure, and so on.

3. Implementation: This has a three-step process:
   - Identify possible barriers to Change: What obstacles are anticipated? For example, functional managers may resist decrease in power or prestige. The more severe the Change, the greater the difficulties encountered.
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- Decide the Change agents: Who will be responsible for implementing and controlling the Change process? These Change agents can be external, as in consultants, or internal, as in knowledgeable managers.
  - Decide an appropriate Change strategy: Which Change strategy will most effectively unfreeze, Change, and refreeze the organization? These implementation techniques fall into the top-down and bottom-up categories.

Some examples of implementation techniques are:

- “Education and communication
- Participation and empowerment
- Facilitation
- Bargaining and negotiation
- Process consultation
- Team building and inter-group training”

(Source: Service Strategy)

ACTIVITY TIME

4.3.2 DESIGN CONSIDERATIONS
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Strategy Governance

Resources Schedule Functionality

Business functionality
Management requirements
Legislative requirements
Regulatory requirements
etc...

Adapted from Project elements in a triangulated relationship
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Requirements to Implement Service Design

Implementing Service Design is a delicate balancing act for any new business requirement. It ensures that organizations meet functional requirements as well as performance targets. As a development manager, you need to work with three things:

- **Functionality**: The Service or product and its facilities, functionality, and quality, including all the needed management and operational functionality
- **Resources**: The people, technology, and money available
- **Schedule**: The timescales

It is extremely important to balance the efforts involved in the design, development, and delivery of Services in response to business requirements. You need to adjust all three constantly and dynamically to meet changing business needs. Changing one side of the triangle will affect the other sides. Consequently, it is crucial for you to understand the business drivers and needs to design and deliver the most effective business solutions. Market pressures might alter the business drivers and needs during design and delivery. It is important to consider the functionality and resources of all Service Lifecycle stages so that you can design and develop the Service effectively and efficiently throughout the Lifecycle.
Integrating all five aspects of Service Design ensures that you produce an integrated Enterprise Architecture. This should include a set of standards, designs, and architectures satisfying all the management and operational requirements of Services as well as the functionality that the business requires.

For the overall management of design activities, you must:

- Ensure good communication between the various design activities and the business and IT planners and strategists.
- Provide the latest versions of all appropriate business and IT plans to all designers.
- Ensure that all architectural and design documents are consistent with business and IT policies and plans.
- Ensure that the architectures and designs:
  - Enable IT to respond quickly to new business needs.
  - Integrate with all strategies and policies.
  - Support the needs of other stages of the Service Lifecycle.
  - Facilitate new or changed Services and solutions aligned with business needs and timescales.
Design is the art of gradually applying constraints until only one solution remains.

Level of warranty desired

service solution

Acceptable service solution

solution space or the set of designs that are allowed with the given set of constraints

utility to be provided

Constraint

Capability

Other constraints: policy, governance, etc.

Standards & regulations

Compliance with

Technology constraints

Value & ethics

Existing commitments

Resource constraints

Unilateral commitments

Existing schedules

Resource constraints

Level of warranty desired

Solution service

Acceptable

Technology constraints

Value & ethics

Existing commitments

Resource constraints

Compliance with

Standards & regulations

Copyright, patents & trademarks

Other constraints: policy, governance, etc.

Constraint

Capability

Design constraints driven by strategy

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Design Constraints

Design activities have to operate within many constraints. These constraints might be from the business and Service Strategy, and cover a wide range of factors. The financial constraint is one of the most important. The designer should provide a solution that takes care of all the constraints by renegotiating some constraints or obtaining a bigger budget.

External factors that can influence design could be from the need for good corporate and IT governance or from the requirements for compliance with regulations, legislation, and international standards. Consequently, it is important for designers to understand that the designs and solutions they produce include all the necessary controls and capability.
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**Initiation Stage**

The Initiation stage covers the entire organization and consists of the following activities:

- Setting policies
- Specifying terms of reference and scope
- Allocating resources
- Defining the project organization and control structure
- Agreeing to project and quality plans

For the smooth implementation of the initiation stage of the IT Service Continuity Management (ITSCM) Lifecycle, an organization must:

- Set the policy:
  - Establish and communicate to all organizational members who are affected or involved in business continuity issues.
  - Ensure the policy outlines the management’s intention and objectives.
- Specify terms of reference and scope:
  - Define the staff’s scope and responsibilities such as undertaking a Risk analysis and Business Impact analysis (BIA) tasks and determining the command and control structure required to support a business interruption.
Table of Contents

- Take into account such issues as outstanding audit points, regulatory or client requirements, and insurance organization stipulations.

- Allocate resources:
  - Assign considerable resources to establish an effective business continuity environment, including financial and human resources.

- Set up a project organization and control structure:
  - Implement a recognized, standard project-planning methodology, such as Projects IN a Controlled Environment (PRINCE2®) or Project Management Body Of Knowledge (PMBOK®), to ensure the effective management and control of ITSCM and BCM projects.

- Implement quality plans:
  - Ensure the project has well-defined quality plans that guarantee the smooth, timely, and standard delivery of projects.

ACTIVITY TIME

Design Considerations

The design considerations are applicable for Service test models, test cases, and test scripts. These include:

- “Business/Organization:
  - Alignment with business Services, processes and procedures
Table of Contents

- Business dependencies, priorities, criticality and Impact
- Business cycles and seasonal variations
- Business transaction levels
- The numbers and types of users and anticipated future growth
- Possible requirements due to new facilities and functionality
- Business scenarios to test the end to end Service

• Service architecture and performance:
  - Service Portfolio/structure of the Services, e.g. core Service, supporting and underpinning supplier Services
  - Options for testing different type of Service Assets, utilities and Warranty, e.g. availability, security, continuity
  - Service level requirements and Service level targets
  - Service transaction levels
  - Constraints
  - Performance and volume predictions
  - Monitor, model, and measurement system that explains the need and importance for the new or changed Service
Table of Contents

- **Service Release test environment requirements**
- **Service Management:**
  - Service Management models, e.g. capacity, cost, performance models
  - Service Operations model
  - Service Support model
  - Changes in requirements for Service Management information
  - Changes in volumes of Service users and Transactions
- **Application information and data:**
  - Validating that the application works with the information/databases and technical infrastructure
  - Functionality testing to test the behavior of the infrastructure solution and verify: i) no conflicts in versions of software, hardware or network components; and ii) common infrastructure Services used according to the design.
  - Access rights set correctly.
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- *Technical infrastructure:*
  - *Physical Assets – do they meet their specifications?*
  - *Technical resource capacity, e.g. storage, processing power, network bandwidth*
  - *Spares – are sufficient spares available or ordered and scheduled for delivery? Are hardware/software settings recorded and correct?*

(Source: Service Transition book)

### 4.3.3 TRANSITION CONSIDERATIONS

**Service Transition Considerations**

The following are the considerations for Service Transition:

- Define and implement a formal Service Transition policy.
- Implement all Service Changes.
- Adopt a universal framework and standards.
- Maximize the reuse of established processes and systems.
- Align business needs with Service Transition plans.
- Establish and uphold relationships with stakeholders.
- Establish useful controls and disciplines.
- Make available systems for knowledge transfer and decision support.
- Plan Release and Deployment packages.
- Expect and manage course corrections.
- Proactively handle resources across Service Transitions.
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- Ensure early involvement in the Service Lifecycle.
- Guarantee the quality of new or changed Services.
- Proactively improve quality during Service Transition.

Planning and Coordinating Service Transition

Here are the two ways of planning and coordinating Service Transition:

- Planning an individual Service Transition
- Integrated planning

Planning an Individual Service Transition

Organizations must plan Release and Deployment activities stage-wise because the deployment details might not be known initially. Organizations must develop each Service Transition plan from a proven Service Transition model, wherever possible. A Service Transition plan describes the tasks and activities needed to release and deploy a Release into the test environments and into production, including:

- Service Transition’s work environment and infrastructure.
- Milestone, handover, and delivery schedules.
- Activities and tasks to be executed.
- Staffing, resource requirements, finance, and timescales at each stage.
- Issues and Risks to be controlled.
- Lead times and emergencies.
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Transition planners will know whether to start the transition by the due date by allocating resources to each activity and factoring in resource availability. The unavailability of resources should make the planners review other transition commitments and consider changing priorities. Such Change affects other Changes that are Release dependent or Release prerequisites. Consequently, planners must discuss the Changes with Change and Release Management.

Integrated Planning

For the successful deployment of a Release across spread environments and locations into production, organizations must maintain an integrated set of transition plans. These plans must be linked to lower-level plans, such as Release, build, and test plans. Organizations should integrate these plans with the Change schedule and Release and Deployment plans.

An overarching Service Transition plan must acquire the Release components, package the Release, and build, test, deploy, evaluate, and proactively improve the Service through early life support. It must also include activities to build and maintain the Services, IT infrastructure, systems, and environments, and the measurement system to support the transition activities.

Adopting Program and Project Management Best Practices

Managing many Releases and deployments as a program is a best practice, with each significant deployment run as a project. A dedicated staff member can carry out the actual deployment as
part of broader responsibilities, such as operations, or through a team brought together for the purpose. Large deployments are complex projects and must have subdeployments for each element type covering the Service. The steps involved in planning include the range of elements constituting that Service, for example, people, applications, hardware, software, documentation, and knowledge.

*Reviewing the Plans*

Organizations must do a quality review of all Service Transition and Release and Deployment plans. Wherever possible, lead times must include an element of contingency that must be experience based rather than just supplier assertion. This is applicable for internal suppliers as well. Lead time must be part of planning because of its seasonal variations. This applies especially for long timeframe transitions, where the lead times can differ between transition stages or between different user locations.

Before organizations begin the Release and Deployment activity, the planning role must verify the plans and ask questions such as:

- “Are these Service Transition and release plans up to date?
- *Have the plans been agreed and authorized by all relevant parties, e.g. customers, users, operations and support staff?*
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- *Do the plans include the release dates and deliverables and refer to related change requests, known errors and problems?*
- *Have the impacts on costs, organizational, technical and commercial aspects been considered?*
- *Have the risks to the overall services and operations capability been assessed?*
- *Has there been a compatibility check to ensure that the configuration items that are to be released are compatible with each other and with configuration items in the target environments?*
- *Have circumstances changed such that the approach needs amending?*
- *Were the rules and guidance on how to apply it relevant for current service and release packages?*
- *Do the people who need to use it understand and have the requisite skills to use it?*
- *Is the service release within the SDP and scope of what the transition model addresses?*
- *Has the Service Design altered significantly such that it is no longer appropriate?*
- *Have potential changes in business circumstances been identified?*

(Source: Service Transition book)
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Policies, Principles, and Basic Concepts

Organizations must apply the following policies, principles, and basic concepts for the successful execution of transition:

- Inputs from Service Design
- Service quality and assurance
- Policies
  - Service quality policy
  - Risk policy
  - Service Transition policy
  - Release policy
  - Change Management policy
- Test strategy
- Test models
- Validation and testing perspectives
- Levels of testing and test models
- Testing approaches and techniques
- Design considerations
- Types of testing

Let us look at the validation and testing perspectives in detail.

When you test and validate a Service, you must ensure that you coordinate with other team members and stakeholders for their feedback. The feedback and overall perspectives of the people involved in the implementation of the Service differ based on whether the person is using, delivering, managing, or operating
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The Service. This helps you focus on the key requirement areas, and validate and test the Service efficiently.

To align the testing and validation phase with the different perspectives of various roles, the Service Design Package (SDP) defines the test entry and exit criteria:

- “Service Design – functional, management, and operational
- Technology design
- Process design
- Measurement design
- Documentation
- Skills and knowledge”

(Source: Service Transition book)

When you start Service acceptance testing, you must first verify the Service requirements that are based on customer requirements. The customers, Service Providers, and other stakeholders must sign-off the Service requirements, acceptance criteria, and Service acceptance test plan before you start building the Service.

It is important to consider the perspective of all the roles involved in the Service Change implementation. Some important perspectives are:

- Perspective of business users and customers
- Perspective of Service Providers
Table of Contents

- Perspective of end users within the customer’s business
- Perspective of operations and Service improvement

**Perspective of Business Users and Customers**

The perspectives of business users and customers are important because they allow you to:

- Have a defined way to measure the acceptability of the Service.
- Plan for the resources and level of expertise required to undertake Service acceptance.

**Perspective of Service Providers**

Feedback from the Service Provider helps you:

- Be involved with the business prior to testing to avoid surprises during Service acceptance.
- Ensure the quality of the Service. This plays a key role in influencing the Business Units about the quality, reliability, and usability of the Service even before the Service goes live.
- Deliver and maintain robust acceptance test facilities per business requirements.
- Understand how the acceptance test fits into the business Service or product development testing activity.
Perspective of End Users Within the Customer’s Business

You must conduct a User Acceptance Test (UAT) after building a Service. This is to ensure that the customer checks and verifies the Service before accepting it. You must test the Service in an environment that closely resembles the live operational environment. Stakeholders must agree to the testing details and scope in the user test and UAT plans at the start of the process.

The end users within the customer’s business will:

- Test the Service’s functional requirements to ensure that it meets the end users’ expectations.
- Perform tests on Service Management activities, such as the ability to use the Service Desk, respond to diagnostic scripts, Incident Management, Request Fulfilment, and Change Request Management.

You must set customer expectations at the beginning of these tests to avoid any early testing dissatisfaction. You should inform the customers that this is just a test and there are possibilities of the Service not performing as well as expected in all aspects.

Perspective of Operations and Service Improvement

Operations staff must ensure that they deliver all the IT staff requirements to the customer before deployment. The feedback from the operations staff helps you:

- Set up technological facilities before delivering the new or changed Service.
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- Provide the relevant staff skills, knowledge, and resources to support the Service after it goes live.
- Arrange for supporting processes and resources, such as Service Desk and second- or third-line support.
- Consider business and IT continuity.
- Provide access to documentation and the Service Knowledge Management System (SKMS).

Service Validation and Test Challenges, CSFs, and Risks

To check whether the Service has met its intended use within the specified constraints, Service test design must validate Services through test models and test cases. This structured approach to scoping and designing the tests ensures that you give priority to testing the right things. Test models must be well structured and repeatable to facilitate auditability and maintainability.

Challenges to Service validation and test design arise when potential changes in circumstances are not considered and the validation and design are inflexible. You must consider the following relevant issues when designing the management and maintenance of test data:

- Separate test data from any live data, including steps to ensure that test data is not mistaken for live data when being used and vice versa.
- Include data-protection regulations that will help you in situations where you use live data to generate a test database.
Table of Contents

- Back up test data and restore it to a known baseline to enable repeatable testing.
- Predict the volatility of test data, environments, processes, and procedures to build and tear down the test environment for various testing needs.
- Balance costs and benefits because test environments populated with relevant data are expensive to build and maintain. As a result, you must balance the benefits in terms of Risk reduction to business Services against the cost of provision.

Some Critical Success Factors (CSFs) that you need to consider when designing Service tests are:

- Finance – consider if the agreed budget is adequate and whether the expenditure had exceeded the budget.
- Documentation – consider and check if all the necessary documentation is available or scheduled for production, practical, and in the correct format, such as checklists and Service Desk scripts.
- Supplier of Services, Service Assets, and components – consider the internal or external interfaces.
- Build – consider whether the Service, Service Asset, or component should be built into a Release Package and test environment.
- Testable – consider if the Service is testable within the resources, time, and facilities available or obtainable.
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• Traceability – consider the type of traceability available back to the requirements.

• Time and place of testing – consider an appropriate time and place to test. In addition, you must check if you require any unusual conditions under which you want to run and test a Service.

• Remediation – consider plans to remediate or back out a Release through the environments.

ACTIVITY TIME

4.4 DIRECTING
Services Through Direction

Services through direction have a strong management team that is responsible for executing strategy and guiding low-level managers on handling functional responsibilities.

In Services through direction, the focus is on the hierarchical order that divides functional activities. In this management style, communication is more formal and basic processes are well in place. The drawback of this management style is that despite dedicated effort, Services tend to be inefficient. Organizations call upon the functional heads to decide whether to follow set processes or initiate action independently. This leads to issues over autonomy because greater centralization reduces the scope for independent decision-making and the freedom to innovate. In addition, the lack of independence can frustrate the employees, which can seriously hamper the organization’s growth.

To meet this challenge, organizations must allow greater delegation of powers. Lower levels in the organization should be responsible for Service processes so that process owners can take ownership of lower-level decision making and Service accountability.

ACTIVITY TIME

4.4.1 VALUE OF ACHIEVING BUSINESS GOALS BY GUIDING, LEADING, AND MONITORING
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Value of Direction through Guiding, Leading, and Monitoring

Transition Planning and Support ensures that organizations plan their capacity and resources to package a Release, build, release, test, deploy, and establish a new or changed Service into production. It ensures support to Service Transition teams and people and plans the required Changes to maintain organizational integrity. It reports and manages Service Transition issues, Risks, and deviations to the appropriate stakeholders and decision makers. Finally, it coordinates activities across projects, suppliers, and Service teams, as required.

The value of direction through guiding, leading, and monitoring ensures the fulfillment of Transition Planning and Support process objectives. The objectives are:

- **“Plan and coordinate the resources to establish a new or Changed Service into production successfully within the predicted cost, quality, and time estimates.”**

- **Ensure that the stakeholders adopt a common framework of standard re-usable processes and support systems to improve the effectiveness and efficiency of the integrated planning and coordination activities.**

- **Provide clear and detailed plans that enable the customer and business Change projects to align their activities with the Service Transition plans.”**

(Source: Service Transition book)
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The value of direction ensures the effective use of Transition Planning and Support by improving the Service Provider’s ability to handle high volumes of Change and Release across the customer base. Integrated planning improves the alignment of Service Transition plans with the customer, supplier, and business Change project plans.

Planning and Coordinating Service Transition

Organizations plan and coordinate Service Transition through individual planning or integrated planning.

Organizations adopt program and project management best practices to manage many Releases and deployments as a program, with each significant deployment run as a project. Dedicated staff carry out the actual deployment as part of their broader responsibilities. Because large deployments are complex projects, the program and project management best practices must have subdeployments for each element type covering the Service.

Organizations must do a quality review of all Service Transition and Release and Deployment plans. Wherever possible, lead times must include an element of contingency. Lead times must be part of planning because of its seasonal variations. This applies especially for long timeframe transitions, where the lead times can differ between transition stages or between different user locations.
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Progress Monitoring and Reporting

Measuring and monitoring the Release and Deployment activity establishes whether the transition is heading according to plan.

It is important to maintain the supervision of the actual transitions against the integrated Service Transition plans and Release and Change schedules. The supervision must monitor the progress of each transition periodically and at milestones or baseline points as well as receive and follow updates.

Management reports on each transition status will help identify the significant variances from plan, for example, for project management and the Service Management organization to make decisions and take action.

Most transition plans will need amendment to make them align with the reality that has changed since design.

4.5 CONTROLLING AND EVALUATING
Example of Corrective Action Being Implemented

XYZ Financial Organization has a strategically important Web site, “FinMoney.” However, this site never meets its operational targets, especially with regard to the delivery of Service quality. The main reason for this is that the organization failed to focus on monitoring operational events, Service availability, and response. The situation worsened until senior business managers demanded quick action from the senior IT management. This caused major repercussions, and the IT management undertook reviews to determine the underlying cause of FinMoney’s failure. After some key deliberations and analysis, the IT management identified an operations group to monitor this particular Service. The management wanted the establishment of weekly internal reviews and weekly reports on operational performance. The operations group immediately investigated the operational Events whenever they occurred. They reviewed these Events individually after resolution. They established an improvement team, with representation from all functions, to implement the monitoring group’s reviews and feedback recommendations. Ultimately, this resulted in considerable improvement in the delivery of Service quality to the business and its customers.
4.5.1 VALUE OF VERIFYING AND USING FEEDBACK TO CONTROL THE LIFECYCLE

Types of Metrics

Different types of metrics at the technology, process, and Service levels create a holistic view that easily translates to how Service creates value for the business. Organizations need to have three types of metrics because one metric alone does not depict the overall Service’s success and the value to the business.

The three types of metrics are:

- Technology metrics: Are associated with component- and application-based metrics, such as performance and availability.
- Process metrics: Help determine the overall health of a process in terms of quality, performance, value, and compliance.
- Service metrics: Are the results of the end-to-end Service or outcome metrics.

At the initial implementation of a service, only a few CSFs are required to help align the Service with the business vision. Each CSF might require one or two Key Performance Indicators (KPIs) at the beginning of the implementation but over time, more may be required. The overall success of the CSF is a responsibility shared with the CSI Manager.
From CSFs to Measurement

The diagram illustrates the different levels of component branching from vision statement to measurement.

The presence of an explicit or implicit metric depends on Event quantification through the measurement process, which is the reference standard for measurements. Metrics usually specialize in a specific subject area and are, consequently, valid only within the corresponding domain. As a result, you cannot benchmark or interpret these metrics directly, outside the domain of the metric's subject area. However, you can also find generic metrics aggregated across subject areas or the Business Units of an enterprise.

Metrics are used in several business models, including Capability Maturity Model® Integration (CMMI), and play a vital role in Knowledge Management. You can use metrics to track parameters such as trends, productivity, and resources in the form of KPIs.

To begin the measurement process:

1. **Identify the number of KPIs and CSFs.**

Before you define metrics and measurements, you need to first identify the number of KPIs and CSFs, which usually vary. Some suggest the definition of two to three KPIs for every CSF at any given time and a total of two to three CSFs for each Service or process. However, some recommendations suggest up to five CSFs. This is a huge number when you consider the number of Services and processes or use the Balanced Scorecard.
approach. As a result, it is advisable to define two to three KPIs for each CSF and monitor and report the KPIs in the early stages of a CSI program. When a Service or process matures, you can add additional KPIs. These KPIs can change over a period based on what is important to the business.

In addition, other process KPIs also change because organizations implement Service Management processes in other processes. For example, a common KPI for Incident Management is increasing first-contact resolution. You can monitor this KPI easily as long as it is independent. However, when you implement Problem Management, this KPI should change because the primary objective of Problem Management is to reduce the number of recurring Incidents. When these types of recurring Incidents decrease, the number of first-contact resolutions also decreases, leading to a positive trend.

2. **Identify metrics and measurements.**

The second step is to identify the metrics and measurements that are required to compute the KPI. There are two types of KPIs, qualitative and quantitative. Let us see examples of each type of KPI.
An example of a qualitative KPI is:

“CSF: Improving IT Service quality

KPI: 10% increase in customer satisfaction rating for handling incidents over the next 6 months.

- **Metrics required:**
  - Original customer satisfaction score for handling incidents.
  - Ending customer satisfaction score for handling incidents.

- **Measurements:**
  - Incident handling survey score
  - Number of survey scores.”

(Source: CSI book)

An example of a quantitative KPI is:

“CSF: Reducing IT costs

KPI: 10% reduction in the costs of handling printer incidents.

- **Metrics required:**
  - Original cost of handling printer incidents
  - Final cost of handling printer incidents.
  - Cost of the improvement effort.

- **Measurements:**
  - Time spent on the incident by first-level operative and their average salary.
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- *Time spent on the incident by second-level operative and their average salary.*
- *Time spent on Problem Management activities by second-level operative and their average salary.*
- *Time spent on the training first-level operative on the workaround.*
- *Cost of a Service call to third-party vendor.*
- *Time and material from third-party vendor.*

(Source: CSI book)

### 3. Balancing Tension Metrics

Organizations use tension metrics to create a balance among resources, features, and schedules by preventing teams from focusing on a single element. Tension metrics prevent teams from taking shortcuts and eluding their assignment.

Organizations can use these metrics as a tool to create shared responsibilities between team members with different roles in the Service Lifecycle. Each phase of the Service Lifecycle requires specific contributions from the assigned key roles, each of which has very specific goals. You can determine the Service quality depending on how well each role meets its goals and how well each role manages any conflicting goals. As a result, it is important for organizations to measure performance by applying a set of metrics to each goal.
4. Break Down Goals and Metrics

Many IT Service organizations measure the performance of their associates on an abstract, high-level basis. The appraisals and counseling sessions do not facilitate the execution of a Service Lifecycle or any of its processes. In reality, most IT Service organizations do not use detailed performance measures that are in line with key business drivers because it is difficult to identify and arrive at these measures.

The best way to identify performance measures is in the design phase, where the key business drivers of a Service are translated into SLRs and operations-level requirements (consisting of processes, skills, and technology requirements). Depending on whether IT is an enabler or a cost center, organizations can classify requirements between IT Services and IT components. This will determine how processes in the Lifecycle are measured and, eventually, how the performance and growth of professionals should be measured.
Per the best-practices documentation, you can classify goals and metrics into three categories:

- **“Financial metrics: Examples are metrics for expenses and the total percentage of hours spent on projects or maintenance.”**
- **Learning and growth metrics: Examples are metrics for the percentage of education pursued in a target skill area, certification in a professional area, and contribution to Knowledge Management.**
- **Organizational or process effectiveness metrics: These metrics can be further broken down into product and process quality metrics. “Product quality metrics are the metrics supporting the contribution to the delivery of quality products. Process quality metrics are the quality metrics related to efficient and effective process management.”**

(Source: CSI book)
Here is a table that shows examples of Service quality metrics:

<table>
<thead>
<tr>
<th>&quot;Measure&quot;</th>
<th>Metric</th>
<th>Quality goal</th>
<th>Lower limit</th>
<th>Upper limit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schedule</strong></td>
<td>% variation against revised plan</td>
<td>Within 7.5% of estimate</td>
<td>Not to be less than 7.5% of estimate</td>
<td>Not to exceed 7.5% of estimate</td>
</tr>
<tr>
<td><strong>Effort</strong></td>
<td>% variation against revised plan</td>
<td>Within 10% of estimate</td>
<td>Not to be less than 10% of estimate</td>
<td>Not to exceed 10% of estimate</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>% variation against revised plan</td>
<td>Within 10% of estimate</td>
<td>Not to be less than 10% of estimate</td>
<td>Not to exceed 10% of estimate</td>
</tr>
<tr>
<td><strong>Defects</strong></td>
<td>% variation against revised plan</td>
<td>Within 10% of estimate</td>
<td>Not to be less than 10% of estimate</td>
<td>Not to exceed 10% of estimate</td>
</tr>
<tr>
<td><strong>Productivity</strong></td>
<td>% variation against revised plan</td>
<td>Within 10% of estimate</td>
<td>Not to be less than 10% of estimate</td>
<td>Not to exceed 10% of estimate</td>
</tr>
</tbody>
</table>
Table of Contents

<table>
<thead>
<tr>
<th>“Measure”</th>
<th>Metric</th>
<th>Quality goal</th>
<th>Lower limit</th>
<th>Upper limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td>Customer satisfaction survey result</td>
<td>Greater than 8.9 on the range of 1 to 10</td>
<td>Not to be less than 8.9 on the range of 1 to 10”</td>
<td>“</td>
</tr>
</tbody>
</table>

(Source: CSI book)
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- Change Management
  - Request For Change (RFC)
  - Plan the Evaluation
  - Evaluate Predicted Performance (E1)
  - Predicted Performance OK?
    - Yes
      - Evaluate Actual Performance (E2 to En)
      - Actual Performance OK?
        - Yes
          - Evaluation Report
          - Change Management
        - No
          - Interim Evaluation Report
          - Change Management
    - No
      - Interim Evaluation Report
      - Change Management
- Service Design
- Test
  - Test Plan and Results
4.6 ORGANIZATIONAL FORM AND DESIGN
The centralized-decentralized spectrum

Adapted from The centralized-decentralized spectrum

The centralized IT approach offers control and scale economies – at the cost of reduced responsiveness and business unit ownership.

In contrast, decentralized approaches provide flexibility for rapid response and increased business unit ownership, but they don’t meet every business unit’s needs, and they don’t control critical mass of skills or provide the critical group-wide perspective.

Centralized

- Control
- Synergy
- Scale economies
- Pooled experience
- No BU ownership of systems
- No BU control of central overhead costs
- Critical mass of skills doesn’t meet every BU’s needs
- Reinvention of wheels
- Variable standards of IT competence
- Excessive overall cost to group
- Unresponsive

Federated

- Responsive to BU needs
- BUs have ownership
- Users control IT priorities
- Centralized overhead costs
- BU control of systems
- BU ownership
- Responsive to BU needs
- Critical mass of skills
- Not every BU’s needs
- Pooled experience
- Reduced synergy
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- No/less BU ownership
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The Centralized-Decentralized Spectrum

Organizational Change is a complex decision-making aspect because there are many ways to implement it. Some Changes involve so many Events that it can take years to implement the Changes. Strategic objectives drive many elements of organizational design, such as scale, scope, and structure. Organizational designs become outdated with time. There can be problems with the structural fit. Some organizational designs might suit a business perfectly while others will not. The design challenge of picking and choosing among different options is easy to meet when you understand the factors that make a good fit and the trade-offs required such as control and coordination.

During periods of good performance, the organizational structure tends to be decentralized, with local managers enjoying greater independence. When Problems emerge, there is a move toward a centralized model. This indecisive wavering between centralized and decentralized management causes long-term organizational problems. In spite of Problems, people perceive organization as top-down management. You must know this is “the illusion of being in control” because issuing orders does not mean you are in control. In addition, local managers often do not realize how their decisions affect the organization as a whole. So, how does an organization choose the most suitable organizational structure?
The age and size of an organization influence its structure. Organizations must make changes in roles and relationships as they mature. This applies especially to Service-oriented organizations because pressures for better efficiency and control unavoidably lead to more formalization and complexity. The organization faces the long-term Risk of becoming too rule-bound and rigid.
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Styles of Management

The four-management style of organizations — Network, Directive, Delegative, Coordinated, and Collaborative — each serves organizational needs for some time. With more-demanding Service requirements, the organization has to adapt its management style to meet the Service challenge and grow continually.

Network

The approach is most suitable for Stage-1 organizations focused on delivering Services rapidly, even in an ad-hoc manner. Because of their entrepreneurial nature and technology orientation, these organizations are often unwilling to put in place formal arrangements. Innovation and entrepreneurship are the key organizational values. Agreements manage the actions and not through an official hierarchy of power. Organizations, going by their experience, believe that informal structures are best suited for the resources needed to deliver Services. The staff members work in close conjunction to synchronize their activities. The successes of this set-up reinforce this belief. However, as Service demands become more pressing, this model becomes difficult to sustain. It makes in-depth local knowledge necessary and requires staff to be highly dedicated. Further problems arise as employees resist new Service structures.
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The main advantages of a network structure are:

- “It avoids the high bureaucratic costs of operating a complex organizational structure
- The organization can be kept flat with fewer managers required
- The organization can quickly adapt or alter its structure”

(Source: Service Strategy book)

Some real disadvantages of a network structure include:

- Managers must ensure the activities of the staff are integrated
- The coordination problems are significant
- There are difficulties in externally sourcing functional activities”

(Source: Service Strategy book)

A strong management team can counter this leadership challenge. This team is responsible for executing strategy and guiding low-level managers on handling functional responsibilities.

**Directive**

A Stage-2 organization is primarily concerned with the hierarchical order that divides functional activities.

Communication is more formal and basic processes are well in place. Despite dedicated effort, Services tend to be inefficient. Organizations often call upon functional heads to decide whether to follow set processes or initiate action independently.
This leads to autonomy. For instance, you have to obtain high-level permissions to launch a new project while exceptional performance at the lower levels is not always recognized or rewarded. Employees can become frustrated with this lack of independence. This situation can seriously hamper the organization’s growth.

The organization counters the Stage-2 crisis by delegating authority to lower-level managers and rewarding them for the additional responsibility. This delegation helps the organization achieve technical efficiency without compromising on space for innovation to reduce costs or enhance Services.

**Delegation**

A Stage-3 organization is mainly concerned with setting up a decentralized organizational structure. Process owners assume more responsibility from functional owners. Process owners focus on improving processes and increasing responsiveness to customers. Problems arise when there is some conflict between the objectives of functional owners and process owners. Functional owners can feel like they are losing control and try to regain it. In this situation, senior managers should mediate in decision making only when it is necessary.

Organizations must try to improve coordination between the different functions using formal systems and procedures. If the organizations create coordination by centralizing processes instead of using a functional model, it can result in a white space between processes instead of a white space between functions.
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Coordination

A Stage-4 organization is mainly concerned with the formal systems necessary for achieving coordination. Senior managers recognize the centrality of these systems and take on responsibility for successfully implementing solutions. The solutions result in planned Service Management frameworks that organizations review and improve regularly. Organizations see each Service as an investment. The organization centralizes technical functions and decentralizes Service Management processes.

The challenge for the organization is to address business needs as they arise. The business often sees IT as bureaucratic and inflexible despite its Service orientation. Even if links with the business are clear, innovation is discouraged and business responsiveness suffers as Service procedures are given priority.

Collaboration

A Stage-5 organization is primarily concerned with enhancing collaboration within the business. Relationship Management is more effective when you have managers trained in managing teams and resolving conflicts. Teams across functions respond to changing business conditions and strategies. Innovative practices are encouraged at this time. Consequently, a matrix-like structure is best suited to this phase.

In a matrix structure, the vertical flow represents functional responsibility and the horizontal flow represents product or customer responsibility. In effect, the provider has two (or more) line organizations with parallel lines of authority and shared
power and two (or more) bosses, each closely involved in developing strategy and governance. A matrix structure allows an organization to adopt any function that it needs to achieve its goals. The matrix structure requires very little direct vertical control. However, horizontal control within integrated teams is necessary.

A matrix structure provides the following advantages:

- “Reduces and overcomes functional barriers
- Increases responsiveness to changing product or customer needs
- Opens up communication between functional specialists
- Provides opportunities for team members from different functions to learn from each other
- Uses the skills of specialized employees who move from product to product, or customer to customer, as needed”

(Source: Service Strategy book)

The real-world problems of the matrix structure are:

- “Lacks a control structure that allows staff to develop stable expectations of each other
- Staff can be put off by the ambiguity and role conflict produced
- Potential conflict between functions and product or customer teams over time”

(Source: Service Strategy book)
Each phase has a bearing on the next, but these phases do not always follow in sequence. By identifying the present state, the senior leadership can decide whether or not to centralize the organization and to what degree.

To apply Service Management organizational development, you need to understand:

- What phase the organization is in currently.
- The possible options.
- The challenges of each solution.

After you decide the Change, it has to be implemented. Implementing Change is a three-step process:

i. “Diagnosis: This involves recognizing the need for Change and the factors that make it necessary, for example, increasing complaints about Service quality, rising operating costs, or low morale.

ii. Define the desired situation: This can prove to be difficult when there is a choice between alternative courses of action. You should start with the organization’s strategy and the final structure it wants to establish. You should also consider whether the strategy is to reduce costs or improve quality and whether the organization should adopt a product structure or a territorial structure.
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iii. Implementation: This process begins with determining possible obstacles to Change. For example, conflicts might arise because of power or position reductions. The next step is to decide who will be responsible for executing Changes and managing the Change process. Change agents can be external such as consultants or internal as in the case of knowledgeable managers. External Change agents will probably be more objective and less susceptible to the influence of internal politics while internal agents usually have more local knowledge. Finally, determine which Change strategy will most efficiently unlock, change, and then relock the organization structure. These techniques can be described as top-down and bottom-up.”

(Source: Service Strategy book)

When organizations resist Change, they can fall back into previous behavioral patterns unless the new Changes are enforced. Managers must manage the process proactively.
Organizational Departmentalization

We generally see organizational hierarchies as representing different functions. As functional groups expand, you need to regard them in terms of departmentalization. When a functional group grows to the size of a department, the group should be reoriented as one of the following:

- **Function** – best suited for specialization, pooling resources, and preventing duplication.
- **Product** – best suited for providing strategies for various new products to the business, especially to manufacturing businesses.
- **Market space or customer** – best suited for organizing around the market framework. It enables differentiation through improved knowledge of and response to customer preferences.
- **Geography** – the use of geography has to be according to industry. By providing Services in nearby regions, travel and distribution costs can be reduced and local knowledge used.
- **Process** – best suited for managing a process from beginning to end.
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"Basic Organizational Structure

<table>
<thead>
<tr>
<th>Basic Structure</th>
<th>Strategic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>Specialization</td>
</tr>
<tr>
<td></td>
<td>Common standards</td>
</tr>
<tr>
<td></td>
<td>Small size</td>
</tr>
<tr>
<td>Product</td>
<td>Product focus</td>
</tr>
<tr>
<td></td>
<td>Strong product knowledge</td>
</tr>
<tr>
<td>Market space or customer</td>
<td>Service unique to segment</td>
</tr>
<tr>
<td></td>
<td>Customer service</td>
</tr>
<tr>
<td></td>
<td>Buyer strength</td>
</tr>
<tr>
<td></td>
<td>Rapid customer service</td>
</tr>
<tr>
<td>Geography</td>
<td>On-site services</td>
</tr>
<tr>
<td></td>
<td>Proximity to customer for delivery and support</td>
</tr>
<tr>
<td></td>
<td>Organization perceived as local</td>
</tr>
<tr>
<td>Process</td>
<td>Need to minimize process cycle times</td>
</tr>
<tr>
<td></td>
<td>Process excellence”</td>
</tr>
</tbody>
</table>

(Source: Service Strategy book)
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Organizational Design

Strategy sets the direction and guides the criteria for each design process step. Organizations must finalize the departmentalization structure before designing key processes. Processes are like organizational software – configurable to Service Strategy needs. Organizational designers should see each step as an iterative cycle: create basic processes and structures, learn about current and new conditions, and adjust as learning evolves.

Organizational Culture

Organizational culture is the set of shared values and norms that control the IT organization’s communications with each other and customers.

The two types of organizational values that are key shapers of behavior and can produce very different responses in an IT organization are:

Terminal values: Often, the organizations’ strategic perspective reflects these values as the desired results or end states. For example, quality, excellence, reliability, innovativeness, or profitability are terminal values.
Instrumental values: Are desired modes of behavior. For example, high standards, respecting tradition and authority, cautious and conservative behavior, or frugality are instrumental values.

Many mergers and acquisitions fail because of the differences between these values. You can transmit culture to staff through socialization, training programs, stories, ceremonies, and language. To identify the Service Management organizational culture:

- Identify the organization’s terminal and instrumental values.
- Determine whether the organizational goals, norms, and rules are conveying the values of organizational culture to staff members correctly.
- Assess the IT organization’s method of introducing new staff. Do these practices help newcomers learn the organization’s culture?

ACTIVITY TIME

4.7 COMMUNICATION, COORDINATION, AND CONTROL

ACTIVITY TIME
Coordination and Control

Decision-makers often delegate some roles and responsibilities to experts in particular systems, processes, teams, and individuals. Based on the division of labor principle, this delegation helps managers act as leads and juniors function as their agents. A major challenge to Service Management is coordination because a great deal of specialization is necessary for the different processes and functions of the Service Lifecycle. The management can improve coordination through enhanced cooperation and control among teams and individuals.

To create cooperation, you must group the divergent and sometimes conflicting interests and objectives of individuals and teams to work together for mutual gain. This applies equally to the Service Provider’s relationship with customers. You can partly solve cooperation problems by negotiating agreements that bring benefits to all parties. Unfair agreements are a major cause of the failure of relationships. This is a major Problem for Type I providers because they do not choose their customer portfolio. However, in the absence of a financially stable and self-sustaining system for creating value, failure is inevitable. Value capture is essential for growth and improvement in value creation.

You can also enhance coordination by maintaining a common understanding of the outcomes desired. This common understanding must relate to Service Strategies, goals, policies, and incentives. Further, you should describe customer outcomes, Service Catalogues, Service definitions, contracts, and agreements with a common vocabulary. To achieve further
coordination and control, you can use shared processes that integrate groups and functions, shared applications that integrate processes, and shared infrastructure that integrates applications. An SKMS allows various groups to have simultaneous but distinct control perspectives of the same reality.

Control perspectives help managers be effective and efficient by focusing on what is important and relevant to the processes under their control and ensure that good quality control information is available for them. Control perspectives are also useful to determine the information requirements for implementing effective organizational learning and improvement. Financial Management is one such control perspective.

Requirements and Strategy

The Requirements and Strategy stage of the ITSCM Lifecycle has two sections, requirements and strategy

Requirements

The requirements team performs BIAs and Risk analyses, and the strategy team documents the required Risk-reduction measures and recovery options that would be used to support the business.

A BIA exercise quantifies the Impact of a Service loss to the business. The Impact can be a hard Impact or a soft Impact. Financial loss to the organization is an example of a hard impact. Public relations, morale, health, safety, and loss of competitive advantage are examples of soft impacts.
Strategy

The strategy team uses a BIA exercise to identify the most-crucial Services to the organization. A BIA exercise identifies:

• The resulting form of damage or loss. A damage or loss can result in:
  o Loss of income
  o Any additional costs
  o Hampered reputation
  o Damage to goodwill
  o Damage to competitive advantage
  o Violation of law, health, and safety
  o Risk to safety
  o Instant and long-term damage to market share
  o Political, corporate, or personal embarrassment
  o Damage to operational capability, for example, in a command-and-control environment

• The escalation of the degree of damage or loss from a Service disruption and the severity of the disruption during various periods, such as time of day, week, month, or year.
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- The staffing, skills, facilities, and Services required to enable critical business processes to continue operating at a minimum acceptable level.
- The recovery time for the minimum levels of staffing, facilities, and Services.
- The recovery time for all required business processes and supporting staff, facilities, and Services.
- Priority for the business recovery of IT Services.
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Adapted from graphical representation of business impacts © Crown Copyright 2007 Reproduced under licence from OGC

Impact

- Low
- Medium
- High
- Critical

Time

- 1 Week
- 2 Weeks
- 3 Weeks
- 4 Weeks
- 5 Weeks

Preventative – Risk reduction

Continuity – recovery

Balanced
Graphical Representation of Business Impacts

You can use the given graph to drive the business and IT continuity strategies and plans. You must adopt additional preventative measures for the processes and Services with higher Impacts. However, for the processes and Services that have a lower Impact, you should place more emphasis on continuity and recovery measures. For processes that have a high-intensity Impact or an Impact that is between high and low, you should adopt a more-balanced approach. These items are drivers to decide the level of ITSCM mechanisms that an organization must consider or deploy.

You must measure the Impacts differently for different scenarios of each business process. An example of a business scenario is the inability to settle trade in a process that deals with the money market. The inability to create invoices for some days is an example where Impact measurement differs.

The Impacts on the business keep changing. For example, a business can function without a particular process for a short time but the absence of the process can impact the business over time. However, the stated example does not apply to all organizations because some do not show the apparent Impacts immediately, but the Impacts might keep accruing and affect the organization at a stage where it would not be possible for the business to continue operations. To avoid the Impact on the business, ITSCM must identify contingency options to apply appropriate measures at the appropriate time.
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While conducting a BIA, it is important that you seek and collect views from the top to the lower levels of the organization to help you cover all aspects of the Impact of a Service loss while concluding the overall strategy. In situations where you cannot recover the entire Service quickly, you can re-establish business processes without a partial complement of staff, systems, and other facilities. This will help maintain an acceptable level of Service to clients and customers. You must define the business recovery objectives in terms of timescale, as follows:

- The time required for a predefined team of core staff and the minimum facilities to recover
- The time required for the remaining staff and facilities to recover

Organizing for Service Design – RACI

Defining the roles and responsibilities of the various activities within the organization is crucial for the success of Service Design. You should have a clear view of who has input, who decides, and who takes action. This facilitates the organization in moving forward swiftly. To take decisions quickly and confidently, you can use the RACI model. This model describes four main roles:

- Responsible: These people are responsible for getting the job done.
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- Accountable: These people are accountable for specific tasks.
- Consulted: These people are consulted, that is, their opinions are sought out.
- Informed: These people are kept up-to-date on progress.

"Example RACI Matrix"

<table>
<thead>
<tr>
<th>Activity</th>
<th>Director Service Management</th>
<th>Service Level Manager</th>
<th>Problem Manager</th>
<th>Security Manager</th>
<th>Procurement Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1</td>
<td>AR</td>
<td>C</td>
<td>I</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>Activity 2</td>
<td>A</td>
<td>R</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Activity 3</td>
<td>I</td>
<td>A</td>
<td>R</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>Activity 4</td>
<td>I</td>
<td>A</td>
<td>R</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Activity 5</td>
<td>I</td>
<td>I</td>
<td>A</td>
<td>C</td>
<td>I&quot;</td>
</tr>
</tbody>
</table>

(Source: Service Design book)
The RACI Chart

The RACI chart illustrates the structure and power of RACI modeling. Down the left side are activities that include the actions and decisions you need to make. Across the top are functional roles that play a part in decision-making. An organization should not leave decisions on assigning responsibilities until the last minute. If you allocate the roles in advance, it will aid in making decisions quickly while avoiding conflicts.

To build a RACI chart:

- Identify all activities/processes.
- Identify/define all functional roles.
- Organize meetings and allot RACI codes.
- Identify any gaps or overlaps, for example, where there are two Rs or no Rs.
- Dispense the chart and incorporate feedback.
- Ensure all allocations are followed.

Skills and Attributes

Apart from the specific roles needed from staff, it is crucial for the person performing that role to have the following attributes:

- Awareness of the business priorities, objectives, and drivers
- Awareness of the IT role in enabling the business objectives to be achieved
- Skills required for customer service
Table of Contents

- Awareness of what IT can deliver to the business, including newest competencies
- Necessary competence, knowledge, and information to conclude the role
- Skills to use, understand, and interpret the best practice, policies, and procedures to ensure obedience

Some examples of the attributes needed in many of the roles, dependent on the organization and the specific role, are managerial, meeting, communication, articulation, negotiation, and analytical skills.

Roles and Responsibilities

Usually, organizations have a full-time individual to perform the roles and responsibilities within Service Design, or they have many people share the same role or have part-time role. However, unless you clearly define and scope the roles, responsibilities, processes, dependencies, and interfaces for each individual organization, challenges can arise.

Let us look at the role of the security manager in more detail.
Security Manager

The Security Manager is responsible for ensuring that the aims of Information Security Management are met. This includes tasks and responsibilities such as:

- Create and maintain an Information Security policy and a supporting set of specific policies, and ensure appropriate authorization, commitment, and endorsement from the senior IT and business management.
- Communicate and announce the Information Security policy to all appropriate parties.
- Ensure that the Information Security policy is enforced and adhered.
- Identify and categorize IT and information assets, such as Configuration Items (CIs), and the level of control and protection required.
- Support BIAs.
- Execute a Security Risk analysis and Risk Management in conjunction with Availability Management and ITSCM.
- Devise security controls and develop security plans.
- Create and record procedures for operating and maintaining security controls.
- Scrutinize and manage all security breaches and handle security Incidents. Take remedial action to prevent recurrences, where possible.
Table of Contents

- Report, analyze, and reduce the Impact and volume of all security Incidents in conjunction with Problem Management.
- Encourage education and awareness of security.
- Maintain a set of security controls and documentation, and regularly review and audit all security controls and procedures.
- Make sure that all Changes are reviewed for their Impact on security aspects, including the information security policy and security controls, and attend Change Advisory Board (CAB) meetings, where appropriate.
- Execute security tests.
- Contribute to any security reviews arising from security breaches and instigate remedial actions.
- Ensure that the confidentiality, integrity, and availability of Services are maintained at the levels agreed in the SLAs and that they conform to all relevant statutory requirements.
- Make sure that all access to Services by external partners and suppliers is subject to contractual agreements and responsibilities.
- Perform as a focal point for all security issues.
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1. What is the vision?
2. Where are we now?
3. Where do we want to be?
4. How do we get there?
5. How can we tell we have got there?
6. How do we keep going?

High-level business objectives
Assessments, benchmarks
Measureable targets
Process improvement
Measurements and metrics

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Implementing Service Design

You must document and use the processes, policies, and architecture of IT Services to ensure that you plan and apply correct, innovative IT Services to meet present and upcoming, agreed business needs. To ensure Service Delivery that matches the needs of the business, you need to implement ITSM processes.

All the processes are interconnected and in some cases, they are completely dependent on the others. However, what you eventually need is a single, integrated set of processes, providing management and control over a set of IT Services throughout their entire Lifecycle. It is advisable to address the areas of utmost need first. You must undertake a thorough evaluation to establish the strengths and weaknesses of IT Service Provision. This evaluation will help you develop short-, medium-, and long-term plans.

The importance of implementation should be set against the goals of a Service Improvement Plan (SIP).

It is vital to employ a structured Project Management method when implementing or improving processes. First, the improvement process begins with understanding the vision by determining the high-level business objectives; “vision-setting” should support the business and IT strategies.
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Second, evaluate the present situation to recognize strengths that can be built on and weaknesses that need to be addressed. So, “Where are we now?” is an evaluation of the present situation in terms of the business, organization, people, and processes.

Third, “Where do we want to be?” is an advancement of the principles defined in the vision-setting, agreeing upon priorities for improvement.

Four, detail the SIP to achieve higher-quality Service Provision.

Next, measurements and metrics need to be in place to show that the goals have been attained and that the business objectives and business priorities have been met.

Finally, the process should ensure that the momentum for quality improvement is maintained.

Challenges

Some of the challenges when trying to plan new Services and processes that meet the needs of all stakeholders within the business are:

- The need to ensure alignment with present architectural directions, plans, and policies.
- The use of varied and dissimilar technologies and applications.
- Recording and observing agreed practices and processes.
Vague or changing business requirements. In some cases, unclear or changing requirements from the business may be unavoidable because business requirements are liable to change. The main thing is to make sure that there is very close liaison between the IT Service Provider organization and the business customer of the Service. This will enable any changing needs to be recognized as quickly as possible.

- No understanding and knowledge of the Service and business goals and needs.
- Services may not be built into the design.
- Resistance to planning or lack of planning, leading to unplanned initiatives and purchases.
- Ineffective use of capital, causing wasted expenditure and investment.
- Good knowledge and understanding of business impacts and priorities.
- Bad relationships, bad communication, or lack of cooperation between the IT Service Provider and the business, resulting in the plan not realizing the business needs.
- Resistance to work within the agreed strategy.
- The use of and, consequently, the constraints of old technology and legacy systems.
- Needed tools too expensive or too complex to execute or maintain with the present staff skills.
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- No information, monitoring, and measurements.
- Unreasonable goals and timescales previously agreed in SLAs and OLAs.
- Over-commitment of existing capital with the related failure to deliver, for example, projects always late or over budget.
- Bad Supplier Management and/or poor supplier performance.
- No focus on Service availability.
- No knowledge and observance of the operational aspects of security policies and procedures.
- Normal, daily operations or business as usual considered part of the plan.
- Cost and budgetary constraints.
- Determining the Return on Investment (ROI) and understanding the business advantage.

Managing Communications and Commitment

It is important to communicate and share information for any Service Transition Change process. This type of communication is directly proportional to the magnitude of the Change. In addition, you must clearly provide the rationale behind the Change, the benefits and effects expected of the Change, and the plan for its implementation.
However, you must communicate information and benefits to the right audience. When you are unable to reveal information about all the Changes, you must admit it and provide a reason for not sharing the information, for example, security. Before planning the communication, it is very important that you understand peoples’ commitment.

**Communication by Meeting**

Different organizations communicate differently. Organizations that are distributed will rely on e-mail and teleconferencing facilities. On the other hand, organizations with mature Service Management processes and tools will rely on tools and processes for communication. Other organizations prefer communicating through meetings. However, some drawbacks of communication through meetings are that work is done or the management is involved only during a meeting. In addition, because face-to-face meetings tend to increase costs, meeting organizers should balance the value of the meeting with the attendees’ number and identity and the time they will spend in, and in getting to, the meeting.

Meetings must be well controlled and brief, and the focus should be on facilitating action. Some examples of communicating through meetings are:

- Operational meetings
- Department, group, or team meetings
- Customer meetings
- Routine operational communication
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- Communication between shifts
- Performance reporting
  - IT Service Performance
  - Service Operation team or department performance
  - Infrastructure or process performance
- Communication in projects
- Communications related to Changes
- Communications related to exceptions
- Communications related to emergencies
- Communications with users and customers
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2. Where Do We Want To Be?
- Baseline Data
  - Executive Strategy
    - (Targets, New Directions)
  - Service Objectives (optimization of Process Integration at Value Added Level)
  - Executive Sponsors (Targets, New Directions)
- Senior Management
- ITSM Continual Improvement Manager
- ITSM Continual Improvement (Targets and re-prioritize)
  - Update Continual Improvement Action List
  - Service Improvement Plans
  - Process KPIs and Management Reports

3. How Do We Get There?
- • Internal or External Assessment
- • Continual Improvement Report
- • Internal (Corporate) audit findings
- ITSM Continual Improvement Manager
- Sponsor
- Process Owner
- Service Metrics
- Technology Metrics

4. Are We Improving?
- ACTIVITY
- ROLES
- Input
  - IT Strategy
  - Planning
  - service
  - Management
  - Processes
  - Data Centre Ops
- Process Owner Meeting
- Continual Improvement Action List
- Sponsor Status Meeting
- ITSM Continual Improvement Manager
- Process Owners/Process Managers
- Sponsor
- Process Owner Meeting

Baseline Data

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Roles and Key Inputs of CSI

The diagram describes the roles and key inputs involved in different CSI phases.

4.8 GROUP/INDIVIDUAL EXERCISE

There is no Group/Individual Exercise for this Unit.

4.9 SAMPLE TEST QUESTION

Refer to the Workbook to do the question.
UNIT 5: UNDERSTANDING ORGANIZATIONAL CHALLENGES

Overview

When organizations implement Change, their employees undergo the following stages of the emotional cycle:

1. Employees enter into a state of shock, before going into avoidance. Often, this is visible in the form of decreased efficiency while they deny the situation. This is a rapid stage where their performance drops and they choose to “shoot the messenger” and blame the Change initiators and Service Transition team.

2. Employees begin to blame themselves because they feel insecure and threatened. Performance is now at its lowest. Consequently, it is crucial for the Service Transition team to get employees through the cycle quickly to gain acceptance and the best performance possible.

Therefore, it is important to understand the organizational challenges and implement steps to overcome these challenges.

Unit Learning Objectives

At the end of this unit, you will be able to:

- Understand organizational maturity.
- Identify organizational structure.
- Describe knowledge management and information security.
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- Analyze organizational transition.
- Understand what governance is.
- Apply balance in Service Operations.

5.1 PURPOSE AND OBJECTIVES

ACTIVITY TIME
The Emotional Cycle of Change

Research on Change Management has shown that organizational Change is impossible without the support of its employees. For this reason, business managers and Change agents must understand the emotional impact of Change on employees and know how to manage it accordingly.

The five important ingredients of Change are:

- Necessity
- Vision
- Plan
- Resources
- Competence

The diagram “The emotional cycle of Change” represents the emotional stages people undergo before they finally accept Change.

The Service Transition team must use the experience of those within the affected area to understand the concerns and the nature of resistance to communication at the right stages. This might often take time, but it will ultimately get the Change-affected individuals to improve their work efficiency as well as generate a more-positive attitude as the Change takes place. The Transition team must remember that different people will pass through these typical phases at different speeds. As a result, understanding where individuals stand on this curve and supporting and helping them move ahead can be a significant resource commitment for Service Transition.
5.2 ORGANIZATIONAL MATURITY

The Service Gap Model

An efficient communication policy to assist in Continual Service Improvement (CSI) activities must be developed to ensure that all people are appropriately informed about proposed Changes. This communication must include the following information:

- What are the Service implications of these Changes?
- What is the impact of these Changes on personnel?
- What is the approach or process used to reach the objective?

Organizations must inform their employees about the proposed Changes to avoid misinformation or misunderstanding of Change implications. Organizations must understand the perception differences between the customer and the Service Provider for the CSI initiative to be successful. The Service Gap model identifies the most obvious potential gaps in the Service Lifecycle from both a business and an IT perspective.

Service Level Management (SLM) must identify and manage the potential gaps and check if the organization needs a Service Improvement Plan (SIP). Usually, there is a large gap among what customers want, what they actually need, and what they are willing to pay for. Moreover, IT often tries to define and convey what it “thinks” the customer needs. This mismatch in perception can lead to a delivery gap between the customer and IT. The Service Gap model helps an organization manage perceptions and ensures that the customers get the appropriate quality and type of Service.
Service Gap Analysis

A gap analysis:

- Is a tool used to conduct business assessments.
- Enables an organization to compare its present status to where it aims to be by focusing on the areas that have scope for improvement.
- Can be used to determine the gap between “What do we want?” and “What do we need?”
- Helps you explore, list, and approve the difference between the organization’s business requirements and the current capabilities.

The need for a gap analysis is felt during the benchmarking process or while conducting assessments. You can perform this analysis at the organization’s strategic, tactical, or operational level. You can conduct a gap analysis from the organizational or business perspective, which includes its direction and processes, and the IT perspective. A gap analysis provides a basis for determining the amount of effort, in terms of time, money, and human resources, required to achieve a goal.
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In terms of:
- vision and steering
- processes
- technology
- culture
The Service Management Process Maturity Framework

Most IT organizations use the Process Maturity Framework (PMF) to assess and measure the maturity of each Service Management process, individually or as a whole. This PMF was developed to bring a common, best-practice approach to the review and assessment of Service Management process maturity. Organizations can use this framework to review their internal Service Management processes as well as external, third-party organizations, such as reviewers, assessors, or auditors.

PMF relies on an appreciation of the IT Organization Growth model while assessing the Service Management processes. The maturity of Service Management processes depends heavily on the overall IT organization’s stage of growth. In addition, each IT organization’s level needs a change in the combination of elements to be effective. For this reason, developing Service Management process maturity beyond the maturity and capability of the overall IT organization is difficult.
The five areas for assessing process maturity are:

- **“Vision and steering”**
- **Process**
- **People**
- **Technology**
- **Culture.**

(Source: Service Design book)

### PMF Level 1: Initial

<table>
<thead>
<tr>
<th>Vision and steering</th>
<th>Minimal funds and resources with little activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Results temporary, not retained</td>
</tr>
<tr>
<td></td>
<td>Sporadic reports and reviews</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Loosely defined processes and procedures, used reactively when problems occur</td>
</tr>
<tr>
<td></td>
<td>Totally reactive processes</td>
</tr>
<tr>
<td></td>
<td>Irregular, unplanned activities</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td>Loosely defined roles or responsibilities</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Manual processes or a few specific, discrete tools (pockets/islands)</td>
</tr>
<tr>
<td><strong>Culture</strong></td>
<td>Tool and technology-based and driven with a strong activity focus</td>
</tr>
</tbody>
</table>
The major characteristics of each PMF level are:

**Level 1 - Initial**

Also known as the “ad hoc” or “chaotic” level, at this stage, the process is recognized but the process management activity is either nonexistent or at a very low level. Organizations allocate no importance, resources, or focus to this process.

**PMF Level 2: Repeatable**

<table>
<thead>
<tr>
<th>Vision and steering</th>
<th>No clear objectives or formal targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Funds and resources available</td>
</tr>
<tr>
<td></td>
<td>Irregular, unplanned activities, reporting and reviews</td>
</tr>
<tr>
<td>Process</td>
<td>Defined processes and procedures</td>
</tr>
<tr>
<td></td>
<td>Largely reactive process</td>
</tr>
<tr>
<td></td>
<td>Irregular, unplanned activities</td>
</tr>
<tr>
<td>People</td>
<td>Self-contained roles and responsibilities</td>
</tr>
<tr>
<td>Technology</td>
<td>Many discrete tools, but a lack of control</td>
</tr>
<tr>
<td></td>
<td>Data stored in separate locations</td>
</tr>
<tr>
<td>Culture</td>
<td>Product and service-based and driven</td>
</tr>
</tbody>
</table>
Level 2 - Repeatable

The process is recognized and allocated some importance, resources, or focus within the operation. However, process activities are uncoordinated, irregular, and directionless. As a result, process activities are directed toward process effectiveness.

PMF Level 3: Defined

<table>
<thead>
<tr>
<th>Vision and steering</th>
<th>Documented and agreed formal objectives and targets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formally published, monitored and reviewed plans</td>
</tr>
<tr>
<td></td>
<td>Well-funded and appropriately resourced</td>
</tr>
<tr>
<td></td>
<td>Regular, planned reporting and reviews</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>Clearly defined and well-publicized processes and procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regular, planned activities</td>
</tr>
<tr>
<td></td>
<td>Good documentation</td>
</tr>
<tr>
<td></td>
<td>Occasionally proactive process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>People</th>
<th>Clearly defined and agreed roles and responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formal objectives and targets</td>
</tr>
<tr>
<td></td>
<td>Formalized process training plans</td>
</tr>
</tbody>
</table>
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| Technology                                      | Continuous data collection with alarm and threshold monitoring  
|                                               | Consolidated data retained and used for formal planning, forecasting and trending |
| Culture                                        | Service and Customer-oriented with a formalized approach |

## Level 3 - Defined

The process is recognized and documented but there is no formal agreement, acceptance, or recognition of its role within the overall IT operation. However, the process has a process owner, formal objectives, and targets with allocated resources, and the focus is on process efficiency and effectiveness. The reports and results are stored for future reference.

### PMF Level 4: Managed

| Vision and steering | Clear direction with business goals, objectives and formal targets, measured progress  
|                     | Effective management reports actively used  
|                     | Integrated process plans linked to business and IT plans  
<p>|                     | Regular improvements, planned and reviewed |</p>
<table>
<thead>
<tr>
<th>Table of Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process</strong></td>
</tr>
<tr>
<td>Well-defined processes, procedures and standards, included in all IT staff job descriptions</td>
</tr>
<tr>
<td>Clearly defined process interfaces and dependencies</td>
</tr>
<tr>
<td>Integrated Service Management and systems development processes</td>
</tr>
<tr>
<td>Mainly proactive process</td>
</tr>
<tr>
<td><strong>People</strong></td>
</tr>
<tr>
<td>Inter- and intra-process team working</td>
</tr>
<tr>
<td>Responsibilities clearly defined in all IT job descriptions</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>Continuous monitoring measurement, reporting and threshold alerting to a centralized set of integrated toolsets, databases and processes</td>
</tr>
<tr>
<td><strong>Culture</strong></td>
</tr>
<tr>
<td>Business focused with an understanding of the wider issues</td>
</tr>
</tbody>
</table>
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### Level 4 - Managed

The process is fully recognized and accepted throughout the IT organization. The process is Service focused and its objectives and targets are business objectives and goals based. The process is defined, managed, and proactive, with documented, established interfaces and dependencies with other IT processes.

### PMF Level 5: Optimizing

<table>
<thead>
<tr>
<th>Vision and steering</th>
<th>Integrated strategic plans inextricably linked with overall business plans, goals and objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Continuous monitoring, measurement, reporting alerting and reviews linked to a continual process of improvement</td>
</tr>
<tr>
<td></td>
<td>Regular reviews and/or audits for effectiveness, efficiency and compliance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>Well-defined processes and procedures part of corporate culture</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proactive and pre-emptive process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>People</th>
<th>Business aligned objectives and formal targets actively monitored as part of the everyday activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Roles and responsibilities part of an overall corporate culture</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Technology</th>
<th>Well-documented overall tool architecture with complete integration in all areas of people, processes and technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>A continual improvement attitude, together with a strategic business focus. An understanding of the value of IT to the business and its role within the business value chain</td>
</tr>
</tbody>
</table>

**Level 5 - Optimizing**

The process is fully recognized with strategic objectives and goals that are aligned with the overall strategic business and IT goals. They are now an “institutionalized” part of everyday activities for everyone involved in the process. A self-contained CSI activity is established as part of the process, which develops a pre-emptive capability.

This PMF is connected with the Software Engineering Institute Capability Maturity Model® Integration (SEI CMMI) and its various maturity models and includes the Capability Maturity Model Integration for Services (CMMI-SVC), which focuses on the delivery of Services.

**ACTIVITY TIME**
Managing Organizational and Stakeholder Change

After a design is agreed, Service Transition implements a new or changed Service effectively and makes the organizations’ functions different from what they were earlier. An organizational Change can be as small as the movement of staff to new premises, a major Change in the nature of business, or a Change from the face-to-face retail mode of business to Web-based trading. You cannot avoid Change because an organization can never progress without it. A Change might occur in phases or unexpectedly, affecting some or all of the organization, its people, and its culture.

Implementing Change takes longer than planning for it because of the resistance faced during the transition process. The organization might face the Risk of losing disillusioned staff, which will negatively Impact the organization in terms of loss of knowledge and introduction of organizational Risks. To avoid these Risks, organizations need to have efficient managers who will understand the implications of a Change and its processes and plan accordingly. These managers will take care of the emotional cycle of Change by openly and honestly communicating to the employees about the Change, identify the cause of their resistance to Change, and listen and respond to their comments appropriately. The Board and executives must make sure that there are sufficient connections and controls throughout the organization to alert them of any obstacles and assist the transition to its goal. It is important to have a clear,
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strategic vision from the Board and/or executives to drive and maintain the Change.

Role of Service Transition in Organizational Change

The factors that drive successful Change initiatives at the organizational level are:

- “Leadership for the change
- Organization adoption
- Governance process
- Organization capabilities
- Business and service performance measures
- A strong communication process with regular opportunity for staff feedback.”

(Source: Service Transition book)

The Service Transition process owner or manager is a key stakeholder for the overall business and technical Change Management and needs to report issues and Risks to the Change leaders proactively.

Generally, organizational adoption happens at the individual and organizational levels. It is essential to understand the culture of the organizations and people involved, which are often diverse across different cultures, Business Units, and geographies, and includes:

- “Business culture – this may be different depending on the industry, geography, etc.
Important Service Transitions affect the working practices of organizations. Consequently, understanding and assessing the behavioral and attitudinal Change of many teams and stakeholder groups is an important element of the transition as a whole. To ensure that people play their roles in Service Transition actively, Service Transition must involve itself in changing the mindsets of Service Transition staff, customers, users, Service Operations staff, suppliers, and key stakeholders.

To ensure consistency in Change implementation, Service Transition must focus on the following, simple messages one at a time:

- The interest of Service Transition in helping people would be to:
  - Understand the need for knowledge and the effective transfer of knowledge.
  - Understand the importance of making decisions quickly and on time.
  - Understand the need to finish and review configuration baselines on time.
The following are the responsibilities of Service Transition:

- It plays the quality assurance role of checking if the organization and stakeholders are ready for the Change. It then raises any identified organizational Change issues and Risks that arise during testing, pilots, deployment, and early life support.
- It ensures that the organizational Change takes place according to the plans.
- It ensures that the Change is still applicable in the present circumstances.
- It ensures that the organizational Change delivers the predicted organization, capabilities, and resources by making sure that the organizations are adopting the Changes.

Research has shown that once a “critical mass” of around 70% of the affected people accepts the Change implemented in an organization, the Change can safely be called established behavior. If the rate of Change adoption is low, the organization might revert to the “old ways.” To achieve successful Service Transition, organizations need organized, competent, and motivated people to build, test, deploy, and operate the Service. The gap in capability will allow Service Transition to provide input to the appropriate party, for example, project management, Service Design, and Continual Service Improvement.
Organizational Context for Service Transition

To implement a successful and effective Service Transition process, you must define interfaces and handover points with respect to Service Transition, other organizational units, and third parties. To guarantee compliance with Service Design requirements, Service Level Agreements (SLAs), and contracts for Services delivery, Service Transition needs Change initiations, and Service Asset and component delivery from programs, projects, Service Design, and suppliers.

In the Service Management Lifecycle, it is important to understand that neither element can work in isolation. Projects must be clear about Service Design, Transition, and Operation requirements and delivery objectives and vice versa.

The diagram “Example of Service Transition organization and its interfaces” shows how interactions among programs, projects, Service Management elements, the business, customers, and users play a vital role in implementing a successful Service Transition process. You must maintain cooperation, respect, and understanding to ensure the optimized delivery of new or changed Services to customers.
Organizational Development

We have already seen that organizational Change is not a simple matter of making a decision. Senior managers often find that announcing an organizational Change is not the same as making it happen. There is no one set way of implementing organizational Change. Strategic objectives drive many elements of organizational design, such as scale, scope, and structure. Organizational designs become outdated with time. There can be Problems with the structural fit. Some organizational designs might suit a business perfectly while others might not. The design challenge lies in choosing from among different options. This challenge is easy to meet when you understand the factors that make a good fit and the trade-offs required such as control and coordination.

Refer to Unit 4.6 for the detailed understanding of Centralized-Decentralized Spectrum and stages of organizational development.
Adapted from Aligning new services to business requirements
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Designing Service Solutions

You need a formal and structured approach to produce a new Service at a desirable cost and quality, within the desired period. Ensure that this process is iterative or incremental so that the Service delivered meets the evolving and changing needs of the business during the Service Lifecycle and business process development. You also need to allocate additional project managers and project teams to manage the Lifecycle stages for the deployment of the new Service. At all stages, you must ensure the effective transfer of knowledge between the operational and project staff for smooth progress through each stage.

You need to consider the following areas in the design of the Service solution:

- Evaluate agreed business needs.
- Analyze existing IT Services and infrastructure and produce alternative Service solutions, with a view to reuse or exploit all existing components and Services.
- Document and design the Service solutions aligned with the new requirements by considering:
  - The required facilities and functionality and the information required to monitor Service or process performance.
  - The supported business processes, dependencies, priorities, criticality, and Impact of the Service, together with the business benefits it will deliver.
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- Business cycles, seasonal deviation, and the associated business transaction levels, Service transaction levels, numbers and types of users and expected growth, and requirements for business continuity.
- Service Level Requirements (SLRs), Service level targets, and the activities of Service measuring, reporting, and reviewing.
- The timescales involved, the planned results from the new Service, and the Impact on any existing Services.
- Testing requirements, including any User Acceptance Testing (UAT) and responsibilities for managing the test results.

- Incorporate the content of the Service Acceptance Criteria (SAC) and the required achievements planned into the initial design.
- Assess cost-alternative designs, highlighting the advantages as well as the disadvantages of the alternatives.
- Set the expenditure and budgets.
- Reassess and confirm the business benefits, including the Return on Investment (ROI) from the Service and the identification and quantification of all Service costs, business benefits, and increased revenues. The costs should include the Total Cost of Ownership (TCO) of the Service and cover start-up costs, such as design
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costs, transition costs, project budget, and all ongoing operational costs, including management, support, and maintenance.

- Accept the preferred solution and its anticipated outcomes and targets (SLRs).

- Revise either the solution or the strategic documentation if the solution is not aligned with all corporate and IT strategies, policies, plans, and architectural documents but only after considering the effect on other strategic documents, Services, and components.

- Include all appropriate corporate and IT governance and security controls in the solution.

- Conduct an IT organizational readiness assessment so that the Service operates effectively and meets its agreed targets, and the organization has the appropriate capability to deliver to the agreed level. This includes the:
  
  o Commercial impact on the organization from both a business and an IT perspective.
  
  o Evaluation and management of the Risks associated with the new or changed Service.
  
  o Assess business capability and maturity to ensure that all the right processes, structures, people, roles, responsibilities, and facilities are in place to operate the new Service.
  
  o IT capability and maturity.

- Supplier and related agreements required to maintain and deliver the Service.
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- SDP assembly for the subsequent transition, operation, and enhancement of the new or changed Service solution.

Organization Models to Support Service Transition

To deliver a Service effectively, you must define and allocate responsibility for each process and Service. The team involved in the process and Service Delivery must correctly understand its responsibilities toward Service Transition. However, you need not dedicate a person for each process or Service.

Some important organizational requirements that support the application of ITIL best practices for Service Transition are:

- Management of Service Transition
- Roles and responsibilities of Service Transition
  - Service Transition Manager
  - Planning and Support
  - Service Asset and Configuration Management and Change Management
    - Service Asset Manager
    - Configuration Manager
    - Configuration Analyst
    - Configuration Administrator/Librarian
    - Configuration Management System (CMS) Tools Administrator
    - Change Manager
  - Performance and Risk Evaluation Management
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- Service Knowledge Management
- Service Test Manager
- Release and Deployment
- Release Packaging and Build
- Deployment
- Early Life Support
- Build and Test Environment Management
The functional units in Service Operation are logical and do not have to be performed by an organization that has the same functional structure as Service Operation. The following are the functional units in Service Operation:

- Service Desk
- Technical Management
- IT Operations Management:
  - IT Operations Control
  - Facilities Management
- Applications Management

Communication Strategy and Plan

A Service improvement project must have effective forms of communication to help an IT organization in the following ways:

- Enable it to formalize its CSI activities.
- Communicate the Changes in processes, activities, roles, and responsibilities to participants and stakeholders.

The goal of the communications plan is to improve CSI activities by creating awareness and enthusiasm among stakeholders. A well-developed communication plan can deal with the targeted audiences’ response and feedback.

The key activities of a communication plan are:

- Identify stakeholders and the target audience.
- Develop communication strategies and tactics.
- Identify communication methods and techniques.
Develop the communications plan. This plan is a matrix that provides details of the users with whom the organization has to communicate, the need for communication, and the mode of communication.

Identify the project milestones and related communications requirements.

The communication plan should define the purpose and objective of the message. The objectives should be based on the What’s-in-it-for-Me (WIIFM) approach. In addition, you must design the objectives of the plan per the views of the target audience. Typically, the target audience for CSI is the senior management, mid-level managers, or staff who perform CSI activities.

The Chief Information Officer (CIO), the Service Owner, and others adopt different methods to communicate information. Some of the methods are sending e-mails and placing information on the organization’s Web site. However, some information is communicated in person through staff meetings and town hall meetings.

Finally, the communication plan has to provide a feedback mechanism to receive feedback on Change initiatives. The mechanism helps the staff ask questions on the initiative or provide feedback. The plan should specify the person responsible for ensuring responses and for checking them.
The Knowledge Management Process

The overall strategy for Knowledge Management should address the real needs and issues of the organization. If there is no Knowledge Management approach in your organization, establish it within Service Transition or ITSM. Ensure that the Knowledge Management established covers the IT staff, users, third-party support, and others who will probably contribute or benefit from this knowledge pool.

You can use the Knowledge Management strategy of knowledge identification, capture, and maintenance to identify information and data that can be included as part of a relevant knowledge pool. After collecting and storing all the relevant knowledge, plan strategically to ensure that the relevant people can retrieve, share, and utilize the knowledge pool. For your staff to access the knowledge, allow knowledge transfer at specific stages of the Service Lifecycle. This helps implement Services efficiently.

The processes of Knowledge Management are:

- Knowledge Management strategy
- Knowledge transfer
  - Learning styles
  - Knowledge visualization
Information Security Management

It is important to take effective information security measures at the strategic, tactical, and operational levels. Information security is an iterative process that you must control, plan, implement, evaluate, and maintain. Information security measures are steadily increasing in scope, complexity, and importance. It is risky, expensive, and inefficient for organizations to have their information security depend on cobbled-together, homegrown processes.
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- Organize
  - Establish framework
  - Allocate responsibilities

- Control
  - Learn
  - Improve
  - Plan
  - Implement

- Maintain
  - Internal audits
  - External audits
  - Self assessments
  - Security incidents

- Evaluate
  - Service Level Agreements
  - Underpinning contracts
  - Operational Level Agreements
  - Policy Statements
  - Networks, applications, computers
  - Management of access rights
  - Classification and registration
  - Physical security
  - Personnel security
  - Security incident procedures

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Information Security Management System

The Information Security Management System (ISMS) develops a cost-effective information security system that helps achieve business objectives. The involvement of the four Ps – People, Process, Product and Technology, and Partners and suppliers – is necessary to ensure high levels of security.

The framework for managing the IT security approach is used widely and can refer to many sources for advice and guidance. The approach follows a formal standard, ISO 27001. The standard helps measure the effectiveness of the ISMS of an organization. The ISMS framework enforces and controls information security processes throughout the organization.

The five main elements of the ISMS framework are:

- Control
- Plan
- Implement
- Evaluate
- Maintain

Control

The aims of the control element of the ISMS are:

- Create a management framework to initiate and manage information security.
- Create an organizational structure to prepare, approve, and implement the Information Security policy.
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- Assign responsibilities.
- Create and control documentation.

Plan

The aim of the Plan element of the ISMS is to provide appropriate information security measures based on agreed organizational requirements. You can gather requirements from business and Service Risks, SLAs, Operation Level Agreements (OLAs), underpinning contracts, and policy statements. The Information Security policy should not be confined to only the IT Service Provider but should apply to the entire organization. The Information Security Manager is responsible for maintaining documents related to the Information Security policy.

Implement

The aim of the implementation element is to check whether appropriate tools and controls are in place for the application of the security policy. The successful implementation of the ISMS depends on the following factors:

- A clear and agreed security policy that integrates with business needs
- Appropriate and justified security procedures supported by the senior management
- Efficient marketing of security requirements
- An improvement mechanism
Evaluation

The aims of the evaluation element of the ISMS include:

- Ensure compliance with the security policy and security requirements in SLAs and OLAs.
- Perform regular audits of the technical security of IT systems.
- Generate information to external auditors and regulators, when needed.

Maintain

The aims of the maintain element include:

- Enhance security agreements according to SLAs and OLAs.
- Enhance the implementation of security measures and controls.

Security Governance

The organization should develop a good Information Security Governance (ISG) framework that results in the following six outcomes:

- Strategic alignment
- Value delivery
- Risk Management
- Performance Management
- Resource management
- Business process assurance
Knowledge Management Tools

Knowledge Management tools address an organization’s need for managing information processing and knowledge transmission. The tools help maintain records and documents electronically.

The uses of Knowledge Management tools are:

- **Document management**: Describes the set of capabilities supporting the storage, protection, archiving, classification, and retirement of documents and information.

- **Records management**: Describes the set of capabilities supporting the storage, protection, archiving, classification, and retirement of records.

- **Content Management**: Describes the capability controlling the storage, maintenance, and retrieval of documents and information of a system or Web site. The resultant knowledge asset is in the form of written words, figures, graphics, and other types of presentation. Some examples of knowledge services that directly support Content Management are:
  - "Web conferencing, wikis, blogs etc.
  - word processing
  - presentation tools
  - flow-charting
Collaboration

Collaboration is the process of sharing implied knowledge and working together to achieve stated goals and objectives. Knowledge Services must be implemented correctly to improve the productivity of people by streamlining and improving the way they collaborate.

Some Knowledge Services accessible today are:

- “Shared calendars and tasks
- Instant messaging
- White-boarding
- Video or teleconferencing
- E-mail.”

The other forms of collaboration are through communities and workflow management. Examples of collaboration through communities are community portals, e-mail management, focus groups, intellectual property, best practice, work examples and template repository, and online events and net shows. Examples of Services through workflow management are workflow design, routing objects, Event Services, gate keeping at authorization checkpoints, and state transition Services.
Governance has been around the IT arena for decades, building significant controls around its day-to-day operations. In the early nineties, governance disappeared from the IT scene with the dawn of distributed processing, n-tier processing, the Internet, and rising virtualization. However, the instances of high-level corporate fraud in the early twenty-first century have brought back governance to IT with much gusto. Today, governance is forcing all IT organizations to comply with broad legislation and a rising number of external regulations. You will often see external auditors ensuring transparency in large IT shops.
Enterprise Governance

Enterprise governance is an upcoming term that describes a framework covering both the corporate governance and the business management aspects of organizations. It looks at the whole picture to ensure that the organizations’ strategic goals are aligned for achieving good management. It is important for organizations to realize a solution for good corporate governance. Organizations must strategically combine this solution with performance metrics so that they can focus on the key drivers that move their business forward. However, achieving this is a great challenge as well as a huge opportunity.

“Corporate governance is about promoting corporate fairness, transparency, and accountability.”

(J. Wolfensohn, President, World Bank, Financial Times, 21 June 1999.)

(Source: CSI book)

Corporate Governance

The renewed importance given to the Sarbanes-Oxley Act (SOX), 2002, in the United States is the most current and highly visible example of corporate governance. The deceitful behavior exhibited by some corporate giants paved the way for the creation of SOX. SOX demands corporate fairness, which is complete transparency in transactions, and holds executives accountable for any material deficiencies. Some of the provisions
for accountability are criminal charges and incarceration for noncompliance.

“IT governance is the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership, organizational structures and processes that ensure that the organization’s IT sustains and extends the organization’s strategies and objectives.

(Board Briefing on IT Governance, 2nd Edition, 2003, IT Governance Institute – ITGI)”

(Source: CSI book)

**IT Governance**

IT governance touches nearly every aspect of the organization. IT complies with new rules and legislation and continually exhibits its compliance through successful independent and external audits. In addition, IT works more with fewer resources and creates benefit while capitalizing on the use of existing resources.
“IT is a service business. Existing internal IT organizations must transform themselves into effective and efficient IT service providers or they will cease to be relevant to the business and, soon after, cease to exist. This continual and unceasing drive toward greater business value with greater internal efficiency is at the heart of CSI.”

(Source: CSI book)

ACTIVITY TIME

5.7 BALANCE IN SERVICE OPERATIONS

Achieving Balance in Service Operation

The functions, processes, and activities of Service Operation are designed to deliver specified and agreed Services levels in a constantly varying environment, where conflicts might arise. In this type of conflicting situation, IT Services fail to achieve a balance in delivering their functions. Service Operation helps deal with conflicts, achieve balance, and set priorities.

The conflict in all phases of the ITSM Lifecycle is because of different views of IT. Some users and customers who have an external view of IT focus on the details of Service Delivery rather than on those of technology. On the other hand, users and customers who have an internal view of IT focus on managing IT components and systems to deliver Services. They believe that teams and departments should work together to handle complex
and diverse IT systems for achieving good performance. However, role conflict might arise between the external and internal views because of the presence of many variables, such as the maturity, management culture, and history of an organization. To thrive, an organization needs to achieve a balance between these two views.
An organization here is out of balance and is in danger of not meeting business requirements.

An organization here is quite balanced, but tends to under-deliver on promises to the business.

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### Examples of extreme internal and external focus

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<th>Primary Focus</th>
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<th>Extreme External Focus</th>
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<tbody>
<tr>
<td><strong>Performance and management of IT Infrastructure devices, systems and staff, with little regard to the end result on the IT service</strong></td>
<td>Achieving high levels of IT service performance with little regard to how it is achieved</td>
<td></td>
</tr>
<tr>
<td><strong>Focus on technical performance without showing what this means for services</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Internal metrics (e.g. network uptime) reported to the business instead of service performance metrics.</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>Focus on External Metrics without showing internal staff how these are derived or how they can be improved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Internal staff are expected to devise their own metrics to measure internal performance.</strong></td>
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<th><strong>Extreme Internal Focus</strong></th>
<th><strong>Extreme External Focus</strong></th>
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<tr>
<td><strong>Customer/ User experience</strong></td>
<td>• High consistency of delivery, but only delivers a percentage of what the business needs.</td>
<td>• Poor consistency of delivery</td>
</tr>
<tr>
<td></td>
<td>• Uses a ‘push’ approach to delivery, i.e. prefers to have a standard set of services for all business units.</td>
<td>• ‘IT consists of good people with good intentions, but cannot always execute’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reactive mode of operation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Uses a ‘pull’ approach to delivery, i.e. prefers to deliver customized services upon request</td>
</tr>
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<th>Operations Strategy</th>
<th>Extreme Internal Focus</th>
<th>Extreme External Focus</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Standard operations across the board</td>
<td>• Multiple delivery teams and multiple technologies</td>
</tr>
<tr>
<td></td>
<td>• All new services need to fit into the current architecture and procedures.</td>
<td>• New technologies require new operations approaches and often new IT Operations teams.</td>
</tr>
<tr>
<td>Procedures and Manual</td>
<td>Focus purely on how to manage the technology, not on how its performance relates to IT services</td>
<td>Focuses primarily on what needs to be done and when and less on how this should be achieved</td>
</tr>
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<tr>
<th>Cost Strategy</th>
<th>Extreme Internal Focus</th>
<th>Extreme External Focus</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Cost reduction achieved purely through technology consolidation</td>
<td>• Budget allocated on the basis of which business unit is perceived to have the most need</td>
</tr>
<tr>
<td></td>
<td>• Optimization of operational procedures and resources</td>
<td>• Less articulate or vocal business units often have inferior services as there is not enough funding allocated to their services.</td>
</tr>
<tr>
<td></td>
<td>• Business impact of cost cutting often only understood later</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Return on Investment calculations are focused purely on cost savings or ‘payback periods’.</td>
<td></td>
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</table>
## Training

<table>
<thead>
<tr>
<th>Extreme Internal Focus</th>
<th>Extreme External Focus</th>
</tr>
</thead>
</table>
| *Training is conducted as an apprenticeship, where new Operations staff have to learn the way things have to be done, not why* | • *Training is conducted on a project-by-project basis*  
• *There are no standard training courses since operational procedures and technology are constantly changing.* |
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<table>
<thead>
<tr>
<th>Operations staff</th>
<th><strong>Extreme Internal Focus</strong></th>
<th><strong>Extreme External Focus</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Specialized staff, organized according to technical specialty</td>
<td>• Generalist staff, organized partly according to technical capability and partly according to their relationship with a business unit</td>
</tr>
<tr>
<td></td>
<td>• Staff work on the false assumption that good technical achievement is the same as good customer service.</td>
<td>• Reliance on ‘heroics’, where staff go out of their way to resolve problems that could have been prevented by better internal processes.”</td>
</tr>
</tbody>
</table>

(Source: Service Operation book)
Balance Between Internal and External Views

To achieve a balance between the internal and external views, you need to adopt a long-term and dedicated approach that reflects in all phases of the ITSM Service Lifecycle. For this, users and the customers should:

- Understand the Services that the business is using and the purpose of using the Services.
- Understand the relative importance and impact of Services on the business.
- Understand how technology is used to provide IT Services.
- Involve Service Operation in CSI projects that aim to identify ways to deliver more, increase Service quality, and lower cost.
- Follow procedures and manuals that outline the role of IT Operations in both the management of technology and the delivery of IT Services.
- Establish a clearly differentiated set of metrics to report to the business the achievement of Service objectives and to report to IT managers the efficiency and effectiveness of Service Operation.
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- Establish a set of standard Services that are delivered consistently to all Business Units and a set of nonstandard or customized Services that are delivered to specific Business Units. A set of Standard Operating Procedures (SOPs) that meet both sets of requirements can accompany the two sets of Services.

- Understand the cost strategy aimed at balancing the requirements of different Business Units with the cost savings available through the optimization of existing technology or the investment in new technology and an understanding of the cost strategy by all involved IT resources.

- Create a value-based, rather than cost-based, ROI strategy.

- Involve IT Operations staff in the Service Design and Service Transition phases of the ITSM Lifecycle.

- Receive input and provide feedback to CSI to identify areas where there is an imbalance. Also, provide the means to identify and enforce improvement.

- Establish clear communication and provide a training plan for the business.
An organization here is out of balance and is in danger of ignoring changing business requirements. An organization here is quite balanced, but may tend to overspend on change.

Adapted from "Achieving a balance between focus on stability and responsiveness.

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“Examples of extreme focus on stability and responsiveness

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<th>Primary focus</th>
<th>Extreme Focus on Stability</th>
<th>Extreme Focus on Responsiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>• Developing and refining standard IT management techniques and processes.</td>
<td>• Output to the business</td>
</tr>
<tr>
<td>Developing and refining standard IT management</td>
<td></td>
<td>• Agrees to required changes before determining what it will take to deliver them.</td>
</tr>
<tr>
<td>processes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical problems experienced</td>
<td>IT can demonstrate that it is complying with SOPs and Operational Level Agreements (OLAs), even when there is clear misalignment to business requirements</td>
<td>IT staff are not available to define or execute routine tasks because they are busy on projects for new services</td>
</tr>
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<table>
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<th>Technology growth strategy</th>
<th>Extreme Focus on Stability</th>
<th>Extreme Focus on Responsiveness</th>
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<tbody>
<tr>
<td></td>
<td>• Growth strategy based on analyzing existing demand on existing systems</td>
<td>• Technology purchased for each new business requirement</td>
</tr>
<tr>
<td></td>
<td>• New services are resisted and Business Units sometimes take ownership of ‘their own’ systems to get access to new services.</td>
<td>• Using multiple technologies and solutions for similar solutions, to meet slightly different business needs.</td>
</tr>
<tr>
<td>Technology used to deliver IT services</td>
<td>Extreme Focus on Stability</td>
<td>Extreme Focus on Responsiveness</td>
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</tr>
<tr>
<td>Existing or standard technology to be used; services must be adjusted to work within existing parameters</td>
<td>Over-provisioning. No attempt is made to model the new service on the existing infrastructure. New, dedicated technology is purchased for each project</td>
<td></td>
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<th>Capacity Management</th>
<th>Extreme Focus on Stability</th>
<th>Extreme Focus on Responsiveness</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• <em>Forecasts based on projections of current workloads</em></td>
<td>• <em>Forecasts based on future business activity for each service individually and do not take into account IT activity or other IT services</em></td>
</tr>
<tr>
<td></td>
<td>• <em>System performance is maintained at consistent levels through tuning and demand management, not by workload forecasting and management</em></td>
<td>• <em>Existing workloads not relevant</em></td>
</tr>
</tbody>
</table>

(Source: Service Operation book)
Service Operation Stability and Responsiveness

Service availability and performance consistency are as important as the functionality and design of an IT Service. To maintain a balance between stability and responsiveness, Service Operation should:

- Ensure that the IT infrastructure is stable and available per the design.
- Recognize that the business and IT requirements change and that some Changes are in the process of evolution.
- Plan how to handle evolutionary and quick Changes. Put in place a plan for responding to the Changes and maintaining stability while responding to them. Sometimes, a Change might occur very quickly and under extreme pressure.

To achieve a balance between stability and responsiveness, Service Operation should:

- Ensure investment in technologies and processes that are adaptive rather than rigid, for example, the virtual server and application technology and the use of Change Models.
- Build a strong Service Level Management (SLM) process that is active from the Service Design phase to the CSI phase of the ITSM Lifecycle.
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• Foster integration between SLM and the other Service Design processes to ensure proper mapping of business requirements to IT operational activities and components of IT infrastructure. This makes it easier to model the effect of Changes and improvements.

• Initiate Changes at the earliest appropriate stage in the ITSM Lifecycle. The earlier Change Management is involved, the better IT and the business are prepared for the Changes. This will ensure that both business functions and IT operational manageability requirements can be assessed and built or changed together.

• Ensure IT involvement in business changes as early as possible in the Change process to ensure the scalability, consistency, and achievability of IT Services sustaining the business changes.

• Provide input to the ongoing design and refinement of architectures and IT Services.

• Implement and use SLM to avoid situations where business and IT managers and staff negotiate informal agreements.
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Quality of Service

Cost and Quality

Range of optimal balance between Quality of Service, Performance, Availability, Recovery

Cost of Service

Service
“Examples of extreme focus on quality and cost

<table>
<thead>
<tr>
<th><strong>Primary focus</strong></th>
<th><strong>Extreme Focus on Quality</strong></th>
<th><strong>Extreme Focus on Cost</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Delivering level of quality demanded by the business regardless of what it takes</td>
<td>Meeting budget and reducing cost</td>
</tr>
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<table>
<thead>
<tr>
<th><strong>Typical problems experienced</strong></th>
<th><strong>Extreme Focus on Quality</strong></th>
<th><strong>Extreme Focus on Cost</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Escalating budgets</td>
<td>IT limits the quality of service based on their budget availability</td>
</tr>
<tr>
<td></td>
<td>IT services generally deliver more than is necessary for business success</td>
<td>Escalations from the business to get more service from IT</td>
</tr>
<tr>
<td></td>
<td>Escalating demands for higher-quality services</td>
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<tr>
<th>Financial Management</th>
<th>Extreme Focus on Quality</th>
<th>Extreme Focus on Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>IT usually does not have a method of communicating the cost of the IT services. Accounting methods are based on an aggregated method (e.g. cost of IT per user)</em></td>
<td><em>Financial reporting is done purely on budgeted amounts. There is no way of linking activities in IT to the delivery of IT services.”</em></td>
</tr>
</tbody>
</table>

(Source: Service Operation book)
Balance Between Quality and Optimal Cost

To balance between quality and optimal cost:

- Establish Financial Management processes and tools that can account for the cost of providing IT Services and model alternative methods of delivering Services at differing levels of cost. For example, compare the cost of delivering a Service at 98% availability or at 99.9% availability the cost of providing a Service with or without additional functionality.

- Ensure that the appropriate managers make decisions on cost versus quality during Service Strategy and Service Design. IT Operational Managers are generally not equipped to evaluate business opportunities and should only be asked to make financial decisions that are related to achieving operational efficiency.

However, there is constant conflict over costs and quality when organizations are pressurized to cut costs. To achieve balance between costs and quality, an employee in the IT industry often works for long hours and handles multiple loads using outdated infrastructure. In spite of the actions taken, some IT organizations are unable to balance between quality and costs.
An organization here is out of balance and is not able to effectively support the business strategy.

Levels of change are very high, resulting in many services that are not quite balanced, but tend to fix services that are not broken. As a result, the organization here is extremely reactive.

Adapted from "Achieving a balance between being too reactive or too proactive" © Crown Copyright 2007 Reproduced under licence from OGC
### Examples of extremely reactive and proactive behavior

<table>
<thead>
<tr>
<th><strong>Primary focus</strong></th>
<th><strong>Extremely Reactive</strong></th>
<th><strong>Extremely Proactive</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Responds to business needs and incidents only after they are reported</td>
<td>Anticipates business requirement before they use reported and problems before they occur</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Typical problems experienced</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing to deliver new services takes a long time because each project is dealt with as if it is the first</td>
<td>Money is spent before the requirements are stated. In some cases IT purchases items that will never be used because they anticipated the wrong requirements or because the project is stopped</td>
<td></td>
</tr>
<tr>
<td>Similar incidents occur again and again, as there is no way of trending them</td>
<td>IT staff tend to have been in the organization for a long time and tend to assume that they know the business requirements better than the business does</td>
<td></td>
</tr>
<tr>
<td>Staff turnover is high and morale is generally low, as IT staff keep moving from project to project without achieving a lasting, stable set of IT services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table of Contents

<table>
<thead>
<tr>
<th></th>
<th><strong>Extremely Reactive</strong></th>
<th><strong>Extremely Proactive</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity Planning</strong></td>
<td>Wait until there are capacity problems and then purchase surplus capacity to last until the next capacity-related incident</td>
<td>Anticipate capacity problems and spend money preventing these- even when the scenario is unlikely to happen</td>
</tr>
</tbody>
</table>
| **IT Service Continuity Planning** | No plans exist until after a major event or disaster  
IT Plans focus on recovering key systems, but without ensuring that the business can recover its processes | Over-planning (over-spending) of IT Recovery options. Usually immediate recovery is provided for most IT services, regardless of their impact and priority |
### Table of Contents

<table>
<thead>
<tr>
<th></th>
<th>Extremely Reactive</th>
<th>Extremely Proactive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Change Management</strong></td>
<td>Changes are often not logged, or logged at the last minute as Emergency Changes</td>
<td>Changes are requested and implemented even when there is no need, i.e. a significant amount of work done to fix items that are not broken</td>
</tr>
<tr>
<td></td>
<td>Not enough time for proper impact and cost assessments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Changes are poorly tested and controlled, resulting in a high number of incidents</td>
<td></td>
</tr>
</tbody>
</table>

(Source: Service Operation book)

### Balance Between Proactive and Reactive Behavior

Although proactive behavior is good for an organization, it needs to be reactive at times. To achieve a balance between proactive and reactive behavior, Service Operation needs to:

- Integrate formal Problem Management and Incident Management processes with Service Operation and CSI processes.
- Prioritize technical faults and business demands during Service Operation and position mechanisms such as categorization systems, escalation procedures, and tools during Service Strategy and Design. These mechanisms facilitate impact assessment for Changes.
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- Provide data configuration and Asset Management as and when required. This type of timely data saves the time consumed by the project.
- Involve SLM in Service Operation.

Providing Service

Organizations should ensure that the Service Operation staff are aware that they need to provide quick and professional Service to the business and customers. To do this, it is important that organizations train their staff on how to deliver Service and the manner in which they should deliver it. You must know that staff that provide poor Service but display courteous behavior, and vice-versa, will not help the business. Consequently, to become a proficient Service Provider, you should recruit and train employees who can effectively handle customer relationships

ACTIVITY TIME

5.8 GROUP/INDIVIDUAL EXERCISE

Refer to the Workbook to do the exercise.

5.9 SAMPLE TEST QUESTION

Refer to the Workbook to do the question.
UNIT 6: SERVICE ASSESSMENT

Overview

Assessments are formal mechanisms to compare the operational process environment against performance standards. An assessment allows the measurement of improved process capability and identifies potential shortcomings that can be rectified in the initial stages. Assessments have the advantage of being able to provide an approach to test particular elements of a process or process organization that impact the process in terms of efficiency and effectiveness.

Unit Learning Objectives

At the end of this training, you will be able to:

- Understand the value of measuring.
- Understand why we measure.
- Identify what to measure.
- Understand the value of monitoring.
- Identify what to monitor.
- Analyze reporting.
- Understand the value of benchmarking.
- Analyze the assessment of the Service Portfolio across the Lifecycle.
- Analyze the assessment of achievements.
- Apply corrective action.
- Identify the business perspective and improvements.
6.1 PURPOSE AND OBJECTIVES

ACTIVITY TIME

Some of the things that drive Service Quality within the Lifecycle phases are:

- The Utility and Warranty of a Service

- The Service Level Management (SLM) process: SLM triggers the Service Improvement Plan (SIP) as part of Continual Service Improvement (CSI). It uses Problem Management and Availability Management to prompt a SIP to identify and implement each needed action to overcome difficulties and restore Service Quality. ITIL, Capability Maturity Model Integration (CMMI), the Six Sigma approach, the Juran Trilogy, and so on are some methodologies used to detect, reduce, and maintain Service quality.

- CSI: The main objective of CSI is to achieve the highest level of Service quality at an optimal cost. To achieve this, CSI establishes metrics to identify the performance level of processes and Services, for identifying improvement opportunities.

6.2 VALUE OF MEASURING

ACTIVITY TIME
Value of Measuring

The value of measuring lies in obtaining an accurate, unbiased viewpoint of the market value and position of an organization. An organization’s present position in terms of business, organization, people, process, and technology is measured.

The following are the four reasons to measure:

- Validate
- Direct
- Justify
- Intervene

Measurement is a fundamental Continual Service Improvement (CSI) concept. All activities of the improvement process assist CSI in some ways. The basis of CSI is that the improvement process covers the management organization as well as the entire Service Lifecycle.

6.2.1 WHY WE MEASURE

Service Measurement

The three basic aspects of why we measure Service are:

- Baselines
- Value to business
- 7-Step Improvement process
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Baselines

It is important to establish baselines because this helps you focus on improvement. Baselines that act as markers or starting points help you compare the improvement during the course of CSI. In addition, baselines help you set up an initial data point to determine if a Service or process needs improvement. You must ensure the documentation, recognition, and acceptance of baselines throughout the organization.

Baselines should begin at the following levels:

- Strategic goals and objectives
- Tactical process maturity
- Operational metrics and Key Performance Indicators (KPIs)

If you do not start a baseline initially, the first measurement effort becomes the baseline. Consequently, it is important to collect data at the outset, even if its integrity is doubtful.
Adapted from Why do we measure? © Crown Copyright 2007 Reproduced under licence from OGC
Value to Business

We have seen that organizations monitor and measure to validate, direct, justify, and intervene. These four reasons lead to the following questions:

- Why are we monitoring and measuring?
- When do we stop?
- Is anyone using the data?

You can obtain answers to these questions when you identify the reasons to validate, direct, justify, and intervene. These four reasons drive the measurement effort. You must question the need for measurement before producing a report so that you avoid unnecessary measurements even after you met the need or the need is no longer required.
The 7-Step Improvement Process

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The following seven steps are the basis of CSI:

1. Define what you should measure: At the start of the Service Lifecycle, Service Strategy and Service Design should define the aspects that need to be measured. CSI starts its cycle all over again from “Where are we now?” This identifies the ideal situation for both the business and IT.

2. Define what you can measure: This revolves around the CSI activity “Where do we want to be?” CSI can conduct a gap analysis by identifying the new Service Level Requirements (SLRs) of the business, the IT capabilities, and the available budgets. This analysis helps identify opportunities for improvement as well as answer the question “How will we get there?”

3. Gather the data: You must gather data to accurately answer the question “Did we get there?” You gather data based on identified goals and objectives. At this stage, the data is raw and you cannot draw conclusions.

4. Process the data: You process data in synchronization with Critical Success Factors (CSFs) and specified KPIs. This ensures that timeframes are coordinated, unaligned data is rationalized and made consistent, and gaps in data are identified. The basic step is to process data from multiple sources and compare it thoroughly. You should start the analysis only after rationalizing the data.
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5. Analyze the data: You analyze data to identify Service gaps and their Impact on the business. The analysis transforms data into information. Typically, this step is most often missed while presenting data to the management.

6. Present and use the information: This step answers the question “Did we get there?” and conveys the answers to stakeholders in various ways. It provides them with an accurate picture of the results of improvement efforts. Knowledge is presented to the business in a way that reflects its needs and assists it in determining the next step.

7. Implement corrective action: You use the knowledge gained from the previous steps to optimize, improve, and correct Services. Managers identify issues and present solutions. You communicate and explain to the management the corrective actions required for Service improvement. This step enables an organization to establish a new baseline and begin a new cycle.

6.2.2 WHAT TO MEASURE

ACTIVITY TIME
Role of Other Processes in Data Measurement

SLM supports the CSI processing data activity in the following ways:

- Define the support needs of any default Service levels that are mentioned in the Service Catalogue.
- Make sure that the Service Level Agreements (SLAs) only incorporate measurements that can be measured and reported on correctly.
- Discuss and record Operational Level Agreements (OLAs) and Underpinning Contracts (UCs) that define the required measurements.
- Review the processed data results from an end-to-end approach.
- Help outline the reporting frequency of processing and reporting formats.

Availability and Capacity Management support the CSI processing data activity in the following ways:

- Managing the data at component level and then working with SLM provides data with an end-to-end perspective.
- Managing data on KPIs such as availability or performance measures.
- Using the agreed-upon reporting formats.
- Evaluating processed data for accuracy.
Incident Management and the Service Desk support the CSI processing data activity in the following ways:

- Process data on Incidents and Service Requests, such as who is using the Service Desk and what is the nature of the Incidents.
- Collate and process data on KPIs such as mean time to restore Service and percentage of Incidents resolved within Service targets.
- Manage data for telephony statistics, such as number of inbound/outbound calls, average talk time, average speed of answer, abandoned calls, and so on.
- Use the agreed-upon reporting format.
- Evaluate processed data for accuracy.

Security Management supports the CSI processing data activity in the following ways:

- Manage response and resolution data on security Incidents.
- Make trend analysis reports on security breaches.
- Certify the success of Risk mitigation strategies.
- Use the agreed-upon reporting format.
- Evaluate processed data for accuracy.
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Metrics and Measurement

Steps to Start the Measurement Process

Two ways to begin the measurement process are:

- Identify the number of KPIs and CSFs.
- Identify metrics and measurements.

Defining What to Measure

Service measurement should measure those Services and activities that are critical to the business. The organization should not waste too many resources on Service measurement but should try to balance measurement activities and improvement activities. While creating a Service measurement framework, you need to define what to measure to provide support for the plans, regulations, and processes.

You can use the measures to:

- Compare Service performance to the strategic business and IT plans. The results of the comparison are reported in the Balanced Scorecard or IT scorecard.
- Understand regulations related to Risk and compliance. Security Incidents need to be monitored and security requirements should be reported in the Service Design and Service Transition practices.
- Understand the relationship between IT and the business. IT and business do not always work together or help each other. This can be explained by taking examples from an insurance company. During a natural disaster, how does
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IT send policies and process claims for agents who are in remote areas?
• Explain how major IT processes, such as Availability Management, Capacity Management, and IT Service Continuity Management, support the Service.
• Ensure that the customers’ needs are met. You can know the needs of the customers by measuring customer satisfaction.

“Categories for assessing business performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>Productivity of customers and IT resources</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>Customer satisfaction and perceived value of IT Services</td>
</tr>
<tr>
<td>Value chain</td>
<td>Impact of IT on functional goals</td>
</tr>
<tr>
<td>Comparative performance</td>
<td>Comparison against internal and external results with respect to business measures or infrastructure components</td>
</tr>
<tr>
<td>Business alignment</td>
<td>Criticality of the organization’s Services, systems and portfolio of applications to business strategy</td>
</tr>
<tr>
<td>Investment targeting</td>
<td>Impact of IT investment on business cost structure, revenue structure or investment base</td>
</tr>
<tr>
<td>Management vision</td>
<td>Senior management’s understanding of the strategic value of IT and ability to provide direction for future action</td>
</tr>
</tbody>
</table>

(Source: CSI book)
Common Measurements

Some of the common measurements are:

- “Number of outages on each Service – there were two outages this month on Service 1.
- Duration of outages for each Service – Service 1 outages lasted 179 minutes.
- Impact of the outages to each business – Business 1 uses five Services and the total of all outages was 11 and the total duration was 1,749 minutes which prevented the business from being able to generate revenue during this time period.”

(Source: CSI book)

Service Level Measures

Service level measures include:

- Service, system, and component availability
- Response time and transaction time utilized on components and Services
- Time and budget required for the delivery of the Service or an application
- Service quality
- Service compliance with regulatory requirements
In addition to the above measures, the majority of SLAs need to monitor and report on Incident Management measures. These measures include Mean Time To Repair (MTTR), Mean Time to Restore a Service (MTRS), Mean Time Between System Incidents (MTBSI), and Mean Time Between Failures (MTBF).

Service measurement helps you measure customer satisfaction, business impact, and supplier performance. Customer satisfaction with a Service or process is measured by conducting surveys and random sampling. The random sampling method measures customer satisfaction with Incident tickets and is conducted by the Service Desk and Incident Management.

The organization might not internally provide all the Services and components required for the business. It outsources some of the procurement of Services and components to suppliers. In addition to this, Service measurements should measure process metrics and KPIs. Any measurement activity results in data. You need to analyze the data to generate a trend. Trends are important because they reflect the performance of the organization in a specified period.
6.3 VALUE OF MONITORING

Value of Monitoring

Monitoring plays a key role in the measurement of Service value and Service performance. Many of the Service Management processes have various points of reference that are monitored. That vital information can then be leveraged to paint a picture that describes how successfully the Service Provider, Services, processes, and components are contributing value to the business. Without monitoring, CSI, SLM, and many other Service Management processes would have a difficult time identifying improvements and patterns of performance, establishing thresholds and baselines.

In this section, we will look at the various processes and phases of the Service Lifecycle that utilize monitoring and how this valuable information is captured, used, processed, and analyzed.

6.3.1 WHAT TO MONITOR
Monitoring and Collecting Data in the Lifecycle

For the successful implementation of improvement activities in all stages of the Service Lifecycle and all the processes of the Service Lifecycle stages, you need to integrate CSI with each stage of the Lifecycle.

You know that the first three steps in the 7-Step Improvement process relate to monitoring and data collection. These steps or activities of CSI integrate with the Service Strategy, Service Design, Service Transition, and Service Operation stages of the Service Lifecycle to provide support to improvement initiatives.

Service Strategy

The main responsibility of Service Strategy in CSI activities is to monitor the progress of strategies, standards, policies, and architectural decisions after their implementation.

Service Design

To implement CSI activities, Service Design:

- Monitors and gathers the data required for creating and modifying Services and Service Management processes.
- Measures Service objectives and goals against CSFs and KPIs.
- Defines the activities that should be measured.
Some of the activities that Service Design considers should be monitored are project schedules, project milestones, and project results against predefined goals and objectives.

**Service Transition**

To implement CSI activities, Service Transition:

- Builds monitoring procedures and standards to be followed during the improvement process and implementation programs.
- Monitors and collects data on the actual Release into production of Services and Service Management processes.
- Checks the manner in which Services and Service Management processes are incorporated into other processes per the predetermined strategies and design.

**Service Operation**

To implement CSI activities, Service Operation:

- Monitors Services in the production environment.
- Participates in the data-processing activity.
- Helps determine the activities that can be measured and processed into logical groups.
- Provides an overview of Service achievements in the desired format by collecting component data and processing it.
In addition to the stages of the Service Lifecycle, the following processes play an important role in the CSI activity of monitoring and data collection:

- SLM
- Availability and Capacity Management
- Incident Management and the Service Desk
- Security Management
- Financial Management

Let us understand the role of each process in monitoring and collecting data.

**SLM**

SLM plays an important role in gathering data. SLM defines business requirements and identifies IT capabilities to meet business requirements. SLM identifies monitoring and data-collection activities. SLM then performs the following specific steps to monitor and collect data:

- Define IT capabilities for identifying the monitoring and data-collecting activities.
- Observe the current activities taking place while monitoring the data. The observation helps SLM understand whether the monitoring is done on individual or multiple components.
- Identify the target audience of the data, check if the data is analyzed before it is presented to the audience, and examine trend evaluation.
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SLM should organize meetings with the business to define the activities that need to be measured and the data that needs to be reported. Some activities are not monitored because of a lack of IT capabilities and these activities should not be listed in SLM.

SLM should play a key role in monitoring results. It also develops and gets agreement on the OLAs or UCs required for either internal or external monitoring.

**Availability and Capacity Management**

The role of Availability and Capacity Management in the monitoring and data-gathering activity is:

- Ensure the supply of inputs to the IT capabilities that monitor and collect data. The inputs are in the form of tools and updated Availability and Capacity plans. These plans reflect the monitoring and data-collection requirements.

- Take responsibility and accountability for:
  - Monitoring the actual infrastructure.
  - Defining the responsibilities of the staff that perform monitoring activities.
  - Ensuring that the staff are well trained in the monitoring activities.
  - Ensuring the availability of tools to monitor and gather data.
Incident Management and the Service Desk

The role of Incident Management and the Service Desk in the monitoring and data-gathering activity is:

- **Incident Management:**
  - Defines the monitoring requirements to detect Events and Incidents. Incident Management uses automated means to detect Incidents and to open and escalate Incident tickets.
  - Identifies and detects abnormal situations by monitoring Events and Incidents.
  - Monitors the response times, repair times, resolution times, and Incident escalations during the Service restoration process.

- **The Service Desk:** Acts as a single point of contact. It monitors Service Desk activities, such as call volumes, average speed of answer, and call abandonment rates. This monitoring enables Availability and Capacity Management to help the Service Desk when call volumes are high.
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Security Management

The role of Security Management in the monitoring and data-gathering activity is:

- Define monitoring requirements to ensure data security.
- Monitor and verify the security aspects of the data per organizational security policies and guidelines.
- Help let everyone know the advantages of security measures related to the monitoring and collection of data. Security measures provide confidentiality, integrity, and availability to the data.

Financial Management

Financial Management monitors and collects data to:

- Compare actual expenditure against the budget.
- Provide answers to questions related to costing and revenue.
- Provide templates to CSI for creating reports related to budget and expenditure.
- Provide the necessary inputs to compute ROI for improvement plans.
Adapted from 7 step Improvement Process
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To understand what to monitor, we will look at steps three and four of the implementation process.

“Gathering data is defined as the act of monitoring and data collection.”
(Source: CSI book)

Step Three: Gather the Data

Monitoring aims at ensuring quality in CSI by examining the effectiveness of a Service, process, tool, organization, or Configuration Item (CI). This type of quality check and examination of the effectiveness of various aspects helps identify areas of improvements in current Services or IT performance. The monitoring activity of CSI turns into a Service requirement when CSI needs to monitor a new Service or when the current Services are amended.

You need the monitoring mechanism to gather data. You can monitor either with the help of monitoring tools or manual processes. However, you cannot monitor all the tasks manually. Staff who monitor a large amount of data manually should consider the following points while entering the data:

- Staff who have to enter data manually should follow a principle called SMART. SMART stands for Specific-Measurable-Achievable-Relevant-Timely.
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- Organizations should establish policies and publish standards to standardize the data structure. An example of standardization can be choosing one method to enter the names of people in the tools. You either choose to enter the name in the format John Smith or Smith, John or J. Smith. If there is no uniformity in entering the names, it can hinder CSI initiatives.

You can seek information to gather data from tools and existing reports. The tools include IT Service Management tools, reporting tools, investigation tools, application tools, and system and component monitoring tools.

The data-gathering activity should define:
  - The people who are responsible for monitoring and gathering data.
  - The method to be used to gather the data.
  - The time and frequency of gathering the data.
  - Standards to evaluate the integrity of the data.

Monitoring tools or users of the Service or Service Management processes generate exceptions and alerts to indicate that the Services are breaking down. Organizations should not ignore such alerts.

You need specific inputs to gather data. Some of them are:
  - Recently introduced business requirements
  - Current SLAs and monitoring and data capture capability
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- Various plans, such as Availability and Capacity plans and SIPs
- Various lists prepared during the course of the implementation process, such as a list of what you should measure, a list of what you can measure, and a list of what to measure
- Reports such as previous trend analysis reports and Gap analysis reports
- Results of the surveys conducted to understand customer satisfaction

“Monitoring and data collection procedure

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task 1</strong></td>
<td><strong>Based on Service improvement strategies, goals and objectives plus the business requirements determine what Services, systems, applications and/or components as well as Service management process activities will require monitoring</strong>&lt;br&gt;<strong>Specify monitoring requirements</strong>&lt;br&gt;<strong>Define data collection requirements, changes in budgets</strong>&lt;br&gt;<strong>Document the outcome</strong>&lt;br&gt;<strong>Get agreement with internal IT</strong></td>
</tr>
<tr>
<td><strong>Tasks</strong></td>
<td><strong>Procedures</strong></td>
</tr>
<tr>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Task 2</strong></td>
<td><em>Determine frequency of monitoring and data gathering</em> <em>Determine method of monitoring and data gathering</em></td>
</tr>
</tbody>
</table>
| **Task 3** | *Define tools required for monitoring and data gather*  
*Build, purchase, or modify tools for monitoring and data gathering*  
*Test the tool*  
*Install the tool* |
| **Task 4** | *Write monitoring procedures and work instructions when required for monitoring and data collection* |
| **Task 5** | *Produce and communicate monitoring and data collection plan*  
*Get approval from internal IT and external vendors who may be impacted* |
| **Task 6** | *Update Availability and Capacity plans* |
| **Task 7** | *Begin monitoring and data collection*  
*Process data into a logical grouping and report format*  
*Review data to ensure the data make sense* |

(Source: CSI book)
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Outputs of the Gather the Data Activity

The latest Availability and Capacity plans, monitoring procedures and plans, identified tools, input on IT capability, data collection, and agreement on data integrity are specific outputs of the gather the data activity.
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Step Four: Process the Data.

After you gather data, you need to use report-generating technologies or tools to process the gathered data into the required format for the target audience. These technologies or tools convert the large amount of data into information. You can use this information to analyze the processed data.

You can refer to the processed data to gain an overall perspective of Service performance. You can derive information in the form of spreadsheets or reports. Typically, reports are generated from the Service Management tool suite, system monitoring and reporting tools, or telephony tools. An example of a telephony tool is an automatic call distribution tool.

During data processing, you collect data related to individual components. The data collection and processing of a single component is important. It is also important that you understand the Impact that this component can have on IT Services and infrastructure. This can be explained with the help of an example. In an organization, the data processing of a server showed that the server is in working condition 99.99% of the time. However, not a single person could access the server. In addition to the availability percentage, the organization should be familiar with this important aspect.
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The process the data activity should define:

- The time interval or frequency for an organization to process data. The frequency is based on the amount of data and the use of the processed data. The frequency of processing data can vary from an hour to a month. The time interval should be short in the following situations:
  - When the organization needs to monitor and process data for newly introduced Services and Service Management processes
  - When the organization decides to conduct analysis and trend investigations
- The tools and systems required to process the data.
- The format to save the information derived from the gathered data. The format depends on how the organization performs the analysis and uses the information.
- Methods to assess the accuracy of the processed data.

You can gather data and process it either by automated means or manually. The activities that are performed manually can lead to some issues, such as the poor handling of administrative tasks by staff. Linking administrative tasks to job performance can avoid or minimize Problems.
You need specific inputs to process the data. The inputs required are:

- “Data collected through monitoring
- Reporting requirements
- SLAs
- OLAs
- Service Catalogue
- List of metrics, KPI, CSF, objectives and goals
- Report frequency
- Report template.”

(Source: CSI book)
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- Define processing data
- Update availability and capacity plans
- Develop and communicate processing data plan
- Develop processing data procedures
- Determine format and tool requirements for processing data
- Define frequency of data processing
- Define processing data requirements
- Begin processing data
- Evaluate for accuracy
- Process into logical groupings

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ITIL v3 Intermediate Certification Level | MALC | Service Assessment
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**Procedure for processing data activity**

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task 1</strong></td>
<td>Based on strategy, goals, and SLAs, define the data processing requirements</td>
</tr>
<tr>
<td><strong>Task 2</strong></td>
<td>Determine frequency of processing the data</td>
</tr>
<tr>
<td></td>
<td>Determine method of processing the data</td>
</tr>
<tr>
<td><strong>Task 3</strong></td>
<td>Identify and document the format of logical grouping of data elements</td>
</tr>
<tr>
<td></td>
<td>Define tools required for processing data Build, purchase or modify tools for measuring Test tool Install tool</td>
</tr>
<tr>
<td><strong>Task 4</strong></td>
<td>Develop processing data procedures</td>
</tr>
<tr>
<td></td>
<td>Train people on procedures</td>
</tr>
<tr>
<td><strong>Task 5</strong></td>
<td>Develop and communicate monitoring plan</td>
</tr>
<tr>
<td></td>
<td>Get approval from internal IT and external vendors who may be impacted</td>
</tr>
<tr>
<td><strong>Task 6</strong></td>
<td>Update Availability and Capacity plans if required</td>
</tr>
<tr>
<td><strong>Task 7</strong></td>
<td>Begin the data processing</td>
</tr>
<tr>
<td><strong>Task 8</strong></td>
<td>Process into logical groupings</td>
</tr>
<tr>
<td><strong>Task 9</strong></td>
<td>Evaluate process data for accuracy</td>
</tr>
</tbody>
</table>

(Source: CSI book)
Outputs of the Process the Data Activity

Updated Availability and Capacity plans, reports, and logical groupings of data ready for analysis are some examples of outputs of procedures.

6.4 REPORTING

ACTIVITY TIME

Reporting Policies and Rules

The Service reporting policy and rules define how reporting will be implemented and managed in an organization. It is, consequently, important to take the time to define and agree on the rules and policies that would help build business-focused Service reporting.

You can implement the following policies and rules:

- “Targeted audience(s) and the related business views on what the Service delivered is
- Agreement on what to measure and what to report on
- Agreed definitions of all terms and boundaries
- Basis of all calculations
- Reporting schedules
- Access to reports and medium to be used
- Meetings scheduled to review and discuss reports”

(Source: CSI book)
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Multiple policies and rules can be used in the reporting framework of an organization. However, you should be clear about the rule or policy to apply when preparing various types of reports. After you have decided the framework, rules, and policies that you will use, it is easy to prepare reports by translating business data into meaningful business views. You can automate these views and customize them to see data related to key questions, threats, mitigations, and improvement.

Simple, effective, and customizable reporting is essential for a successful reporting system that adds value to an organization. Standard reports that were used to meet reporting goals may become obsolete with time. It may then be necessary to have customized reports as the new standard to align with new business needs. This helps you present reports with clear, unambiguous, and relevant information in a style and medium understood and required by the intended recipient.

“Targets can be defined as measurable objectives that are achievable. Targets are set my management for all Services and processes.”

Setting Targets

The need for targets arises because of the following reasons:

- To understand the purpose of a Service or process
- To form a foundation for Problem identification
- To strive to solve Problems and provide improvement opportunities
In practice, most IT organizations might be unable to meet targets. To avoid this, the organization should understand the capabilities of the IT organization in achieving the targets before setting them. The organization should solicit the help of SLM to understand the capabilities of IT to meet the targets and business requirements.

Organizations should adopt a phased approach to set targets for new Services. A phased approach means that the number and complexity of targets should be less in the first quarter and then gradually increase in the later quarters. On one hand, the organizations should encourage a phased approach and on the other, they should discourage SLAs for new Services because the capabilities of a new Service are not known until its implementation.

A well-laid target has the following characteristics:

- Clear
- Unambiguous
- Understandable
- SMART
Measurement and Reporting

A clear definition of how things will be measured and reported is needed because of the following two reasons:

- Ensure that the organizations’ staff are aware of the targets.
- Ensure that the IT and Business Managers are able to review progress promptly and easily and identify any attention areas.

Reports can be based on:

- IT Service Performance
- Service Operation team or department performance
- Infrastructure or process performance

“Performance Reporting requirements: IT service

| Purpose | To provide information to the groups responsible for IT Service reporting to customers and users, which they can use to demonstrate the achievement of service targets and as input to Service Level Review meetings. The information can also be used as a basis for charging for IT services. |
| Frequency | As defined in the SLAs and OLAs. This information is usually communicated regularly on a daily, monthly and quarterly basis. |
# Table of Contents

| Role Players | Service Operation teams and departments, usually IT Operations staff SLM staff  
Service Design teams (who help to define performance standards and refine these through Continual Service Improvement)  
Continual Service Improvement teams, especially those tasked with Service Reporting |
|---|---|
| Content | Examples of the type of Service Performance information that needs to be communicated to enable reporting on Service Performance are:  
Achievement of specific activities as defined in OLAs  
Achievement of targets for delivery of specified outputs  
Service or system availability achievements  
Ability to meet Service Maintenance Objectives within targeted times and impact levels |
| Context/sources | Monitoring and reporting tools  
Event Logs  
Shift Logs” |

(Source: Service Operation book)
“Performance Reporting requirements: Service Operation team or department

| Purpose | There are three main purposes of Service Operation team or department Performance communication:  
|         | • Proactively, to ensure that Service Operation staff are executing the activities required to deliver IT services and to support the IT Infrastructure  
|         | • To detect potential issues with resource levels, capability and circumvention of procedures  
|         | • To ensure that corrective action has been correctly implemented and adhered to  

| Frequency | There is no set frequency for this type of communication. Although some Performance Reports may be produced daily, weekly or monthly, most managers are involved in ongoing communication with their teams or departments as the situation requires.  
|           | Under normal operating situations, this communication will tend to be less frequent than in situations where there is a high degree of change or where the organization is experiencing high numbers and severity of incidents |
### Table of Contents

#### Role Players
- Service Operation Managers
- Service Operation staff
- Performance issues may be escalated to the Service Manager or CIO

#### Content
- Comparison between required and actual performance
- Trends of performance over time
- Specific reports of misconduct or failure to perform a required action

#### Context/sources
- Regular performance reports, e.g. Incident Logs, maintenance records, process metrics
- Interpersonal and verbal communication during working situations
- Team or department meetings
- Coaching by a team leader or manager
- Investigation following a poor Service Report may initiate a series of communications in Service Operation
- Individual Performance Appraisals, usually using (KPIs) documented in the individual’s job description”

(Source: Service Operation book)
### Performance Reporting requirements: infrastructure or process

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are at least three purposes of this type of communication:</td>
<td>The frequency of this type of communication will vary depending on the nature of the system(s) being managed or the process being executed.</td>
</tr>
<tr>
<td>• To ensure normal operation of the infrastructure or a process</td>
<td>Some components of the infrastructure are more volatile and will require frequent communications and even meetings to ensure that it performs predictably. More stable components will simply require a confirmation that everything is still working as expected.</td>
</tr>
<tr>
<td>• To detect potential issues with the infrastructure or process concerned</td>
<td>Some processes have a requirement of frequent reporting and communication. For example, Incident Management may require updates every five minutes for a high-impact incident. Other processes do not need to communicate that frequently. For example Capacity Planning needs to communicate changes on a monthly or even quarterly basis.</td>
</tr>
<tr>
<td>• To ensure that corrective action has been taken and that it was effective</td>
<td></td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Role Players</th>
<th>Content</th>
<th>Context/sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Staff who manage key CIs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Staff who execute processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Process owners and technology managers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Potential escalation to more senior managers, the Service Manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Comparison between required and actual performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Trends of performance over time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Specific reports of missed targets or unexpected levels of performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Event Logs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• System Performance Records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Process Performance Reports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Incident and Problem Records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Exception Reports and Audit Reports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Review with vendor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Service reporting may indicate a problem with one or more technology areas or processes”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Source: Service Operation book)
6.5 VALUE OF BENCHMARKING

“A C T I V I T Y  T I M E

“Benchmarking or best practice benchmarking or process benchmarking is a process used in management, particularly strategic management, in which organizations evaluate various aspects of their process in relation to best practice, usually within their own sector.”

(Source: CSI book)

Benchmarking

Benchmarking can be an ad-hoc event. Benchmarking is considered a steering instrument because it is a continuous method used to measure and improve products, Services, and practices against the best methods used in any industry, at any geographic location.

Why does an organization need to do process benchmarking?

Organizations need to get a clear picture of the level of quality and performance of their Services with regard to their competitors and from their customer’s perspective. You must test and compare the internal self-assessment reports with the market scenario. A positive result of this comparison can give the organization a competitive edge on the market and help it develop trust among its customers.
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The results of benchmarking and self-assessments help an organization identify people, process, and technology gaps. However, the benchmarking results must be clear in presenting gaps, identifying potential Risks to areas where the gaps are not closed, facilitating the prioritization of development activities, and facilitating the communication of this information.

How does benchmarking help?

Benchmarking presents different methods and convinces the organization that the other problem-solving methods are definitely better by citing the success of other organizations that use these methods. All these efforts of the benchmarking process help the organization break its resistance to Change.

Types of Benchmarking

The two types of benchmarking are:

**Internal Benchmarking:** Is used when an organization sets a baseline for a system or department at a specific point in time. It constantly measures its activities against the baseline it has set in the past. Service targets are a form of internal benchmark. However, organizations often overlook the benefit of having internal benchmarks.

**External Benchmarking:** Is the process of evaluating your productivity rate or Service quality as set against the results of other organizations.
Organizations can conduct studies based on internal or external benchmarks. Some of the aspects included in the study are:

- Comparing to industry norms set by external organizations
- Directly comparing to similar organizations
- Comparing to other systems or departments within the same company

Benchmarking has the following benefits:

- It recognizes improvement opportunities and authenticates the outcome of improvement activities.
- It provides quick wins, which offer easy and inexpensive opportunities for improvement. In addition, quick wins help CSI by making processes effective, synergizing staff, and reducing costs.

**6.6 SERVICE PORTFOLIO ASSESSMENT ACROSS THE LIFECYCLE**
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Service Knowledge Management System

Service Portfolio

Service Lifecycle

Service Status:
- Requirements
- Defined
- Analyzed
- Approved
- Chartered
- Designed
- Developed
- Built
- Test
- Released
- Operational
- Retired

Service Pipeline

Service Catalogue

Retired Services

Customer/support team viewable section of the Service Portfolio (the Service Catalogue, with selected fields viewable)

Adapted from The Service Portfolio and its contents
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Service Portfolio Assessment Across the Lifecycle

The Service Portfolio is the most crucial management system because it supports all Services and explains a provider’s Service in terms of business value. It is the basis of the decision framework because it clarifies the following strategic issues:

- “Why should a customer buy these services?
- Why should they buy these services from you?
- What are the pricing or chargeback models?
- What are my strengths and weaknesses, priorities and risk?
- How should my resources and capabilities be allocated?”

(Source: Service Design book)

The Service Portfolio is registered as a document under the Configuration Management System (CMS), and forms part of a comprehensive Service Knowledge Management System (SKMS).

The three subsets of the Service Portfolio are

- Service Catalogue: This is accessible to customers and contains Services whose status is between “chartered” and “operational.”
- Service Pipeline: This contains details of business needs, such as Services that have yet to be released into the live environment.
Retired Services: This contains all Services that are retired and no longer in use.

6.6.1 ASSESSMENT OF ACHIEVEMENTS

Example of the Importance of Analyzing Information

Consider that call volumes are decreasing in an organization. The decreased call volumes can lead to the following conclusions:

- An organization has effective Problem Management and strives to reduce the number of errors.
- An organization has an ineffective Service Desk. The customers lack trust in the Service Desk to solve their issues and seek the help of second-level support groups.

The reduction in call volumes may be a good trend but the organization needs to analyze the actual reasons for the reduced calls.

To assess achievements, let us understand steps 5 and 6 in the 7-Step Improvement process.
Step Five: Analyze the Data.

Data analysis is performed to transform information to gain knowledge about Events that might affect the organization. However, data analysis requires more skills and experience, and you need to:

- Verify the information against the goals and objectives of CSI. This verification ensures that the information processed supports and adds value to the CSI objectives.
- Record the observations and conclusions of the analysis.

Based on the analysis, you can identify the areas that need improvement. However, data analysis is a time-consuming process. The analyst should have attributes such as concentration, knowledge, skills, and experience. In practice, most analysts are of the opinion that the automated tools analyze the data and their effort is not required. This is a wrong assumption because they need to apply knowledge to the data or information.

To transform data into knowledge:

- Compare the information from step 3, gather the data, to the following:
  - The requirements from step 1, what should be measured
  - The requirements from step 2, what can be measured
- Compare the analysis to the objectives that were set in the Service Design, Transition, and Operation Lifecycle stages. These objectives have measurable targets.
If the analysis reveals that the organization has not met the objectives stated in Service Design, the organization needs to implement improvement programs. If the improvement programs are initiated at this step, CSI has to repeat some of the above steps, such as gathering data, processing data, and analyzing data, and should assess the level of improvement at each step. Here, to review the improvement, CSI can use a Post-Implementation Review (PIR) from the Change Management process. The PIR reviews the documents that support the improvement initiatives and the awareness of the staff of the initiatives.

The analysis activity includes the compilation of results and the evaluation of trends. After the results are complied and trend evaluation is performed, the senior management should conduct internal meetings within IT to review the results of the analysis and identify improvement areas. Appropriately analyzing the data places the business in a position to make strategic, tactical, and operational decisions about whether there is a need for Service improvement. Unfortunately, the analysis activity is often not done, and errors continue to occur and mistakes continue to be repeated with little improvement.

By transforming information into knowledge, you can identify the Events that are affecting the organization.
Example of Transforming Information into Knowledge

One of the subactivities of Capacity Management is workload management. The inclusion of workload management as a subactivity shows that data analysis provides details of resource utilization and trends in the use of a resource.

Data Analysis Outputs

Data analysis provides answers to the following questions:

- “Are operations running according to plan? This could be a project plan, financial plan, availability, capacity or even IT Service Continuity Management plan.
- Are targets defined in SLAs or the Service Catalogue being met?
- Are there underlying structural problems that can be identified?
- Are corrective actions required?
- Are there any trends? If so then what are the trends showing? Are they positive trends or negative trends?
- What is leading to or causing the trends?”

(Source: CSI book)
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Reviewing the results or trends derived from the analysis should be done at regular intervals. Then, compare the results to previous results to check for improvements. Trends are an indicator to show that detailed analysis is required for a particular Event. Investigation is required if the trends fluctuate. The investigation should identify whether the trend is positive or negative.

**Step Six: Present and Use the Information.**

After you analyze data, you need to present the knowledge to transform it into wisdom. To transform knowledge into wisdom, you need to use the reports, monitors, action plans, reviews, evaluations, and opportunities, and study the target audience.

You need to present the information in a way that the target audience should be able to understand. In addition, business and staff should benefit from the information. The information should provide value to the business and enhance the decision-making capability of the staff to make strategic, tactical, and operational decisions.

CSI activity will be hindered and the work done in the previous steps will go to waste if the information is not presented properly. At the onset of the present and use information activity, you should understand the target audience, such as the business, senior management in IT, and internal IT, and the purpose of the information that is going to be presented.
Usually, the information presented often fails to meet the interests of the business as a gap occurs between the presentations and the business interests. It is important for IT to provide the correct and requisite information to add value to the business. Reports should cover good and bad trends in IT and improvement programs for CSI, and state how the staff and organization can improve CSI programs.

### Example of a Gap Between Presentations and Business Interests

A situation where IT presents information on the availability of Services and components as 99.85% in its reports while the business expects information on the number of outages, the duration of the outages, and the effect of the outages on the business in a specific period. IT reports also fail to provide information on Local Area Network (LAN), Wide Area Network (WAN), and the downtime of the server or desktop.

### Analyzing Data Throughout the Service Lifecycle

#### The Service Strategy Phase

It is the job of Service Strategy to analyze the results associated with implemented strategies, policies, and standards. This analysis includes:

- Identifying any trends.
- Comparing results against goals.
- Identifying any improvement opportunities.
The Service Design Phase

During the Service Design phase, the organization must:

- Analyze the current results of design and project activities.
- Make note of trends.
- Compare results against design goals.
- Identify improvement opportunities.
- Analyze the effectiveness and ability to measure the CSFs and KPIs that were defined when gathering business requirements.

The Service Operation Phase

During the Service Operation phase, the organization must:

- Analyze current results as well as trends over a period of time.
- Identify both incremental and large-scale improvement opportunities, providing input into what can be measured and processed into logical groupings. This includes performing the actual data processing.
- Take the component data and process it in an organization-specific format to provide a better end-to-end perspective of Service achievements.
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If there is a functional CSI group within an organization, this group can be the single point for combining all analysis, trend data, and comparison of results with targets. This group could then review all proposed improvement opportunities, help prioritize the opportunities, and make a consolidated recommendation to the senior management. For smaller organizations, this may fall to an individual or smaller group acting as a coordinating point and owning CSI. Designating a CSI group provides a single place in the organization for all the data to reside in and be analyzed.

Role of Other Processes in Data Analysis

SLM

Here is how SLM supports the CSI processing data activity:

- Evaluate Service level achievements compared to the SLAs and Service level targets that might be associated with the Service Catalogue.
- Review and record trends over a period of time to identify any consistent patterns.
- Identify the need for SIPs.
- Identify the need to modify existing OLAs or UCs.

Availability and Capacity Management

Here is how Availability and Capacity Management supports the CSI processing data activity:

- Identify and evaluate trends on component and Service data.
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- Compare results against prior months, quarters, or annual reports.
- Identify improvements in the process to gather and manage data.
- Evaluate the performance of components against defined technical specifications.
- Review and record trends over a period of time to identify any consistent patterns.
- Identify where SIPs or corrective actions are needed.
- Evaluate processed data for accuracy.

Incident Management and the Service Desk

Here is how Incident Management and the Service Desk support the CSI processing data activity:

- Document and review trends in Incidents, Service Requests, and telephony statistics over a period of time to identify any consistent patterns.
- Evaluate results against prior months, quarters, or annual reports.
- Evaluate results against agreed-to levels of Service.
- Identify where SIPs or corrective actions are needed.
- Check processed data for accuracy.
Problem Management

Problem Management plays a crucial role in the analysis activity. This is because Problem Management supports all the other processes in trend identification and root cause analysis. Although one usually associates Problem Management with reducing Incidents, a good Problem Management process is also involved in helping define process-related Problems as well as those associated with Services.

Overall, Problem Management has the following objectives:

- Do a root cause investigation on what is leading identified trends.
- Propose improvement opportunities.
- Evaluate current results against prior results.
- Evaluate results against agreed-to Service levels.

Security Management

The Security Management function depends on the activities of all other processes to help determine the cause of security-related Incidents and Problems. Security Management submits Requests for Change (RFCs) to implement corrections or for new updates, such as new antivirus software.
In fact, Security Management plays an important role in assisting CSI in all security aspects of improvement initiatives or for security-related improvements. Here is how Security Management supports the CSI processing data activity:

- Review and record security Incidents for the current time period.
- Evaluate current results against prior results.
- Identify if any SIPs or corrective actions are needed.
- Evaluate processed data for accuracy.

Present and Use the Information

The given table shows how information is presented and used throughout the Service Lifecycle:

<table>
<thead>
<tr>
<th>“Service Lifecycle Phase”</th>
<th>How information is presented and used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Strategy</td>
<td>Presents current results, trends and recommendations for improvement associated with implemented strategies, policies and standards</td>
</tr>
<tr>
<td>Service Design</td>
<td>Presents current results, trends and recommendations for improvement of design and project activities.</td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>“Service Lifecycle Phase”</th>
<th>How information is presented and used</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Operation</strong></td>
<td>Presents current results, trends and recommendations on improvement initiatives for both Services and Service Management processes.</td>
</tr>
<tr>
<td><strong>Service Transition</strong></td>
<td>Presents current results, trends and recommendations for moving Services and Service Management processes into production.”</td>
</tr>
</tbody>
</table>

(Source: CSI book)
**Table of Contents**

**Other Processes - Presenting and Using Information**

The given table shows how information is presented and used by other processes:

<table>
<thead>
<tr>
<th>Process Name</th>
<th>Role of the process in presenting and using the information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Service Level Management</strong></td>
<td>Overall SLM presents information to the business and discusses the service achievements for the current time period as well as any longer trends that were identified. These discussions must also include information about what led to the results and any incremental or fine-tuning actions required.</td>
</tr>
<tr>
<td></td>
<td>Here is how SLM helps CSI present and use information:</td>
</tr>
<tr>
<td></td>
<td>Conducts consistent service review meetings (internal and external)</td>
</tr>
<tr>
<td></td>
<td>Assists the preparation of reports</td>
</tr>
<tr>
<td></td>
<td>Does updates for the SLA monitoring chart (SLAM)</td>
</tr>
<tr>
<td></td>
<td>Gives input to prioritize improvement activities</td>
</tr>
</tbody>
</table>
| Availability and Capacity Management | Assists preparation of the reports  
Gives input into prioritizing SIP or corrective actions  
Puts into practice incremental or fine-tuning activities that do not require business approval |
|--------------------------------------|---------------------------------------------------------------------------------|
| Incident Management and Service Desk | Assists preparation of the reports  
Gives input into prioritizing SIPs or corrective actions  
Puts into practice incremental or fine-tuning activities that do not require business approval |
| Problem Management                   | Gives input into Service improvement initiatives and prioritizes improvement initiatives  
Security Management  
Assists in preparation of the reports  
Gives input into prioritizing SIP or corrective actions  
Puts into practice incremental or fine-tuning activities that do not require business approval” |

(Source: CSI book)
Why Should an Organization Use Assessments?

An organization’s use of formal assessments demonstrates that it is striving to improve. More than just being involved, the organization should perform assessments to bring about improvement because the assessments involve high costs, staff time, and management promotion. It is relatively simple to compare the operational environment to industry norms because organizations design metrics to measure industry norms in such a manner that they can be incorporated into the process control structure.

Sampling and Comparison

Assessment can be based on sampling and comparison. During sampling and comparison, you might find some gaps, which can be handled in the Check stage of the improvement lifecycle. A properly designed maturity-assessment framework helps you evaluate the feasibility of all aspects of the process environment, such as people, processes, and technology. You can also evaluate factors such as the culture of acceptance, process strategy and vision, process organization, process governance, business and IT alignment, process reporting and metrics, and decision-making. You can easily extend the principles of maturity assessment to assessments based on industry norms.

During the first step of the assessment process, you select or define the maturity model and the maturity attributes that need to be measured at each level of the maturity model. Some best-practice frameworks, such as Capability Maturity Model®
Integration (CMMI), Control Objectives for Information and related Technology (COBIT), ISO/IEC 20000, or the process maturity framework can be your maturity model. You can either choose one of the maturity models from the framework or design your own maturity model based on the models referred in the framework.

**Timing Assessments**

The best time to conduct assessments would be to conduct them in line with the improvement lifecycle. Let us see how assessments can be conducted during the different stages of the improvement lifecycle:

- **Plan (project initiation):** Assessment at this stage helps you form the basis for a process-improvement project. The processes can be of various configurations and design and, consequently, it is complex to assess data collection.

- **Plan (project midstream):** During the implementation of the process or improvement activities, you can perform a check to validate that the objectives of the process project are being met. This check also provides significant evidence that shows that benefits are being achieved from the investment of time, talent, and resources in process initiatives.
Do/Check (process in place): You must validate the maturation of the process and process organization with the help of team members after you complete the project. You can schedule periodic reassessments, which reflect organizational integration and quality efforts.

What and How to Assess

Determining the scope of the assessment should depend on the objective of the assessment, the expected use of process assessments, and the use of assessment reports in the future. The three potential scope levels for assessments are:

- Process only: This scope level suggests conducting assessments for process attributes that are based on the general principles and guidelines of the process framework that defines the subject process.
- People, processes, and technology: This scope level includes the following for assessment:
  - Processes
  - Skills, roles, and talents of the managers and practitioners of the process
  - The technology that supports the process
- Full assessment: This scope level assesses the aspects mentioned in the two scope levels given above and the:
  - Culture of acceptance within the organization.
  - Organization’s ability to define a process strategy.
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- Definition of a vision for the process environment. Organizations view the process environment as the “end state.”
- Organization’s process structure and functions.
- Ability of process governance to assure that process objectives and goals are met.
- Alignment of business and IT through the process framework.
- Effectiveness of process reporting and metrics.
- Capability and capacity of decision-making practices to improve processes over time.

“Benefits and Drawbacks of the Characteristics of Self-Assessment and Third-Party Assessments

<table>
<thead>
<tr>
<th>Self-Assessment Characteristics</th>
<th>Third-Party Assessment Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td>Drawbacks</td>
</tr>
<tr>
<td>Costs less</td>
<td>Can be biased or partial</td>
</tr>
<tr>
<td>Provides a learning experience</td>
<td>Can assess the relative performance and progress of an organization, without bias</td>
</tr>
<tr>
<td></td>
<td>Costs more</td>
</tr>
</tbody>
</table>
Benefits and Drawbacks of the Characteristics of Self-Assessment and Third-Party Assessments

Assessments can be conducted within the team or by taking the help of sponsor organizations or third parties. Both the self-assessment and the assessments conducted by outside organizations have benefits and drawbacks. To conduct a detailed assessment and obtain the resulting report, you can hire a firm that specializes in assessments. The increased cost of an assessment by a third party is balanced by the objectivity and experience of an organization that performs assessments regularly.

Another option is referring to mini-assessments available on the Internet. These assessments provide a general perspective of maturity.

Assessment Reports

An assessment should be reported using the levels of the maturity model, regardless of whether it was conducted internally or by an external firm. The reporting method to communicate assessment results in a graphical fashion is considered the best practice because graphs can achieve multiple communication objectives. Some of the benefits of using the graphical format of reporting are that you can show the changes or trends of process maturity or show a comparison of the current assessment with the industry norms on a chart.
## Advantages and Disadvantages of Assessments

<table>
<thead>
<tr>
<th>Advantages of Assessments</th>
<th>Disadvantages of Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessments provide:</td>
<td>An assessment can be performed to obtain only a snapshot in time of the process environment. You cannot use assessments to identify the current business or cultural dynamics and operational issues in processes.</td>
</tr>
<tr>
<td>An objective perspective of a currently operational process state</td>
<td>An assessment performed by outsourced vendors can be dependent on the vendor or framework. This might make it difficult to compare the results to industry standards because of the proprietary nature of the models that vendors generate.</td>
</tr>
<tr>
<td>A perspective against a standard maturity model or process framework</td>
<td></td>
</tr>
<tr>
<td>You can complete an accurate determination of any process gaps, give suggestions to fill those gaps, and plan action steps.</td>
<td></td>
</tr>
</tbody>
</table>
### Table of Contents

<table>
<thead>
<tr>
<th>Advantages of Assessments</th>
<th>Disadvantages of Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-planned and well-conducted assessments can be repeated, and the results aid the management process in measuring progress over a period of time. This also helps the management establish targets or objectives for improvement.</td>
<td>Organizations sometimes use assessments to improve the process and simply achieve maturity targets rather than use them to focus on improving the efficiency and effectiveness of processes through process improvement.</td>
</tr>
<tr>
<td>You can apply a maturity framework that has been universally accepted to a standard process framework for supporting the process of comparing the process maturity of the company to industry benchmarks.</td>
<td>Assessments are labor driven. The personnel include the process or tool practitioners, management, and other staff.</td>
</tr>
<tr>
<td>Assessments are subjective, that is, based on the opinion of the assessors. The results can be biased, based on the attitude, experience, and approach of the assessors.</td>
<td></td>
</tr>
</tbody>
</table>
Step Seven: Implementing Corrective Action

This is the last step in the 7-Step Improvement process. This step explains how to implement corrective action. To implement corrective action, managers should:

- Identify issues from the reports and suggest solutions to solve the issue.
- Prepare a list of ways to implement the corrective action and improve the Service.

The corrective action should be based on:

- Goals and objectives of the organization and types of Service breaches
- External factors, such as regulatory requirements, changes in competition, or even political decisions

Organizations should discourage the implementation of corrective action using a large amount of resources for a single Event or for Events that are of not much priority for the organization. This is because the corrective action consumes the resources kept aside for emergencies.
Outcomes of Implementing Corrective Action

The organization’s decision to improve a Service or Service Management process will result in the following outcomes:

- Continuation of the Service Lifecycle
- Proposal for a new Service Strategy
- Introduction of Changes through Service Design and Service Transition

CSI is an ongoing activity but many organizations view it as a temporary activity performed during a Service failure within IT Services. This attitude of organizations toward CSI should change and they should bring in the following changes:

- Ensure that the IT staff work toward CSI throughout the Service Lifecycle to improve Services and Service Management processes.
- Strive toward the improvement of Services by paying attention to improvement activities, creating well-defined plans, constantly monitoring Service activities, analyzing the data, and reporting the information to the management.
# Other Processes in Implementing Corrective Action

<table>
<thead>
<tr>
<th>Process Name</th>
<th>Role of Other Processes in Implementing Corrective Action</th>
</tr>
</thead>
</table>
| Change Management | When CSI determines that an improvement to a Service is warranted, the following process has to followed:  
- The team implementing CSI submits an RFC to Change Management.  
- Change Management treats the RFC like any other RFC.  
- Change Management prioritizes and categorizes the RFC according to policies and procedures defined in the Change Management process.  
- Release Management, as part of Service Transition, moves this Change to the production environment.  
- When the Change is implemented, CSI is part of the PIR to assess the success or failure of the Change.  

Representatives from CSI must be part of the CAB and CAB/EC. Changes have an effect on Service provision and might also affect other CSI initiatives. If CSI is part of the CAB and CAB/EC, it has a better chance to provide feedback and react to upcoming Changes. |
| SLM | The SLM process is often a good starting point for a SIP.  
|     | a) How can the SLM process help implement corrective action?  
|     | When an issue that is adversely impacting Service quality is identified, SLM must, in conjunction with Problem Management and Availability Management, instigate a SIP to identify and implement the actions necessary to overcome the difficulties and restore Service quality. Apart from this, SIP initiatives may also focus on training, system testing, and documentation. A number of separate initiatives that form part of the SIP may be run in parallel to address difficulties with a number of Services.  
|     | b) How to fund CSI initiatives?  
|     | Some organizations have established an upfront annual budget held by SLM, from which SIP initiatives can be funded. If an organization is outsourcing Service Delivery to a third party, Service improvement issues must be discussed at the onset and budgeted for in the contract. If this is not done, there is no incentive during the lifetime of the contract for the supplier to improve Service targets. |
“Roles involved in the ‘implementing corrective action’ activity”

<table>
<thead>
<tr>
<th>Nature of Activities</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual effort</td>
<td>Analytical skills</td>
</tr>
<tr>
<td>Investigative</td>
<td>Modeling</td>
</tr>
<tr>
<td>Medium to high variation</td>
<td>Inventive attitude</td>
</tr>
<tr>
<td>Goal-oriented</td>
<td>Education</td>
</tr>
<tr>
<td>Specialized staff and business management</td>
<td>Program experience”</td>
</tr>
</tbody>
</table>

(Source: CSI book)
Business Questions for CSI

You can execute CSI activities in existing and operational Services within Service Strategy, Service Design, Service Transition, and Service Operation.

To understand which improvement initiatives are valuable to the business, it is important that the business be involved with CSI for decision-making. You can frame specific questions that will help you understand whether CSI is required or not. The given questions will also help you identify the challenges and reasons for poor Service:

- Where are we now?
- What do we want?
- What do we actually need?

SLM plays an important role in working with the business to answer the following business questions:

- What can we afford?
- What will we get?
- What did we get?
- What we are doing to improve Service delivery?

Now, let us learn about these questions in brief.
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Where Are We Now?

To analyze this question, you need to set a baseline for all measurements. It is important to analyze single snapshots over time to identify the trends for Service improvement. The baseline is the starting point, and you should ensure that you use the same measurements to set trend patterns.

What Do We Want?

This question helps identify what the business wants from IT Services. Some examples of the elements that the business may need to have are:

- “One hundred percent availability guaranteed
- Unlimited capacity
- Sub-second transactional responses
- Polite and courteous technicians
- IT staff that understand the business
- Inexpensive provision of IT Services
- Stable, fault-free infrastructure”

(Source: CSI book)

In addition to identifying the requirements of the business, you should identify the reasons for these requirements. Examples of some valid reasons are:

- “Compliance to new/upcoming legislation, can be legislation from other countries as well
- Satisfying business customer demands
You should determine the long- and short-term goals and objectives for the business and the Business Units.

“Mapping wants, goals, and reasons

<table>
<thead>
<tr>
<th>Department</th>
<th>We want …</th>
<th>To support our goal or objective of …</th>
<th>The reason is to address …</th>
</tr>
</thead>
</table>
| Sales      | Improved availability for web Services | Improve web Service availability by 25% | Lost sales opportunities

Increased competition
Cost of working incidents and problems
# ITIL v3 Intermediate Certification Level | MALC | Service Assessment

## Table of Contents

<table>
<thead>
<tr>
<th>Department</th>
<th>We want …</th>
<th>To support our goal or objective of …</th>
<th>The reason is to address …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>Improved availability for web Services</td>
<td>Improve use of web for marketing initiatives by 40%</td>
<td>Reach a larger potential customer base</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gain knowledge of customer perception of our business</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Current web marketing surveys are always breaking down</td>
</tr>
</tbody>
</table>

(Source: CSI book)
Now, let us discuss the next question:

**What Do We Need?**

This question helps you fine-tune the activity of the output identified earlier. After you have identified the “wants,” the next step is to prioritize them. You need to perform this step carefully because people might not be ready to forgo any of the wants. You should prioritize the wants based on reasonable, well-defined criteria.

Adopt a top-down approach to prioritize the wants, starting with the CEO, CFO, and so on and then drilling down further to capture the priority, goals, and objectives of the subordinates. It is important that you conduct a detailed analysis of the Services and understand the mission-critical ones. It is recommended that while you review all Services, you should focus on the mission-critical ones.

**What Can We Afford?**

Before determining the improvement projects to work on, you need to determine the cost of the improvement. You need to figure out whether the business or IT would be funding the improvement. It is important that SLM and Financial Management work together to define priority for funding the improvement projects.
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What Will We Get?

If IT assumes the business need, it might lead to perception problems for the business and IT. It, consequently, becomes important that IT work in conjunction with the business to define the requirements clearly.

What Did We Get?

Service Operation will monitor and report on the achieved Service levels. CSI will help identify the improvement opportunities based on the results and any gaps in the desired results.

6.8 GROUP/INDIVIDUAL EXERCISE

Refer to the Workbook to do the exercise.

6.9 SAMPLE TEST QUESTION

Refer to the Workbook to do the question.
UNIT 7: UNDERSTANDING COMPLEMENTARY INDUSTRY GUIDANCE AND TOOL STRATEGIES

Overview

This unit will address other best practices. This unit will particularly help students understand complementary industry guidance and tool strategies, measure the value of the complementary industry guidance and tool strategies, and identify the different complementary practices in support of ITIL initiatives.

Unit Learning Objectives

At the end of this training, you will be able to:

- Understand Control Objective for Information and Related Technology (COBIT)
- Identify ISO/IEC 20000
- Analyze Capability Maturity Model Integration (CMMI)
- Comprehend Balanced Scorecard
- Evaluate Quality Management
- Understand the Open Systems Interconnection (OSI) Framework
- Describe annuity
- Demonstrate the Service Management Maturity Framework
- Describe Six Sigma
- Understand Project Management
- Analyze Total Quality Management (TQM)
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- Apply the Management Governance Framework
- Identify the tool Strategies

7.1 CONTROL OBJECTIVE FOR INFORMATION AND RELATED TECHNOLOGY

COBIT

COBIT is a controls-based value and Risk Management framework that provides helpful guidance for IT audit and security personnel. It provides guidance on what should be audited and how to audit. However, it does not provide comprehensive guidance on what will be audited for those who are operating the process. Information Systems Audit and Control Association (ISACA) created COBIT but the management of COBIT lies with the IT Governance Institute (ITGI).

COBIT Objectives

There are 34 high-level control objectives in the fourth edition of COBIT. Thirteen objectives out of 34 are grouped under the "Deliver and Support" domain.

The 13 objectives are:

- DS1: Define and manage Service levels.
- DS2: Manage third-party Services.
- DS3: Manage performance and capacity.
- DS4: Ensure continuous service.
- DS5: Ensure systems security.
Some of the aspects of these 13 objectives are similar to ITIL’s Service Operation phase, but most of the “live operation” phase of IT can be found in these 13 objectives. You must remember that COBIT and ITIL are not competing with each other but complement each other as part of an organization’s general managerial and governance framework. ITIL provides “best practice” guidance on how to manage and improve organizations’ processes to deliver high-quality, cost-effective IT Services. On the other hand, COBIT provides “processes audit and assessment” guidance to establish whether the processes are operating as intended and providing optimum benefit for the organization.

COBIT is a flexible framework that must be aligned with an organization’s business needs. The management, consultants, and auditors use COBIT to:

- Define the IT controls required to reduce Risks and add business value. This ensures the development of a fit-for-purpose IT governance framework.
- Create an IT measurement and CSI framework that is
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- aligned with IT business goals.
- Evaluate and audit against IT governance and make sure that IT governance is in alignment with overall enterprise governance.

**COBIT and Continual Service Improvement**

COBIT supports Continual Service Improvement (CSI) in the following three ways:

- Defines processes to support CSI
- Provides maturity models used to benchmark and drive CSI
- Provides goals and metrics aligned with the IT business goals, which can be used to create an IT management dashboard

Let us understand how COBIT supports CSI in more detail.

Monitor and Evaluate (ME), which is a COBIT process domain, defines the processes needed to evaluate the current IT performance, IT controls, and regulatory compliance.

COBIT defines the following four processes needed to support CSI:

- “ME1: Monitor and evaluate IT performance
- ME2: Monitor and evaluate internal control
- ME3: Ensure regulatory compliance
- ME4: Provide IT governance.”

(Source: CSI book)
These processes consider multiple factors, such as the need to improve performance and the need to manage Risks effectively through efficient controls or regulatory compliance. These factors drive improvement needs.

An enterprise can apply the processes needed to support CSI using COBIT processes because the processes identify and manage improvement actions through to their implementation. Enterprises can review and improve the processes that support CSI based on related maturity models within COBIT.

7.2 ISO/IEC 20000

ISO/IEC 20000

The ISO/IEC 20000 standard not only raises the levels of quality, safety, reliability, efficiency, and interchangeability, but it also offers benefits at an affordable cost. ISO/IEC 20000 covers the Service Support and Service Delivery publications of ITIL, IT Security, Business Relationship Management (BRM), and Supplier Management.

Organizations seeking formal accreditation to ISO/IEC 20000 must involve their Service Operation staff who can prepare and undergo the formal surveillance needed to achieve the standard.
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Use of ISO/IEC 20000

Businesses that are going out to tender their Services use ISO/IEC 20000 to:

- Provide a consistent approach by all Service Providers in a supply chain.
- Benchmark IT Service Management (ITSM).
- Provide a basis for an independent assessment.
- Demonstrate the ability to meet customer needs.
- Improve their Services.

ISO/IEC 20000 and ITIL Processes

Some major ITIL processes involved in supporting ISO/IEC 20000 are:

Service Level Management (SLM)

The SLM process ensures that the Service Provider is committed to or focused on customer needs and requirements throughout the planning, implementing, and continuing management of Service Delivery.

The following are the key activities of SLM:

- Capture early business requirements and continuing changes to volumes and expectations.
- Define and document Services in a Service Catalogue.
- Negotiate SLAs with set targets.
- Monitor, measure, and report achieved Service levels.
Service Reporting

The following must be included in Service reports:

- “Performance against service level targets
- Non-compliance and issues such as service level or security breaches
- Workload characteristics such as volume and resource utilization
- Performance reporting following major incidents and changes
- Trend information
- Satisfaction analysis”

(Source: CSI book)

BRM

BRM establishes and maintains a good relationship between the Service Provider and the customer. BRM achieves this through a better understanding of customers and their business drivers. You must know that the customer’s business drivers may need changes in Service Level Agreements (SLAs), which can become an input into Service improvement opportunities.
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The decisions of the management and corrective actions must consider the results of Service reports and formally communicate it to the right staff. ISO/IEC 20000 describes CSI requirements for the effectiveness and efficiency of Service Delivery and Management through management policies, objectives, and the need for continual improvement. ISO follows the Deming Cycle of Plan-Do-Check-Act, where checking means monitoring, measuring, and analyzing. Acting means continual improvement.

7.3 CAPABILITY MATURITY MODEL INTEGRATION

CMMI

Software Engineering Institute (SEI) of Carnegie Mellon University developed CMMI to guide process improvement across a project, a division, or an entire organization. Today, a large number of IT consultancy organizations have built CMMI into their ITSM assessment Services to help themselves prepare for and judge process improvements. Organizations must use some form of CMMI model to achieve the ISO/IEC 20000 accreditation standard.

CMMI has five levels, and each level has an increasingly capability of producing quality. As a result, each level is a level of maturity in itself.

Benefits of CMMI

CMMI best practices allow organizations to:

- Link management and engineering activities to their business objectives more clearly.
**7.4 THE BALANCED SCORECARD**

### Activity Time

**The Balanced Scorecard**


The Balanced Scorecard gives an overview of the overall health of an organization in the following four main areas:

- Customer
- Financial
- Internal
- Knowledge
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The Balanced Scorecard is the presentation and result of various levels of metrics and measurements. Some organizations prefer the Balanced Scorecard method to assess and report their IT quality performance in general and their Service Operation performance in particular.

7.5 QUALITY MANAGEMENT

Quality Management

There are distinct benefits of tying an organization’s ITSM processes in general and Service Operation processes in particular of an organization to its Quality Management System (QMS). An organization with a formal QMS, such as ISO 9000, Six Sigma, TQM, and so on, use this system to evaluate the progress of the organization regularly and advance the agreed Service improvement initiatives through regular reviews and reporting. Most organizations use a regular annual audit or external assessment to establish the required improvements. These organizations also use their QMS to drive through the particular work programs.
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7.6 THE OSI FRAMEWORK

ITIL and the Open Systems Interconnection Framework

The Open Systems Interconnection (OSI) framework was launched by ISO at around the same time that ITIL v1 was being written. OSI covers many similar areas of ITIL. However, the classification of the OSI processes is different. OSI uses different terminology for the processes or uses the same terminology in different ways. It is common for different groups in an organization to use the terminology from ITIL and the OSI framework, creating more confusion.

The OSI framework has made important contributions to the definition and execution of ITSM programs and projects around the world. This framework has also given rise to many debates between teams that use OSI but do not have any knowledge about the origins of the OSI terminology.
Example of Organizational Teams with No Knowledge of the Origins of OSI Terminology

An organization has two Change Management departments. The first team follows the ITIL Change Management process while the second follows the Installation, Moves, Additions, and Changes (IMAC) model of OSI. Both the Change Management departments are convinced that they are completely different from the other, and that they perform different roles. However, a closer examination of the two processes shows that there are many common areas in OSI and ITIL.

In Service Operation, Fault Management manages the Known Errors. A section from Operational Capacity Management is related to OSI’s concept of Performance Management.

7.7 ANNUITY

7.8 THE SERVICE MANAGEMENT MATURITY FRAMEWORK

The Service Management Process Maturity Framework

Most IT organizations use the Process Maturity Framework (PMF) to assess and measure the maturity of each Service
Management process, individually or as a whole. This PMF was developed to bring a common, best-practice approach to the review and assessment of Service Management process maturity. Organizations can use this framework to review their internal Service Management processes as well as external, third-party organizations, such as reviewers, assessors, or auditors.

PMF relies on an appreciation of the IT Organization Growth model while assessing Service Management processes. The maturity of Service Management processes depends heavily on the overall IT organization’s stage of growth. In addition, each IT organization’s level needs a change in the combination of elements to be effective. For this reason, developing Service Management process maturity beyond the maturity and capability of the overall IT organization is difficult.

The five areas for assessing process maturity are:

- “Vision and steering
- Process
- People
- Technology
- Culture.”

(Source: Service Design book)
Six Sigma

Six Sigma is an IT-appropriate process-improvement methodology. It is data-driven and supports continual improvement. The basic objective of Six Sigma is to reduce errors to fewer than 3.4 defects per million executions, regardless of the process, using Statistical Process Control (SPC) measures. Anything that is outside customer specifications is a Six Sigma defect.

IT has varied deliverables, such as Change Management, Problem Management, Capacity Management, and roles and tasks within IT operational environments. Because of these varied deliverables, it is important for IT managers to decide on whether it is practical to expect delivery at a Six Sigma level.

The following are the two, basic submethodologies within Six Sigma:

- **DMAIC** – it stands for define, measure, analyze, improve, and control. DMAIC is an improvement method for present processes for which performance does not meet expectations or for which you desire increased improvements.

- **DMADV** – it stands for define, measure, analyze, design, and verify. The focus of DMADV is the creation of new processes.
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It is important for CSI to capture data as soon as possible because data is a Six Sigma requirement. Questionable data will provide an opportunity for Six Sigma to analyze why the data does not make sense.

7.10 PROJECT MANAGEMENT
Project Management

The large scope and scale of improvements in IT Services makes it mandatory for organizations to use a structured Project Management approach for all improvements.

The two structured Project Management methods are:
- Project Management Institute (PMI)
- Projects IN Controlled Environments, v2 (PRINCE2)

PRINCE2 is the standard UK government methodology for Project Management.

7.11 TOTAL QUALITY MANAGEMENT
Total Quality Management

“TQM is a set of systematic activities carried out by the entire organization to effectively and efficiently achieve company objectives so as to provide products and services with a level of quality that satisfies customers, at the appropriate time and price.”

(Source: CSI book)
Total Quality Management (TQM) is a strategy of the management. TQM aims at implanting quality awareness in all organizational processes. In the TQM effort, all members of an organization contribute to improve processes, products, Services, and the culture in which they work.

The QMS specifies the organizational structure, responsibilities, policies, procedures, processes, standards, and resources required to deliver quality IT Services. However, QMS will only function as specified if there is an equal commitment from the management and the staff to achieve the objectives of the business.

Let us understand some different quality approaches in more detail.

**The Deming Cycle**

Deming’s 14 points are a set of management practices. The following are the 14 points of the Deming Cycle:

1. Create purpose reliability for improving products and Services.
2. Implement new philosophy.
3. End dependence on inspection to achieve quality.
4. Eliminate the practice of awarding business on price alone; instead, work with one supplier and minimize cost.
5. Improve all process for planning, production, and Service continually and forever.
6. Establish on-the-job training.
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7. Adopt and establish leadership.
8. Shed away fear.
9. Eliminate barriers between staff areas.
10. Abolish workforce slogans, exhortations, and targets.
11. Remove numerical workforce quotas and numerical management goals.
12. Eliminate barriers that deprive workmanship pride, and the annual rating or merit system.
13. Establish a dynamic education and self-improvement program for all.
14. Ensure all staff in the organization work at achieving the transformation.

Deming’s 14 points must be implemented in TQM to help the business improve its quality and productivity.
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Adapted from The Quality Trilogy © Crown Copyright 2007 Reproduced under licence from OGC
Juran’s four-phased approach

In 1951, Joseph Juran published the Quality Control Handbook that made him a popular name in the quality field. He devised “The Juran Trilogy” chart to represent the relationship between quality planning, quality control, and quality improvement on a project-by-project basis. The Juran approach also recognizes the need to guide managers by the establishment of a quality council within an organization. This council is responsible for establishing processes, nominating projects, assigning teams, making improvements, and providing the required resources. The senior management holds an important role in the quality council, approving strategic goals, allocating resources, and reviewing progress.
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“Juran’s four-phased approach

<table>
<thead>
<tr>
<th>Start-up:</th>
<th>creating the necessary organizational structures and infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test:</td>
<td>in which concepts are tried out in pilot programmes and results evaluated</td>
</tr>
<tr>
<td>Scale-up:</td>
<td>in which the basic concepts are extended based on positive feedback</td>
</tr>
<tr>
<td>Institutionalization:</td>
<td>at which point quality improvements are linked to the strategic business plan.”</td>
</tr>
</tbody>
</table>

(Source: CSI book)

Crosby TQM Approach

The Crosby TQM approach is based on Crosby’s Four Absolutes of Quality Management.

Here are the Four Absolutes of Quality Management:

- “Quality is conformance to requirement.
- The system for causing quality is prevention and not appraisal.
- The performance standard must be zero defects and not ‘that’s close enough’.
The measure of quality is the price of nonconformance and not indices.”

(Source: CSI book)

Organizations often find it difficult in translating the quality messages of the Crosby approach into continual quality improvement methods. Organizations place their quality program outside the mainstream management process, which makes it difficult for the organization to integrate their quality initiatives. Some research findings have suggested that these drawbacks make it difficult to maintain dynamic quality campaigns over the years in some organizations.

### 7.12 THE MANAGEMENT GOVERNANCE FRAMEWORK

“The management governance framework and its processes are the means by which: ‘A business directs, develops, and delivers the products and services of the business.’”

(Source: CSI book)

What is the management governance framework?

The management governance framework is a mechanism by which every part of the business and its supply chain partners work together on strategy, development, and operation.
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Organizations use the management governance framework to execute strategy in the following two ways:

- Through business development products to develop product and Service capabilities
- Through products and Services that are delivered and supported daily

The Management Governance Framework

Governance

The diagram shows what is involved in the management governance framework. Organizations use this framework to direct and run the business from left to right with feedback from right to left. The strategy is long term, with the business plan involving a small number of years with financial targets and budgets; the business architecture is high-level business design, and so on.

Direction

The business must provide unified direction through disciplines and processes involving strategy, business plans, budgets, and business architecture.

Development

The business must provide unified development through a shared business Change plan and development programs and project disciplines. Operational Change disciplines must control these plans and development programs in the live environment.
Delivery

The business must provide unified delivery of products and Services through shared operational planning, operational delivery, and operational support. These disciplines are performed differently from business to business. Some aspects are performed formally while some are performed in an informal, ad-hoc manner.

It is crucial to have individual disciplines and their relationships with one another to achieve best-practice business governance. From both the business and IT viewpoints, the best-practice governance framework allows the formalization of the processes and the relationships of the value chains across the governance model.

7.13 TOOL STRATEGIES

Simulation

Organizations use the System Dynamics methodology to understand and manage the complex problems of IT organizations. The methodology offers ways to capture and model the feedback processes, stocks and flows, time delays, and other sources of complexity that are linked to IT organizations. It evaluates the outcomes of new policies and structures before putting them into action.
IT organizations often show counterintuitive behavior because of the interaction of many agents over time. Senior managers in an organization use the simulation methods and tools of System Dynamics to understand their organizations. The basis of these simulators is mathematical models and computer simulations that can deliver useful information for decision makers faced with vast complexity and policy resistance.

**Example of the Application of System Dynamics in the Service and Process Domains**

<table>
<thead>
<tr>
<th>The Capability Trap</th>
<th>When organizations pressurize staff to work harder, it accidentally triggers the increasing effort levels needed to maintain the same performance level.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Tool Trap</td>
<td>Technology tools require the development of knowledge and experience although the tools are very useful to organizations. The adoption of new tools triggers low but short-term productivity levels. The workload increase after training, learning, and practice activities might unknowingly push a low resource organization over the edge.</td>
</tr>
<tr>
<td>The Firefighter Trap</td>
<td>Organizations rewarding managers for excellence in firefighting may accidentally create a force that might harm the organization in the long run. Performance can be improved by not rewarding excellence in firefighting.</td>
</tr>
</tbody>
</table>
Example of simple analytical model for the Service Desk

- **Utilization factor**: $\frac{m}{l}$
- **Rate of arrival of request**: $l$ per hour
- **Expected number being fulfilled**: $m$
- **Rate of fulfilment per hour**: $\frac{m}{l}$
- **Length of queue**: $Lq$ = $\frac{r}{b}$
- **Number of requests in the system**: $L$ = $Lq$ + $\frac{r}{b}$
- **Average time to fulfill request**: $W$ = $\frac{1}{l}$
- **Average time spent in the system**: $W$ = $L$ + $\frac{m}{l}$
- **Average time spent in queue**: $W_q$ = $Lq$ + $\frac{m}{l}$
- **Time between arrivals**

Adapted from example of simple analytical model for the service desk © Crown Copyright 2007 Reproduced under licence from OGC
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Analytical Models

The diagram shows an example of a single-stage, single-agent queue at a Service Desk, with some assumptions about the arrival pattern of Requests and their processing time.

You can use analytical models in less complex and manageable situations and in situations where there is no policy resistance or interacting feedback loops. Analytical models are effective when organizations have clear objectives, well-defined options, and measurable critical uncertainties. The models are easy to develop when the problem or situation is clearly defined, the cause-and-effect relationships are clear and persistent, and patterns are recognizable. You need to have thorough historical information for suppositions on specific variables, such as costs, processing times, and the load factors of resources.
Example of Building Simple Analytical Models

The Service Desk and call center staffing can be seen as a system of queues. You can gather data on the rate of arrival of Requests or Incidents, the time taken to process the Requests on an average, and the number of unresolved Requests. This level of knowledge is enough to build simple analytical models.

Service Desk modeling might become complex with the addition of numbers of Service channels, multistage processes, dependencies, and delays. However, it is helpful to begin with basic models and expands them gradually to produce a close replica of a Problem or Event.

The following are some common Service Strategy tools used in decision-making:

- Decision trees, payoff matrices, the analytic hierarchy process, and so on
- Linear and integer programming, goal programming, and so on
- Queuing and network flow models
- Clustering, forecasting, time-series analysis, and so on
- Analysis of variance, experiments design, and so on
You can use the following methods to solve a variety of Problems such as:

- Resources allocation between Services and contracts
- Demand patterns and user segmentation analyses
- Compression, correlation, and filtering
- Scheduling of jobs, tasks, and staff
- Location and layout of facilities and infrastructure elements

Some analytical models have been in use for decades because of their depth and diversity. These models have been instrumental to the maturity of disciplines such as Operations Management, Project Management, and financial analysis. Service sectors, such as telecommunications, transportation, logistics and financial Services have achieved high performance levels by applying systems and industrial engineering concepts, methodologies, and quality control processes to Service functions and processes.

Microsoft Excel, with its built-in solver function, is the simplest automation tool available for analytical modeling. You can add sophistication to models using spreadsheets, or construct models using tools, special purpose Optimization Programming Languages (OPL), and optimization engines. Many commercial solutions for automatic Service Management include functions and modules for analytical modeling and visualization.

Some analytical models are Six Sigma™, PMBOK®, and PRINCE2®, which should be evaluated and adopted within the context of Service Strategy and Service Management to improve performance within technical, financial, and time constraints.
Service Design Tools

Service Design tools and techniques assist in the design of Services and their associated components. They enable the design of hardware, software, environmental, processes, and data.

These types of proprietary and nonproprietary Service Design tools and techniques are useful to:

- Enhance the design process rate.
- Make sure that standards and conventions are followed.
- Present prototyping, modeling, and simulation facilities.
- Allow the study of “What if?” scenarios.
- Allow interfaces and dependencies to be checked and correlated.
- Check designs before development and implementation to make sure that they satisfy all customer requirements.

A Service Provider can simplify Service Design development by using tools that provide graphical views of the Service and its constituent components, such as business processes, Service Level Agreements (SLAs), infrastructure, environment, data and applications, processes, Operational Level Agreements (OLAs), teams, contracts, and suppliers. Some Configuration Management tools or Business Service Management (BSM) tools provide such facilities. You can also link these tools to “auto-discovery” tools and mechanisms and allow the graphical representation of all relationships between these elements. These helps the Service Provider drill down within each component and obtain detailed
information. If you need to monitor and manage the Service through all stages of its Lifecycle, it is good practice to link tools that contain financial information to a “Metrics Tree that provides Key Performance Indicators (KPIs) and metrics of the various aspects of the Service. The sharing of this single, centralized set of Service information allows everybody in the Service Provider organization and the business to access a single, reliable, “real-world” view of the Service and its performance. It also provides a solid base for the development of good relationships and partnerships between the Service Provider and its customers.

These tools facilitate the design processes as well as support and assist all stages of the Service Lifecycle, including:

- “Management of all stages of the Service Lifecycle.
- All aspects of the service and its performance.
- Service achievement, SLA, OLA, contractual and supplier measurement, reporting and management.
- Consolidated metrics and Metrics Trees, with views from management dashboards down to detailed component information, performance and fault analysis and identification.
- Consistent and consolidated views across all processes, systems, technologies and groups.
- Relationships and integration of the business and its processes with IT services, systems and processes.
- A comprehensive set of search and reporting facilities, enabling accurate information and analysis for informed decision-making.
In case of data or information asset type tools, find out how the general principles of IT asset acquisition and management can assist the data management or information resources of an organization.

**Service Transition Tools**

**Knowledge Management Tools**

Knowledge Management tools help you electronically maintain records and documents, enabling you to manage information. Documents differ from records in that they are evidence of intentions while records are evidence of activities. As a result, Knowledge Management includes document management, records management, and content management.

Some examples of knowledge Services that support content management are:

- “Web publishing tools
- Web conferencing, wikis, and blogs
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- *Word processing*
- *Data and financial analysis*
- *Presentation tools*
- *Flow-charting*
- *Content management systems*
- *Publication and distribution”*

(Source: Service Transition book)

**Service Operation Tools**

1. **Self Help**

Many organizations offer “Self-Help” capabilities to their users. The selected technology must support this capability with some form of Web front end. Using this technology, you should be able to define Web pages to offer a menu-driven range of Self-Help and Service Requests with a direct interface into the back-end process-handling software.

2. **Workflow or Process Engine**

A workflow or process control engine allows the predefinition and control of defined processes, such as:

- Incident Lifecycle
- Request Fulfilment Lifecycle
- Problem Lifecycle
- Change Model
This allows the predefinition and automatic management of responsibilities, activities, timescales, escalation paths, and alerting.

3. Integrated Configuration Management System

The tool must have an integrated Configuration Management System (CMS) to allow the organization’s IT infrastructure assets, components, Services, and any accompanying Configuration Items (CIs), such as licenses, suppliers, and contracts, to hold together all the relevant attributes at a centralized location. This tool should also include the storage and maintenance of the relationships between each attribute. This relationship-maintenance feature allows the tool to link to Incident, Problem, Known Error, and Change records, whenever required.

This type of tool is very useful for an IT organization that wishes to control various attributes spread across different locations.

4. Discovery/Deployment/Licensing

Discovery or automated audit tools populate or verify the CMS data and assist in license management. These tools must have the following capabilities:

- Be capable of being run from any location on the network. This capability allows the interrogation and recovery of information related to all the components because there is a connection between the components and the IT infrastructure.
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- Allow filtering to enable data forwarding and vetting and the required data extraction, that is, if the tool allows “changes only” data to be extracted.
- Enable new software deployment to target locations — this is a crucial requirement for Service Operation teams to deploy software patches, transports, and so on to the correct users. Have an interface to Self-Help capabilities to enable the automatic download of approved software.
- Allow the automatic comparison of software license details from the CMS and the deployment of actual license numbers.
- Remote Control
- Service Desk Analysts and other support groups find it useful to have the capability to control the user’s desktop. This helps the Service Desk Analyst conduct investigations and correct machine settings.

5. Diagnostic Utilities

The Service Desk and other support groups benefit if the technology incorporates the capability to create and use diagnostic scripts and other diagnostic utilities, such as case-based reasoning tools, to assist with the early diagnosis of Incidents.

Preferably, the scripts should be “context-sensitive” and when possible, it is good to automate the presentation of the scripts.
6. Reporting

Stored data should be easily retrievable and usable to meet the organization’s purposes. The technology should incorporate good reporting capabilities and allow standard interfaces. This helps input data to industry-standard reporting packages, dashboards, and so on. Preferably, instant, on-screen, and print reporting can be provided using context-sensitive top-ten reports.

7. Dashboards

The dashboard-type technology allows “see-at-a-glance” visibility of overall IT Service performance and availability levels. Management-level reports can include such displays for users and customers. The dashboards can also give real-time information for inclusion on IT Web pages, to give dynamic reporting. Using this functionality helps in gaining support and in investigations.

Capabilities that support customized views of information to meet specific levels of interest can be very useful to represent the technical rather than the Service view of the infrastructure. These may be of less interest to customers and users. More-advanced tools integration capabilities are required to allow greater exploitation of this type of business and IT integration.
8. Integration with BSM

The trend within the IT industry is to try to bring together business-related IT with the processes and disciplines of ITSM, that is, Business Service Management. Interfaces with ITSM support tools give the required functionality to business applications and tools.

Case Study Illustrating Integration with Business Service Management

“An Eastern European telecoms company was able to interface its telephone cell-net monitoring and billing system to its Event Management, Incident Management and Configuration Management processes.

In this way, it was able to detect any unusual usage/billing patterns and interpret these in such a way that it could identify, with a high degree of certainty that a stolen telephone and was being used to make illicit calls.

The company was able to raise events for such patterns and automate actions to suspend usage of the mobile phone device. Along with this, they identified the exact location of the illicit user by (using the GPRS technology) and raise incidents so that the police was enabled by this technology in finding the suspected thief and recovering the device.”

(Source: Service Operation book)
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Tools to Support CSI Activities

Organizations need to address and document the enhancing tools required to assess the question of “Where do we want to be?” The requirements will vary depending on the maturity of the process and technology.

Here, technology means the systems and Service Management set of tools used for two things:

- Monitoring and controlling systems and infrastructure components
- Managing process-based workflows, such as Incident Management

The success of Service Management depends on good people, process descriptions, procedures, and working instructions. Service Management tools are indispensable. The business need for IT Services and the size of the organization determines the tools required and the type of tools.

For small organizations, simple, in-house-developed database systems might be enough to log and control Incidents. However, for large organizations, you might require sophisticated, distributed, and integrated Service Management tools that link all the processes to the systems management set of tools. It is important for organizations to remember that tools are important organizational assets. However, tools are a means and not an end. The management information requirement for different organizations is unique. Consequently, organizations need to assess the present working of their processes to be able to define the tools specifications that best suits them.
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There are tools that support the core ITSM processes and others that support IT governance as a whole, which requires integration with ITSM tools. This makes it necessary to gather information from both types of toolsets to provide the overall business intelligence needed for effectively improving the overall IT Service provision.

The following is the broad classification of tools that support and annotate the domains of different systems and Service Management aspects:

- IT Service Management suites
- Systems and Network Management
- Event Management
- Automated Incident or Problem Resolution
- Knowledge Management
- Service Request and Fulfillment (Service Catalogue and Workflow)
- Performance Management
- Application and Service Performance Monitoring
- Statistical Analysis Tools
- Software Version Control/Software Configuration Management
- Software Test Management
- Security Management
- Project and Portfolio Management
- Financial Management
- Business Intelligence or Reporting
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7.14 GROUP/INDIVIDUAL EXERCISE
Refer to the Workbook to do the exercise.

7.15 SAMPLE TEST QUESTION
Refer to the Workbook to do the question.
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THE ROYAL CHAO PHRAYA HOTEL

THE HOTEL  ✶ CHALLENGES  ✶ ORG. CHART  ✶ MANAGEMENT & STAFF

Disclaimer: Any resemblance to real persons, living or dead, is purely coincidental.
The Royal Chao Phraya Hotel (nicknamed the Royal) is a city hotel situated on the banks of the Chao Phraya river in Bangkok. Built in 1983 by the Chinese-Thai businessman, Teck-Wee Lim (Harry Lim to his friends), its 32 floors have been a fixture on the city skyline for almost 25 years. The Royal is modeled after its neighbor, the historic Oriental Hotel. Its dominance on the five-star hotel market is increasingly challenged by many newcomers, such as the Peninsular (1998) and the Royal Orchid Sheraton (remodeled in 2001), some with the backing of multinational brands.

As the competition has grown over the past 10 years, it is becoming more difficult to achieve the occupancy rate that the hotel is used to while maintaining its target room rates, which vary from $145 to $445.

Despite the newfound rivalry, the Royal is well appreciated by its guests, many of whom are repeat business customers.

As a rule of thumb, from May through October, the guests are mostly business visitors while November through April and most weekends tend to be dominated by tourists. The Royal has always
had a considerable advantage over other five-star hotels through its connection with the Sephan Taksin Conference Center.

This is because the Revenue per Available Room (RevPar) from conference attendees is, on an average, 30-50% higher than that from regular hotel guests. This is especially true when conferences are organized for medical, legal, insurance, or IT professionals, who spend up to three times the amount a regular hotel guest does on lodging and ancillary services.

As a city hotel, the Royal depends on good access to public transport. It is less than 100 yards from Bangkok’s upscale sky train service (BTS), which allows guests to reach the most attractive parts of the city comfortably, quickly, and safely. It also has its own boat service offering guests river tours as well as trips to more exotic parts of the city, such as the floating market.
FACTSHEET

Rooms 340
Standard 130
Sky View 80
Sky Executive 130

The average guest stays 3.5 days at the hotel.

FACILITIES

Rating: ★★★★★

Business center, restaurants, bar, fitness center with sauna and spa, and outdoor pool

Signature restaurant Heavenly 33
Lobby bar Sugar Reef
Gentlemen’s smoking club Harry’s
Four restaurants Leased to outside companies
PERSONNEL

Over 200 people work at the hotel, with only the front desk employing 70 people, 24 of whom work in shifts in guest services and reception.

The average staff attrition is 30% per year. So, on an average, a complete replacement of personnel is seen every 3 years. Of course, in reality, a core team of employees has worked at the hotel for many years. In fact, 32 staff members have celebrated over 20 years of service at the Royal.
The General Manager (James) recently sponsored a thesis project on service quality from the Hospitality School of the University of Queensland at the hotel. The results were a shock to the management. In the 1 month that the project ran, 73 critical incidents resulting in unhappy guests were discovered.

The students found that 50% of the complaints concerned discrepancies in guest expectations and services offered. 35% were actual service failures, such as over-booking or the incorrect fulfillment of a guest’s request; and about 13% were described as “demanding guests” whose requests were excessive and whose judgment was harsh, even by objective, fair standards.

James and the Manager - Rooms Division (Dimitri) are particularly concerned about the 85% of complaints that were considered avoidable. Further analysis has revealed that 50% of these complaints originated in the early stages of the stay and, consequently, meant revenue was lost because clients opted to shorten their stay or cancel altogether.

The report also found that the Royal, while employing a number of gifted and highly motivated personnel, did not have a structured Service Recovery or Compensation plan. In fact, some of the complaints were because of the guests’ perception that some
of them were treated differently (better) when they complained about similar incidents.

NEW FORMS OF COMPETITION

The Royal has made its mark as a city hotel, but its leading competitors from the chains are winning some of its clients by assembling different tourist experiences from their various Thai hotels into one package.

For example, some clients are spending 3 days in Bangkok and then a number of days in the luscious countryside of Chiang Mai with its vibrant local markets and elephant treks or perhaps one of the islands such as Ko Samui or Ko Phi Phi.

Conference guests traveling with their spouse or entire family are particularly attracted to this offering. The Royal’s management is actively looking at how new services can be introduced into the portfolio to combat this erosion of the valuable repeat/conference guests.
Another challenge for the Royal is partially due to its own successful collaboration with the Saphan Taksin Conference Center. Building on the success of the past 10 years, Saphan Taksin has recently decided to expand its conference facility by 70%. This will lead to a peak demand for accommodation in excess of 1,100 rooms. The Royal has the land and the financial means to expand, but this type of move requires investment from the holding company. While James is concerned that the Royal hasn’t really analyzed this new development sufficiently, the hotel owner (Harry) is convinced that Saphan Taksin will never achieve its goal of attracting so many more new conference guests.
THE ROYAL’S RESPONSE TO BUSINESS AND IT CHALLENGES

THE KIOSK SOLUTION

To help handle the increase in guest traffic while improving guest experience, the Royal has decided to install and commission kiosks to provide guests with a self-service capability. The kiosks will enable guests to book services at the spa, book a scuba lesson in the pool, get printed information, such as maps and coupons to local restaurants etc, end so on.

The new system uses the guest’s room entry card extensively. The rationale is that guests must have their room key to be able to get into their room. So, in almost all situations in the hotel, it is reasonable to expect the guest to have their room card with them. The most important aspect of the card is that it authenticates who the guests are. The cards will also have the capability to have new or updated information written to them by the kiosk hardware. While this is a great advance for the Royal, kiosks rely on IT so there are many issues that need to be thought through before they go live.

Through a previous hotel loyalty program, customers were given paper coupons for using additional services around the pool, like the sauna or for free meals and drinks. Unfortunately, the customers kept losing these paper coupons on a frequent basis and complained that there must be a better way to manage these perks of membership. The use of room cards combined with the kiosk functionality should be the solution to this situation.
In addition to kiosks, the Royal wants to allow guests who are using their laptops in their rooms (an ever-increasing number) to be able to do all the functions that are available from the kiosk. One big difference between the two situations is that when using a laptop, there is no way to update the guest room access card, although the application can link the ordered services to a particular room.
HOW IT ALL BEGAN

THE OWNER

TECK-WEE LIM (HARRY)

Harry Lim made his money as a silk trader in the 1970s. His original business was based on trading in cheap and cheerful clothing aimed at the tourists passing through Bangkok. His company’s success accelerated when Ralph Lauren signed up one of his textile factories in Udon Thani to produce suits, under contract to the Lauren brand, for export to the US. Since then, Harry hasn’t looked back.

In 1981, one of his creditors had severe financial difficulties and to clear his debt, Harry took on the Royal Chao Phraya Hotel as payment. At the time, the Royal was a partially completed hotel at a superb location. Harry financed the completion of the hotel and threw open the Royal in 1983.

Harry is a very cautious and astute businessman. He does not really understand the intricacies of the hospitality industry, so he works on the simple premise that quality works. “The guest is always right, so get the right guest and treat them right, and you will be successful.” Harry does not like spending on things that are not visible to the customer. As a result, while his Gentlemen’s Smoking club is ostentatious, with leather chairs, teak finishing, and gold trimmings, there has been little investment in supporting infrastructure, such as IT applications.
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DANIAL KIDWAI
(Chief)

Maintenance

Chief

ISABEL O’HARA
(Front Office and Executive)

Housekeeper

MARY SANCHEZ
(Executive)

Accountant

SANCHEZ

Jean

YVETTE

Assistant

Chief

SUVARNA

Recreational Services

Manager

DIMITRI VAN RIN
(Rooms Division)

MANAGER

DIMITRI

Manager

Rooms Division

TECK-WEE LIM

(Harry) Owner

AKKARAT LIM

(James) General Manager

KAN YA UNGVICHIAN

Manager

Human Resources

KATSUSHI FUJYAMA

Manager

Food & Beverage

ENGRIE

(JAMES) General Manager

KIET APILUKTOYANUNT

Manager

Engineering

STU MILLER

Manager

Sales & Marketing

YA VETTE LEROUX

Chef

Assistant

JEAN

Assistant Chef

KANG YUNG CHINGHIAN

Manager

Finance

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART

THE ORG. CHART
THE GENERAL MANAGER

AKKARAT LIM (JAMES)

James is Harry’s second son. It was always Harry’s intent for James to take on the hotel business. After attending the Harrow School in Bangkok, James went on to study at the International Hotel and Tourism Industry Management School in Bangkok. On completion, he attended the New York University’s Preston Robert Tisch Center for Hospitality, Tourism, and Sports Management, where he graduated with MSc Honors in 1997.

James has inherited his Thai mother’s free spirit. His mother, Isra Sangesirithorn (everyone calls her Elle), was raised on the Thai island of Ko Pha Ngan and has always been an extrovert lover of life, somewhat balancing her husband’s more-cautious, introvert character.

James is now 36 and keen to escape his father’s yoke and really modernize the hotel. James, who can sense the winds of change in the industry, is now actively challenging the natural thrift of Mr. Lim, which helped build the Royal Chao Phraya Hotel.

His comparative youth, modern outlook, and the islanders’ love of enjoying the moment makes it somewhat frustrating for him to keep his plans for expansion and personnel changes in check.
The biggest job at the Royal is arguably that of Manager — Rooms Division. Harry knew early on that he needed real expertise to take on this task and has always filled it with Dutch graduates from the well-respected Maastricht Hotel Management School in Holland.

Dimitri is the fourth graduate from the school to take on this role. He is typically Dutch in his focus on being practical and pragmatic. He also believes that it is important to be very close to his employees, through his empowered and collaborative approach to management. That doesn’t always work in the traditional Asian culture, and Dimitri is often at odds with Harry, who doesn’t ever trust employees who aren’t family. The staff, frequently from the rural province of Isan, don’t quite know what to make of the eccentric Dutchman and his unusual style!

Che is a flamboyant man of Cuban descent, whose parents fled to Florida in the 1960s. Preferring the slow rhythm of the tropics, he is a natural counter-balance to the ever-energetic Dimitri. Harry and Che share a love for cigars and believe that spending lavishly on guests is key to success. Che has not had any formal training in this role and, as a result, does not make use of regular F&B metrics, such as the Pour/Cost percentage for efficiency in the bar.
Che has grown through the ranks after settling in Bangkok while on a post-graduation, sabbatical world tour. He worked as a waiter and short-order cook in Miami while working his way through his BBA at the University of Miami. This limited exposure to the business and strong support from Harry has enabled Che to muddle through as F&B Manager. His day begins a little later than that of all other personnel and a siesta is always on the schedule, — “why kill yourself working today when you will only miss the party tomorrow?”

**MANAGER — ENGINEERING**

**KIJET APILUKTOYANUNT (PAP)**

Pap is a cautious engineer who graduated from the prestigious Chulalongkong University. He is a very good technical engineer who takes his work seriously. He believes passionately in quality but, as a result, some of his tasks take longer to complete than guests expect. Pap hasn’t traveled outside of the country other than on vacation, and he isn’t very comfortable with English or conversing with foreign guests.

Like many Thai, Pap does not like any form of confrontation. Consequently, he sometimes finds himself promising things to guests or colleagues to avoid an issue and then being “unavailable” in the event that he cannot deliver on the promise.

Dimitri and James would like to bring in someone who is more comfortable dealing with international guests to work with Pap. To some extent, Dan Kidwai, the Maintenance chief with his experience in South East Asia is a help. However, he prefers to
stick to his beloved machines rather than to engage with guests. The problem is that Pap would see that as a loss of face, and because he is Elle’s cousin, he has significant support.

1. The pour cost percentage is determined by dividing the cost of goods sold by sales (portion cost/selling price). Consequently, a 20% pour cost means that it costs the taxpayer $.20 to generate $1.00 of liquor sales, which translates to a gross profit margin of 80% and a markup on cost of 400%. 
KANYA UNGVICHIAN (NEE)

Nee is a young, well-connected, confident professional. She originally studied finance but quickly found out that she has flair with customers. She studied economics at Harvard in the United States and received an MBA in Europe.

Her family consists of well-connected traders, and Nee has successfully tapped into their network of friends and relatives to ensure a steady stream of clients for the Royal. In addition, many of her former classmates are active in the medical, legal, and IT sectors. These contacts give her access to lucrative conference and banquet events.

SUVARNA

Suvarna is the darling of the Royal. She just appeared at Harry’s door one day, confidently asking for a chance to set up a small massage facility. This has since grown into a significant recreational facility. No one seems to know her full name or how old she really is. “It didn’t seem polite to ask,” Harry is fond of saying.

Suvarna is charming and elegant; she is a former champion swimmer who learned her trade at the prestigious Tettucio spa in Montecatini, Italy. Her next ambition is to set up a fully equipped daycare center, but Harry does not see the need for such innovation. “Crying babies would just disturb the other guests
and our own staff would probably bring all their children from the provinces and crowd the place up.”

**MANAGER — HUMAN RESOURCES**

**STU MILLER**

Stu is a colorful American who moved to Thailand with his partner in 2001, after 9/11. The tragedy in New York altered his view of the meaning of life. He wanted to tone down his existence in the fast lane, and Thailand seemed a good place to go. Ultimately, Stu wants to move to one of the islands and open his own resort. He somehow finds it difficult to escape the trendy excitement of Bangkok, even though, after New York, it still seems provincial in many ways.

Stu has a PhD in education and feels a little underutilized in his current role, but it is a good job and he likes the interplay of cultures that make up his portfolio.

**MANAGER — FINANCE**

**KATSUSHI FUJIYAMA**

Fujiyama-san is Japanese and a trained accountant who has worked in many different fields, including IT and education, before settling in his current role. Fujiyama-san met Harry many years ago in Tokyo when Harry was negotiating an export deal with a Japanese importer and Fujiyama-san was the negotiator. Harry was so impressed, he made an offer that “could not be refused,” and Fujiyama-san has now worked at the Royal for 6 years.
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While Fujiyama-san is serious and conscientious about his tasks, he also loves to have fun outside of the office. He can often be found with Che and Harry at the Amadis, an upscale Karaoke bar, or at one of the prestigious sake bars, such as Wasabi, in town.

THE STAFF

FRONT OFFICE AND BUSINESS CENTER HEAD

ISABEL O’HARA

Responsible for the front office, including the lobby, Isabel plays a key role at the Royal. In fact, her energy and love of technology is what made both Harry and James give her additional charge of the business center and the coffee shop, which James envisages as an informal chill-out zone for the business guests and the young, techno-savvy tourists. A whirlwind of energy, she is literally wherever the action is, and as some might say, if there is no action, she creates it!

Isabel believes in personal attention and keeping tight control over every customer interaction. No detail is too small to escape her notice, so much so that her team is now happy for her to take on the responsibility of every decision because their initiative seems unwanted. Small wonder then that she is exhausted at the end of the day and wonders how much more she can manage just by herself! Advice she has received includes adjusting her intense approach or face a possible burnout. These days, she
barely has time for jazz and is usually too tired for scuba diving, her favorite leisure activities.

**CHEF AND ASSISTANT CHEF**

**YVETTE LEROUX AND JEAN**

Madame Yvette Leroux is an institution at the Royal. She can literally change the mood at any time, especially if her decisions are not accepted. Mme. Yvette is a gifted chef and a master of several types of cuisine. “Food,” she proclaims, “can be cooked by anyone, but only the French make it divine.” The management is only too happy to humor her, given the mouth-watering food she conjures up, including her unbeatable range of pastries.

But, Che knows how many anxious moments she gives her team as she ponders and broods over her menu till the last moment, and then spews forth the list of provisions she needs. The fresh seafood, vegetables, and fruits that she insists on are purchased from the local market at Saphan Mai, an hour away. This has led to a popular local tradition called the Royal Grand Prix.
THE ROYAL GRAND PRIX

A group of local vendors, preselected through years of experience, is on a state of high alert. The hotel van, with Mme. Yvette’s young assistant — Jean — pacing, cell phone in hand, is on standby. The moment the phone rings and the instructions are noted, the vendors swing into action and the loading frenzy begins.

Within minutes, the van is loaded and Jean’s speed on the Royal Grand Prix is unrivalled. There is a discreet betting ring that lays odds on how long it will take Jean to make it back to the hotel. There was even talk of turning this into a professional race till the otherwise easy-going police nipped such ideas in the bud.

Jean, with Che’s tacit support, has made some not-so-subtle suggestions about making this a weekly, and not a daily, ritual — not least because of the expense. However, till now, no action has been taken to resolve this issue.

Knowing he is facing a formidable adversary, Che is quietly pushing for the upgrade of the coffee shop, offering a variety of food that can be served quickly and Wi-Fi areas for the business guest. At least publicly, Madame Yvette remains unconcerned about the threat from the coffee shop and the other “fast-food” ideas of James.
EXECUTIVE HOUSEKEEPER

MARY SANCHEZ

The elder of the two Sanchez sisters, Mary is a perfectionist who is intolerant of any sloppiness. Her white-glove inspections would do credit to a drill sergeant of the Marine Corps — one reason why the entire staff trembles in her presence.

Nobody doubts her integrity; however, it is her impossibly high standards that often terrify the housekeeping team.

Mary has a passion for flowers, her favorite being the rare Parrot flower, and counts the elderly gardener, with whom she has coffee at 11 am every day, as among her few friends. Very thorough with her planning, control, and instructions, she is at her wits’ end with the increasing number of complaints about housekeeping. No amount of repeated instructions or scolding seems to make a difference to the personnel.

ACCOUNTANT

JUANITA SANCHEZ

Juanita Sanchez is the younger, fun-loving sister of Mary. Juanita’s encouraging manner goes a long way to energize the young people at the Royal with her natural leadership qualities. The confidant of many of the younger girls, including and especially in Housekeeping, she is often caught between two contradictory influences. On the one hand is her loyalty and affection for her older sister, and on the other is her growing concern that the quality of service for which Housekeeping was known is slipping.
Much better with people and figures than her elder sister, she is contemplating a formal course in management (apart from her basic qualification in accounting) because she feels that qualifications, savvy, and experience are never enough in an increasingly competitive world.

Juanita is a firm friend of the Business Center Head, Isabel O’Hara, who has not only helped her explore technology, but with whom she spends time as a student, learning all things fun, educational, and practical online.

MAINTENANCE CHIEF

DANIAL KIDWAI (Dan)

Dan is a stocky, quiet, 37-year old, who loves to work with machinery. As his seniority increases, he resents the time he needs to spend in meetings and drafting memos and seeks every opportunity to get his hands “dirty.” He is happiest with a flask of tea and his tool kit.

However, he is smart enough to realize that growth means that he either sets up his own “shop” or he grows in the hotel hierarchy. With a big, extended family dependent on him, the former option is more risky.

His grandparents migrated from Dhaka, Bangladesh, to Myanmar, and finally reached Thailand. He has come up the hard way, and educated himself at night school, leading to an Engineering diploma, while working during the day.
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He has worked for several establishments, including a business center in Indonesia, a hotel in Thailand, and a resort in Malaysia. He is respected by his staff for his mechanical skill and his ability to insulate them from the management. In turn, the management respects Dan’s ability to get along with his people, and his “noiseless” ability to get things done. Despite his quiet demeanor, he is very effective at negotiating with vendors.

Dan likes listening to folk songs in his mother tongue, Bangla, and enjoys playing football on the weekend. When not wearing overalls, simple cottons are his preferred mode of dress.
MIND MAP EXERCISE

This exercise will assist you in recalling the information you have learned. Please do the exercise as outlined here for the most effective result.

1. Draw a circle on the center of the page. In the circle, write the subject that will be mapped.

2. Draw a smaller circle a short distance from the first. In this circle, write a key concept related to the subject. A list of the possible key concepts is given below. All these options should be explored as part of the exercise. Feel free to add additional concepts not included in the list.

3. Draw a line connecting the subject to the key concept.

4. Continue to map key concepts to the main subject. Do this as a brainstorming exercise, recalling as many key concepts related to the subject as you can remember. Do not refer to your Student Handbook for help.

5. Draw a line next to your key concept and describe that concept as much as you can. Draw as many lines as necessary to describe the concept. Do this for each key concept you have mapped.

6. Open your book and compare your mind map to the content in the Student Handbook.

7. Using a different pen or marker, fill in the gaps in your mind map.
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KEY CONCEPTS

- Objective
- Scope
- Principles
- Concepts
- Activities
- Metrics
- Challenges
- Value to Business
- Inputs
- Outputs
- Triggers
- Tools
- Critical Success Factors
- Risks
- Relationships
Glossary of Terms and Definitions

ITIL® V3 Glossary, v01, 30 May 2007

Acknowledgements
We would like to express our gratitude and acknowledge the contribution of Stuart Rance and Ashley Hanna of Hewlett-Packard in the production of this glossary.

Note for readers
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## ITIL® Glossary of Terms, Definitions

### A

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acceptance</strong></td>
<td><strong>Term Definition</strong></td>
</tr>
<tr>
<td></td>
<td>Formal agreement that an IT Service, Process, Plan, or other Deliverable is complete, accurate, Reliable and meets its specified Requirements. Acceptance is usually preceded by Evaluation or Testing and is often required before proceeding to the next stage of a Project or Process. See Service Acceptance Criteria.</td>
</tr>
<tr>
<td><strong>Access Management</strong></td>
<td><strong>Service Operation</strong> The Process responsible for allowing Users to make use of IT Services, data, or other Assets. Access Management helps to protect the Confidentiality, Integrity and Availability of Assets by ensuring that only authorized Users are able to access or modify the Assets. Access Management is sometimes referred to as Rights Management or Identity Management.</td>
</tr>
<tr>
<td>Account Manager</td>
<td>(Service Strategy) A Role that is very similar to Business Relationship Manager, but includes more commercial aspects. Most commonly used when dealing with External Customers.</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Accounting</td>
<td>(Service Strategy) The Process responsible for identifying actual Costs of delivering IT Services, comparing these with budgeted costs, and managing variance from the Budget.</td>
</tr>
<tr>
<td>Accredited</td>
<td>Officially authorised to carry out a Role. For example an Accredited body may be authorised to provide training or to conduct Audits.</td>
</tr>
<tr>
<td>Active Monitoring</td>
<td>(Service Operation) Monitoring of a Configuration Item or an IT Service that uses automated regular checks to discover the current status. See Passive Monitoring.</td>
</tr>
<tr>
<td>Activity</td>
<td>A set of actions designed to achieve a particular result. Activities are usually defined as part of Processes or Plans, and are documented in Procedures.</td>
</tr>
<tr>
<td>Agreed Service Time</td>
<td>(Service Design) A synonym for Service Hours, commonly used in formal calculations of Availability. See Downtime.</td>
</tr>
<tr>
<td><strong>Table of Contents</strong></td>
<td></td>
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<tr>
<td>----------------------</td>
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</tbody>
</table>
| **Agreement**        | A Document that describes a formal understanding between two or more parties. An Agreement is not legally binding, unless it forms part of a Contract.  
See Service Level Agreement, Operational Level Agreement. |
| **Alert**            | (Service Operation) A warning that a threshold has been reached, something has changed, or a Failure has occurred. Alerts are often created and managed by System Management tools and are managed by the Event Management Process. |
| **Analytical Modelling** | (Service Strategy) (Service Design) (Continual Service Improvement) A technique that uses mathematical Models to predict the behaviour of a Configuration Item or IT Service. Analytical Models are commonly used in Capacity Management and Availability Management.  
See Modelling. |
| Application | Software that provides **Functions** that are required by an **IT Service**. Each Application may be part of more than one **IT Service**. An Application runs on one or more **Servers** or **Clients**.  
See **Application Management**, **Application Portfolio**. |
| Application Management | (**Service Design**) (**Service Operation**)
The Function responsible for managing Applications throughout their Lifecycle. |
<p>| Application Portfolio | (<strong>Service Design</strong>) A database or structured Document used to manage Applications throughout their Lifecycle. The Application Portfolio contains key Attributes of all Applications. The Application Portfolio is sometimes implemented as part of the <strong>Service Portfolio</strong>, or as part of the <strong>Configuration Management System</strong>. |
| Application Service Provider (ASP) | (<strong>Service Design</strong>) An <strong>External Service Provider</strong> that provides <strong>IT Services</strong> using Applications running at the Service Provider’s premises. <strong>Users</strong> access the Applications by network connections to the Service Provider. |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Application Sizing</strong></td>
</tr>
<tr>
<td><strong>Architecture</strong></td>
</tr>
<tr>
<td><strong>Assembly</strong></td>
</tr>
</tbody>
</table>
### Table of Contents

| Assessment | Inspection and analysis to check whether a **Standard** or set of **Guidelines** is being followed, that **Records** are accurate, or that **Efficiency** and **Effectiveness** targets are being met.  
See **Audit**. |
<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>Asset</strong></td>
<td><strong>(Service Strategy)</strong> Any <strong>Resource</strong> or <strong>Capability</strong>. Assets of a <strong>Service Provider</strong> include anything that could contribute to the delivery of a <strong>Service</strong>. Assets can be one of the following types: Management, Organisation, Process, Knowledge, People, Information, Applications, Infrastructure, and Financial Capital.</td>
</tr>
</tbody>
</table>
| **Asset Management** | **(Service Transition)** **Asset Management** is the **Process** responsible for tracking and reporting the value and ownership of financial **Assets** throughout their **Lifecycle**. **Asset Management** is part of an overall **Service Asset and Configuration Management Process**.  
See **Asset Register**. |
| **Asset Register** | **(Service Transition)** A list of **Assets**, which includes their ownership and value. The **Asset Register** is maintained by **Asset Management**. |
### Attribute

**Service Transition** A piece of information about a Configuration Item. Examples are name, location, Version number, and Cost. Attributes of CIs are recorded in the Configuration Management Database (CMDB).

See Relationship.

### Audit

Formal inspection and verification to check whether a Standard or set of Guidelines is being followed, that Records are accurate, or that Efficiency and Effectiveness targets are being met. An Audit may be carried out by internal or external groups.

See Certification, Assessment.

### Authority Matrix

Synonym for RACI.

### Automatic Call Distribution (ACD)

**Service Operation** Use of Information Technology to direct an incoming telephone call to the most appropriate person in the shortest possible time. ACD is sometimes called Automated Call Distribution.
<p>| <strong>Availability</strong> | (Service Design) Ability of a Configuration Item or IT Service to perform its agreed Function when required. Availability is determined by Reliability, Maintainability, Serviceability, Performance, and Security. Availability is usually calculated as a percentage. This calculation is often based on Agreed Service Time and Downtime. It is Best Practice to calculate Availability using measurements of the Business output of the IT Service. |
| <strong>Availability Management</strong> | (Service Design) The Process responsible for defining, analysing, Planning, measuring and improving all aspects of the Availability of IT Services. Availability Management is responsible for ensuring that all IT Infrastructure, Processes, Tools, Roles etc are appropriate for the agreed Service Level Targets for Availability. |
| <strong>Availability Management Information System (AMIS)</strong> | (Service Design) A virtual repository of all Availability Management data, usually stored in multiple physical locations. See Service Knowledge Management System. |</p>
<table>
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<tbody>
<tr>
<td><strong>Availability Plan</strong></td>
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<tr>
<th>B</th>
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<tbody>
<tr>
<td><strong>Back-out</strong></td>
</tr>
<tr>
<td><strong>Backup</strong></td>
</tr>
<tr>
<td><strong>Balanced Scorecard</strong></td>
</tr>
</tbody>
</table>
| Baseline | *(Continual Service Improvement)* A Benchmark used as a reference point. For example:

An ITSM Baseline can be used as a starting point to measure the effect of a Service Improvement Plan

A Performance Baseline can be used to measure changes in Performance over the lifetime of an IT Service

A Configuration Management Baseline can be used to enable the IT Infrastructure to be restored to a known Configuration if a Change or Release fails |
### Benchmark

**Benchmark**

*(Continual Service Improvement)* The recorded state of something at a specific point in time. A Benchmark can be created for a **Configuration**, a **Process**, or any other set of data. For example, a benchmark can be used in:

- **Continual Service Improvement**, to establish the current state for managing improvements.
- **Capacity Management**, to document **Performance** characteristics during normal operations.

See Benchmarking, Baseline.

### Benchmarking

**Benchmarking** *(Continual Service Improvement)* Comparing a **Benchmark** with a **Baseline** or with **Best Practice**. The term Benchmarking is also used to mean creating a series of **Benchmarks** over time, and comparing the results to measure progress or improvement.

### Best Practice

**Best Practice**

Proven **Activities** or **Processes** that have been successfully used by multiple **Organisations**. **ITIL** is an example of Best Practice.
| **Brainstorming** | **(Service Design)** A technique that helps a team to generate ideas. Ideas are not reviewed during the Brainstorming session, but at a later stage. Brainstorming is often used by **Problem Management** to identify possible causes. |
| **British Standards Institution (BSI)** | The UK National Standards body, responsible for creating and maintaining British **Standards**. See http://www.bsi-global.com for more information. See **ISO**. |
| **Budget** | A list of all the money an **Organisation** or **Business Unit** plans to receive, and plans to pay out, over a specified period of time. See **Budgeting, Planning**. |
| **Budgeting** | The **Activity** of predicting and controlling the spending of money. Consists of a periodic negotiation cycle to set future **Budgets** (usually annual) and the day-to-day monitoring and adjusting of current **Budgets**. |
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<tr>
<th><strong>Build</strong></th>
<th><strong>Build Environment</strong></th>
<th><strong>Business</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Service Transition)</strong> The Activity of assembling a number of Configuration Items to create part of an IT Service. The term Build is also used to refer to a Release that is authorised for distribution. For example Server Build or laptop Build. See Configuration Baseline.</td>
<td><strong>(Service Transition)</strong> A controlled Environment where Applications, IT Services and other Builds are assembled prior to being moved into a Test or Live Environment.</td>
<td><strong>(Service Strategy)</strong> An overall corporate entity or Organisation formed of a number of Business Units. In the context of ITSM, the term Business includes public sector and not-for-profit organisations, as well as companies. An IT Service Provider provides IT Services to a Customer within a Business. The IT Service Provider may be part of the same Business as their Customer (Internal Service Provider), or part of another Business (External Service Provider).</td>
</tr>
</tbody>
</table>
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<p>| <strong>Business Capacity Management (BCM)</strong> | <em>(Service Design)</em> In the context of ITSM, Business Capacity Management is the Activity responsible for understanding future Business Requirements for use in the Capacity Plan. See Service Capacity Management. |
| <strong>Business Case</strong> | <em>(Service Strategy)</em> Justification for a significant item of expenditure. Includes information about Costs, benefits, options, issues, Risks, and possible problems. See Cost Benefit Analysis. |
| <strong>Business Continuity Management (BCM)</strong> | <em>(Service Design)</em> The Business Process responsible for managing Risks that could seriously impact the Business. BCM safeguards the interests of key stakeholders, reputation, brand and value creating activities. The BCM Process involves reducing Risks to an acceptable level and planning for the recovery of Business Processes should a disruption to the Business occur. BCM sets the Objectives, Scope and Requirements for IT Service Continuity Management. |</p>
<table>
<thead>
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<tbody>
<tr>
<td><strong>Business Continuity Plan (BCP)</strong></td>
</tr>
<tr>
<td><strong>Business Customer</strong></td>
</tr>
<tr>
<td><strong>Business Impact Analysis (BIA)</strong></td>
</tr>
</tbody>
</table>
**Business Objective**

(Service Strategy) The **Objective** of a **Business Process**, or of the **Business** as a whole. Business Objectives support the **Business Vision**, provide guidance for the **IT Strategy**, and are often supported by IT **Services**.

**Business Operations**

(Service Strategy) The day-to-day execution, monitoring and management of **Business Processes**.

**Business Perspective**

(Continual Service Improvement) An understanding of the **Service Provider** and **IT Services** from the point of view of the **Business**, and an understanding of the **Business** from the point of view of the **Service Provider**.

**Business Process**

A **Process** that is owned and carried out by the **Business**. A **Business Process** contributes to the delivery of a **product** or **Service** to a **Business Customer**. For example, a retailer may have a purchasing **Process** which helps to deliver **Services** to their **Business Customers**. Many **Business Processes** rely on **IT Services**.
### Business Relationship Management

**Service Strategy** The Process or Function responsible for maintaining a Relationship with the Business. BRM usually includes:
- Managing personal Relationships with Business managers
- Providing input to Service Portfolio Management
- Ensuring that the IT Service Provider is satisfying the Business needs of the Customers
- This Process has strong links with Service Level Management.

### Business Relationship Manager (BRM)

**Service Strategy** A Role responsible for maintaining the Relationship with one or more Customers. This Role is often combined with the Service Level Manager Role.
- See Account Manager.
| **Business Service** | An **IT Service** that directly supports a **Business Process**, as opposed to an **Infrastructure Service** which is used internally by the **IT Service Provider** and is not usually visible to the **Business**.

The term Business Service is also used to mean a **Service** that is delivered to **Business Customers** by **Business Units**. For example delivery of financial services to **Customers** of a bank, or goods to the **Customers** of a retail store. Successful delivery of Business Services often depends on one or more **IT Services**. |
| **Business Service Management (BSM)** | (**Service Strategy**) (**Service Design**) **An approach to the management of IT Services** that considers the **Business Processes** supported and the **Business value** provided.

This term also means the management of **Business Services** delivered to **Business Customers**. |
<p>| <strong>Business Unit</strong> | (<strong>Service Strategy</strong>) <strong>A segment of the Business</strong> which has its own <strong>Plans, Metrics</strong>, income and <strong>Costs</strong>. Each Business Unit owns <strong>Assets</strong> and uses these to create value for <strong>Customers</strong> in the form of goods and <strong>Services</strong>. |</p>
<table>
<thead>
<tr>
<th>Call Centre</th>
<th>Call</th>
<th>Call Type</th>
<th>Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Call</strong></td>
<td><em>(Service Operation)</em> A telephone call to the Service Desk from a User. A Call could result in an Incident or a Service Request being logged.</td>
<td><em>(Service Operation)</em> An Organisation or Business Unit which handles large numbers of incoming and outgoing telephone calls. See Service Desk.</td>
<td><em>(Service Strategy)</em> The ability of an Organisation, person, Process, Application, Configuration Item or IT Service to carry out an Activity. Capabilities are intangible Assets of an Organisation. See Resource.</td>
</tr>
</tbody>
</table>
### Capability Maturity Model (CMM)

**Continual Service Improvement** The Capability Maturity Model for Software (also known as the CMM and SW-CMM) is a model used to identify Best Practices to help increase Process Maturity. CMM was developed at the Software Engineering Institute (SEI) of Carnegie Mellon University. In 2000, the SW-CMM was upgraded to CMMI® (Capability Maturity Model Integration). The SEI no longer maintains the SW-CMM model, its associated appraisal methods, or training materials.
| Capability Maturity Model Integration (CMMI) | (Continual Service Improvement) Capability Maturity Model® Integration (CMMI) is a process improvement approach developed by the Software Engineering Institute (SEI) of Carnegie Mellon University. CMMI provides organizations with the essential elements of effective processes. It can be used to guide process improvement across a project, a division, or an entire organization. CMMI helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes. See http://www.sei.cmu.edu/cmmi/ for more information.  
See CMM, Continuous Improvement, Maturity. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>(Service Design) The maximum Throughput that a Configuration Item or IT Service can deliver whilst meeting agreed Service Level Targets. For some types of CI, Capacity may be the size or volume, for example a disk drive.</td>
</tr>
<tr>
<td>Table of Contents</td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity Management</strong></td>
<td><strong>(Service Design)</strong> The Process responsible for ensuring that the <strong>Capacity</strong> of <strong>IT Services</strong> and the <strong>IT Infrastructure</strong> is able to deliver agreed <strong>Service Level Targets</strong> in a <strong>Cost Effective</strong> and timely manner. Capacity Management considers all <strong>Resources</strong> required to deliver the IT Service, and plans for short, medium and long term <strong>Business Requirements</strong>.</td>
</tr>
<tr>
<td><strong>Capacity Management Information System (CMIS)</strong></td>
<td><strong>(Service Design)</strong> A virtual repository of all <strong>Capacity Management</strong> data, usually stored in multiple physical locations. See <strong>Service Knowledge Management System</strong>.</td>
</tr>
<tr>
<td><strong>Capacity Plan</strong></td>
<td><strong>(Service Design)</strong> A Capacity Plan is used to manage the <strong>Resources</strong> required to deliver <strong>IT Services</strong>. The <strong>Plan</strong> contains scenarios for different predictions of <strong>Business</strong> demand, and costed options to deliver the agreed <strong>Service Level Targets</strong>.</td>
</tr>
<tr>
<td><strong>Capacity Planning</strong></td>
<td><strong>(Service Design)</strong> The <strong>Activity</strong> within <strong>Capacity Management</strong> responsible for creating a <strong>Capacity Plan</strong>.</td>
</tr>
</tbody>
</table>
## Capital Expenditure (CAPEX)

(Service Strategy) The Cost of purchasing something that will become a financial Asset, for example computer equipment and buildings. The value of the Asset is Deprecated over multiple accounting periods.

## Capital Item

(Service Strategy) An Asset that is of interest to Financial Management because it is above an agreed financial value.

## Capitalization

(Service Strategy) Identifying major Cost as capital, even though no Asset is purchased. This is done to spread the impact of the Cost over multiple accounting periods. The most common example of this is software development, or purchase of a software license.

## Category

A named group of things that have something in common. Categories are used to group similar things together. For example Cost Types are used to group similar types of Cost. Incident Categories are used to group similar types of Incident, CI Types are used to group similar types of Configuration Item.
<table>
<thead>
<tr>
<th>Certification</th>
<th>Issuing a certificate to confirm Compliance to a Standard. Certification includes a formal Audit by an independent and Accredited body. The term Certification is also used to mean awarding a certificate to verify that a person has achieved a qualification.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change</td>
<td>(Service Transition) The addition, modification or removal of anything that could have an effect on IT Services. The Scope should include all IT Services, Configuration Items, Processes, Documentation etc.</td>
</tr>
<tr>
<td>Change Advisory Board (CAB)</td>
<td>(Service Transition) A group of people that advises the Change Manager in the Assessment, prioritisation and scheduling of Changes. This board is usually made up of representatives from all areas within the IT Service Provider, the Business, and Third Parties such as Suppliers.</td>
</tr>
<tr>
<td>Table of Contents</td>
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<tr>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Change Case</td>
<td></td>
</tr>
<tr>
<td><strong>(Service Operation)</strong> A technique used to predict the impact of proposed Changes. Change Cases use specific scenarios to clarify the scope of proposed Changes and to help with Cost Benefit Analysis. See Use Case.</td>
<td></td>
</tr>
<tr>
<td>Change History</td>
<td></td>
</tr>
<tr>
<td><strong>(Service Transition)</strong> Information about all changes made to a Configuration Item during its life. Change History consists of all those Change Records that apply to the CI.</td>
<td></td>
</tr>
<tr>
<td>Change Management</td>
<td></td>
</tr>
<tr>
<td><strong>(Service Transition)</strong> The Process responsible for controlling the Lifecycle of all Changes. The primary objective of Change Management is to enable beneficial Changes to be made, with minimum disruption to IT Services.</td>
<td></td>
</tr>
</tbody>
</table>
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<p>| Change Model                                | (Service Transition) A repeatable way of dealing with a particular Category of Change. A Change Model defines specific pre-defined steps that will be followed for a Change of this Category. Change Models may be very simple, with no requirement for approval (e.g. Password Reset) or may be very complex with many steps that require approval (e.g. major software Release). See Standard Change, Change Advisory Board. |
| Change Record                               | (Service Transition) A Record containing the details of a Change. Each Change Record documents the Lifecycle of a single Change. A Change Record is created for every Request for Change that is received, even those that are subsequently rejected. Change Records should reference the Configuration Items that are affected by the Change. Change Records are stored in the Configuration Management System. |
| Change Request                              | Synonym for Request for Change. |</p>
<table>
<thead>
<tr>
<th>Change Schedule</th>
<th><strong>(Service Transition)</strong> A <strong>Document</strong> that lists all approved <strong>Changes</strong> and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about <strong>Changes</strong> that have already been implemented.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Window</td>
<td><strong>(Service Transition)</strong> A regular, agreed time when <strong>Changes</strong> or <strong>Releases</strong> may be implemented with minimal impact on <strong>Services</strong>. Change Windows are usually documented in <strong>SLAs</strong>.</td>
</tr>
<tr>
<td>Charging</td>
<td><strong>(Service Strategy)</strong> Requiring payment for <strong>IT Services</strong>. Charging for <strong>IT Services</strong> is optional, and many <strong>Organisations</strong> choose to treat their <strong>IT Service Provider</strong> as a <strong>Cost Centre</strong>.</td>
</tr>
<tr>
<td>Chronological Analysis</td>
<td><strong>(Service Operation)</strong> A technique used to help identify possible causes of <strong>Problems</strong>. All available data about the <strong>Problem</strong> is collected and sorted by date and time to provide a detailed timeline. This can make it possible to identify which <strong>Events</strong> may have been triggered by others.</td>
</tr>
<tr>
<td>CI Type</td>
<td>(Service Transition) A Category that is used to Classify CIs. The CI Type identifies the required Attributes and Relationships for a Configuration Record. Common CI Types include: hardware, Document, User etc.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Classification</td>
<td>The act of assigning a Category to something. Classification is used to ensure consistent management and reporting. CIs, Incidents, Problems, Changes etc. are usually classified.</td>
</tr>
<tr>
<td>Client</td>
<td>A generic term that means a Customer, the Business or a Business Customer. For example Client Manager may be used as a synonym for Account Manager. The term client is also used to mean: A computer that is used directly by a User, for example a PC, Handheld Computer, or Workstation. The part of a Client-Server Application that the User directly interfaces with. For example an email Client.</td>
</tr>
<tr>
<td>Closed</td>
<td><strong>(Service Operation)</strong> The final <strong>Status</strong> in the <strong>Lifecycle</strong> of an <strong>Incident</strong>, <strong>Problem</strong>, <strong>Change</strong> etc. When the <strong>Status</strong> is <strong>Closed</strong>, no further action is taken.</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Closure</td>
<td><strong>(Service Operation)</strong> The act of changing the <strong>Status</strong> of an <strong>Incident</strong>, <strong>Problem</strong>, <strong>Change</strong> etc. to <strong>Closed</strong>.</td>
</tr>
<tr>
<td>COBIT</td>
<td><strong>(Continual Service Improvement)</strong> Control Objectives for Information and related Technology (COBIT) provides guidance and <strong>Best Practice</strong> for the management of <strong>IT Processes</strong>. COBIT is published by the IT Governance Institute. See <a href="http://www.isaca.org/">http://www.isaca.org/</a> for more information.</td>
</tr>
<tr>
<td>Code of Practice</td>
<td>A <strong>Guideline</strong> published by a public body or a <strong>Standards Organisation</strong>, such as <strong>ISO</strong> or <strong>BSI</strong>. Many <strong>Standards</strong> consist of a Code of Practice and a <strong>Specification</strong>. The Code of Practice describes recommended <strong>Best Practice</strong>.</td>
</tr>
<tr>
<td>Cold Standby</td>
<td>Synonym for <strong>Gradual Recovery</strong>.</td>
</tr>
<tr>
<td>Commercial off the Shelf (COTS)</td>
<td><strong>(Service Design)</strong> <strong>Application</strong> software or <strong>Middleware</strong> that can be purchased from a <strong>Third Party</strong>.</td>
</tr>
<tr>
<td>Compliance</td>
<td>Ensuring that a <strong>Standard</strong> or set of <strong>Guidelines</strong> is followed, or that proper, consistent accounting or other practices are being employed.</td>
</tr>
<tr>
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</tr>
<tr>
<td>Component</td>
<td>A general term that is used to mean one part of something more complex. For example, a computer <strong>System</strong> may be a component of an <strong>IT Service</strong>, an <strong>Application</strong> may be a Component of a <strong>Release Unit</strong>. Components that need to be managed should be <strong>Configuration Items</strong>.</td>
</tr>
<tr>
<td>Component Capacity Management (CCM)</td>
<td><strong>(Service Design) (Continual Service Improvement)</strong> The <strong>Process</strong> responsible for understanding the <strong>Capacity</strong>, <strong>Utilisation</strong>, and <strong>Performance</strong> of Configuration Items. Data is collected, recorded and analysed for use in the <strong>Capacity Plan</strong>. See <strong>Service Capacity Management</strong>.</td>
</tr>
<tr>
<td>Component CI</td>
<td><strong>(Service Transition)</strong> A <strong>Configuration Item</strong> that is part of an <strong>Assembly</strong>. For example, a CPU or Memory <strong>CI</strong> may be part of a Server <strong>CI</strong>.</td>
</tr>
<tr>
<td>Component Failure Impact Analysis (CFIA)</td>
<td>(Service Design) A technique that helps to identify the impact of CI failure on IT Services. A matrix is created with IT Services on one edge and CIs on the other. This enables the identification of critical CIs (that could cause the failure of multiple IT Services) and of fragile IT Services (that have multiple Single Points of Failure).</td>
</tr>
<tr>
<td>Computer Telephony Integration (CTI)</td>
<td>(Service Operation) CTI is a general term covering any kind of integration between computers and telephone Systems. It is most commonly used to refer to Systems where an Application displays detailed screens relating to incoming or outgoing telephone calls. See Automatic Call Distribution, Interactive Voice Response.</td>
</tr>
<tr>
<td>Concurrency</td>
<td>A measure of the number of Users engaged in the same Operation at the same time.</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>(Service Design) A security principle that requires that data should only be accessed by authorised people.</td>
</tr>
<tr>
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</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td>Configuration</td>
<td><em>(Service Transition)</em> A generic term, used to describe a group of <em>Configuration Items</em> that work together to deliver an <em>IT Service</em>, or a recognizable part of an <em>IT Service</em>. Configuration is also used to describe the parameter settings for one or more <em>CIs</em>.</td>
</tr>
<tr>
<td>Configuration Baseline</td>
<td><em>(Service Transition)</em> A <em>Baseline</em> of a <em>Configuration</em> that has been formally agreed and is managed through the <em>Change Management</em> process. A Configuration Baseline is used as a basis for future <em>Builds, Releases</em> and <em>Changes</em>.</td>
</tr>
<tr>
<td>Configuration Control</td>
<td><em>(Service Transition)</em> The <em>Activity</em> responsible for ensuring that adding, modifying or removing a <em>CI</em> is properly managed, for example by submitting a <em>Request for Change</em> or <em>Service Request</em>.</td>
</tr>
<tr>
<td>Configuration Identification</td>
<td><em>(Service Transition)</em> The <em>Activity</em> responsible for collecting information about <em>Configuration Items</em> and their <em>Relationships</em>, and loading this information into the <em>CMDB</em>. Configuration Identification is also responsible for labelling the <em>CIs</em> themselves, so that the corresponding <em>Configuration Records</em> can be found.</td>
</tr>
<tr>
<td>Configuration Item (CI)</td>
<td><strong>(Service Transition)</strong> Any <strong>Component</strong> that needs to be managed in order to deliver an <strong>IT Service</strong>. Information about each <strong>CI</strong> is recorded in a <strong>Configuration Record</strong> within the <strong>Configuration Management System</strong> and is maintained throughout its <strong>Lifecycle</strong> by <strong>Configuration Management</strong>. <strong>CIs</strong> are under the control of <strong>Change Management</strong>. <strong>CIs</strong> typically include <strong>IT Services</strong>, hardware, software, buildings, people, and formal documentation such as <strong>Process documentation</strong> and <strong>SLAs</strong>.</td>
</tr>
<tr>
<td>Configuration Management</td>
<td><strong>(Service Transition)</strong> The <strong>Process</strong> responsible for maintaining information about <strong>Configuration Items</strong> required to deliver an <strong>IT Service</strong>, including their <strong>Relationships</strong>. This information is managed throughout the <strong>Lifecycle</strong> of the <strong>CI</strong>. <strong>Configuration Management</strong> is part of an overall <strong>Service Asset and Configuration Management Process</strong>.</td>
</tr>
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</tr>
<tr>
<td><strong>Configuration Management Database (CMDB)</strong></td>
<td><strong>(Service Transition)</strong> A database used to store Configuration Records throughout their Lifecycle. The Configuration Management System maintains one or more CMDBs, and each CMDB stores Attributes of CIs, and Relationships with other CIs.</td>
</tr>
<tr>
<td><strong>Configuration Management System (CMS)</strong></td>
<td><strong>(Service Transition)</strong> A set of tools and databases that are used to manage an IT Service Provider’s Configuration data. The CMS also includes information about Incidents, Problems, Known Errors, Changes and Releases; and may contain data about employees, Suppliers, locations, Business Units, Customers and Users. The CMS includes tools for collecting, storing, managing, updating, and presenting data about all Configuration Items and their Relationships. The CMS is maintained by Configuration Management and is used by all IT Service Management Processes. See Configuration Management Database, Service Knowledge Management System.</td>
</tr>
<tr>
<td>Configuration Record</td>
<td></td>
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</tr>
<tr>
<td><strong>(Service Transition)</strong></td>
<td>A Record containing the details of a Configuration Item. Each Configuration Record documents the Lifecycle of a single CI. Configuration Records are stored in a Configuration Management Database.</td>
</tr>
</tbody>
</table>

| Configuration Structure | 
|-------------------------|------------------|
| **(Service Transition)** | The hierarchy and other Relationships between all the Configuration Items that comprise a Configuration. |

| Continual Service Improvement (CSI) | 
|-----------------------------------|------------------|
| **(Continual Service Improvement)** | A stage in the Lifecycle of an IT Service and the title of one of the Core ITIL publications. |

Continual Service Improvement is responsible for managing improvements to IT Service Management Processes and IT Services. The Performance of the IT Service Provider is continually measured and improvements are made to Processes, IT Services and IT Infrastructure in order to increase Efficiency, Effectiveness, and Cost Effectiveness.

See Plan-Do-Check-Act.
<table>
<thead>
<tr>
<th>Continuous Availability</th>
<th><strong>(Service Design)</strong> An approach or design to achieve 100% Availability. A Continuously Available IT Service has no planned or unplanned Downtime.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Operation</td>
<td><strong>(Service Design)</strong> An approach or design to eliminate planned Downtime of an IT Service. Note that individual Configuration Items may be down even though the IT Service is Available.</td>
</tr>
<tr>
<td>Contract</td>
<td>A legally binding Agreement between two or more parties.</td>
</tr>
<tr>
<td>Contract Portfolio</td>
<td><strong>(Service Strategy)</strong> A database or structured Document used to manage Service Contracts or Agreements between an IT Service Provider and their Customers. Each IT Service delivered to a Customer should have a Contract or other Agreement which is listed in the Contract Portfolio. See Service Portfolio, Service Catalogue.</td>
</tr>
</tbody>
</table>
## Control

A means of managing a Risk, ensuring that a **Business Objective** is achieved, or ensuring that a **Process** is followed. Example Controls include **Policies**, **Procedures**, **Roles**, **RAID**, door-locks etc. A control is sometimes called a **Countermeasure** or safeguard.

Control also means to manage the utilization or behaviour of a **Configuration Item**, **System** or **IT Service**.

## Control Objectives for Information and related Technology (COBIT)

See **COBIT**.
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<tr>
<th>Control perspective</th>
<th>(Service Strategy) An approach to the management of IT Services, Processes, Functions, Assets etc. There can be several different Control Perspectives on the same IT Service, Process etc., allowing different individuals or teams to focus on what is important and relevant to their specific Role. Example Control Perspectives include Reactive and Proactive management within IT Operations, or a Lifecycle view for an Application Project team.</th>
</tr>
</thead>
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<tr>
<td>Core Service</td>
<td>(Service Strategy) An IT Service that delivers basic Outcomes desired by one or more Customers.</td>
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<td>See Supporting Service, Core Service Package.</td>
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<tr>
<td>Core Service Package (CSP)</td>
<td>(Service Strategy) A detailed description of a Core Service that may be shared by two or more Service Level Packages.</td>
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<tr>
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<td>See Service Package.</td>
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</table>

**Cost**

The amount of money spent on a specific **Activity**, **IT Service**, or **Business Unit**. Costs consist of real cost (money), notional cost such as people’s time, and **Depreciation**.

**Cost Benefit Analysis**

An **Activity** that analyses and compares the **Costs** and the benefits involved in one or more alternative courses of action. See **Business Case**, **Net Present Value**, **Internal Rate of Return**, **Return on Investment**, **Value on Investment**.

**Cost Centre**

**Service Strategy** A **Business Unit** or **Project** to which **Costs** are assigned. A Cost Centre does not charge for **Services** provided. An **IT Service Provider** can be run as a Cost Centre or a **Profit Centre**.

**Cost Effectiveness**

A measure of the balance between the **Effectiveness** and **Cost** of a **Service**, **Process** or activity, A Cost Effective **Process** is one which achieves its **Objectives** at minimum **Cost**. See **KPI**, **Return on Investment**, **Value for Money**.
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<tr>
<td><strong>Cost Element</strong></td>
<td><em>(Service Strategy)</em> The middle level of category to which Costs are assigned in Budgeting and Accounting. The highest level category is Cost Type. For example a Cost Type of “people” could have cost elements of payroll, staff benefits, expenses, training, overtime etc. Cost Elements can be further broken down to give Cost Units. For example the Cost Element “expenses” could include Cost Units of Hotels, Transport, Meals etc.</td>
</tr>
<tr>
<td><strong>Cost Management</strong></td>
<td><em>(Service Strategy)</em> A general term that is used to refer to Budgeting and Accounting, sometimes used as a synonym for Financial Management</td>
</tr>
<tr>
<td><strong>Cost Type</strong></td>
<td><em>(Service Strategy)</em> The highest level of category to which Costs are assigned in Budgeting and Accounting. For example hardware, software, people, accommodation, external and Transfer. See Cost Element, Cost Type.</td>
</tr>
</tbody>
</table>
### Cost Unit

**Service Strategy** The lowest level of category to which Costs are assigned, Cost Units are usually things that can be easily counted (e.g. staff numbers, software licences) or things easily measured (e.g. CPU usage, Electricity consumed). Cost Units are included within Cost Elements. For example a Cost Element of “expenses” could include Cost Units of Hotels, Transport, Meals etc.

See Cost Type.

### Countermeasure

Can be used to refer to any type of Control. The term Countermeasure is most often used when referring to measures that increase Resilience, Fault Tolerance or Reliability of an IT Service.

### Course Corrections

Changes made to a Plan or Activity that has already started, to ensure that it will meet its Objectives. Course corrections are made as a result of Monitoring progress.
<table>
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<tr>
<th>CRAMM</th>
<th>A methodology and tool for analysing and managing <strong>Risks</strong>. CRAMM was developed by the UK Government, but is now privately owned. Further information is available from <a href="http://www.cramm.com/">http://www.cramm.com/</a></th>
</tr>
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<tr>
<td>Crisis Management</td>
<td>The <strong>Process</strong> responsible for managing the wider implications of <strong>Business Continuity</strong>. A Crisis Management team is responsible for <strong>Strategic</strong> issues such as managing media relations and shareholder confidence, and decides when to invoke <strong>Business Continuity Plans</strong>.</td>
</tr>
<tr>
<td>Critical Success Factor (CSF)</td>
<td>Something that must happen if a <strong>Process</strong>, <strong>Project</strong>, <strong>Plan</strong>, or <strong>IT Service</strong> is to succeed. <strong>KPIs</strong> are used to measure the achievement of each CSF. For example a CSF of “protect <strong>IT Services</strong> when making Changes” could be measured by <strong>KPIs</strong> such as “percentage reduction of unsuccessful <strong>Changes</strong>”, “percentage reduction in <strong>Changes</strong> causing <strong>Incidents</strong>” etc.</td>
</tr>
<tr>
<td>Culture</td>
<td>A set of values that is shared by a group of people, including expectations about how people should behave, ideas, beliefs, and practices. See Vision.</td>
</tr>
<tr>
<td>Customer</td>
<td>Someone who buys goods or Services. The Customer of an IT Service Provider is the person or group who defines and agrees the Service Level Targets. The term Customers is also sometimes informally used to mean Users, for example “this is a Customer focussed Organisation”.</td>
</tr>
<tr>
<td>Customer Portfolio</td>
<td><strong>(Service Strategy)</strong> A database or structured Document used to record all Customers of the IT Service Provider. The Customer Portfolio is the Business Relationship Manager’s view of the Customers who receive Services from the IT Service Provider. See Contract Portfolio, Service Portfolio.</td>
</tr>
<tr>
<td>Dashboard</td>
<td><strong>(Service Operation)</strong> A graphical representation of overall IT Service Performance and Availability. Dashboard images may be updated in real-time, and can also be included in management reports and web pages. Dashboards can be used to support Service Level Management, Event Management or Incident Diagnosis.</td>
</tr>
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</tr>
<tr>
<td>Data-to-Information-to-Knowledge-to-Wisdom (DIKW)</td>
<td>A way of understanding the relationships between data, information, knowledge, and wisdom. DIKW shows how each of these builds on the others.</td>
</tr>
<tr>
<td>Definitive Media Library (DML)</td>
<td>(Service Transition) One or more locations in which the definitive and approved versions of all software Configuration Items are securely stored. The DML may also contain associated CIs such as licenses and documentation. The DML is a single logical storage area even if there are multiple locations. All software in the DML is under the control of Change and Release Management and is recorded in the Configuration Management System. Only software from the DML is acceptable for use in a Release.</td>
</tr>
<tr>
<td>Deliverable</td>
<td>Something that must be provided to meet a commitment in a Service Level Agreement or a Contract. Deliverable is also used in a more informal way to mean a planned output of any Process.</td>
</tr>
</tbody>
</table>
## Demand Management

Activities that understand and influence Customer demand for Services and the provision of Capacity to meet these demands. At a Strategic level Demand Management can involve analysis of Patterns of Business Activity and User Profiles. At a Tactical level it can involve use of Differential Charging to encourage Customers to use IT Services at less busy times.

See Capacity Management.

## Deming Cycle

Synonym for Plan Do Check Act.

## Dependency

The direct or indirect reliance of one Process or Activity upon another.

## Deployment

(Service Transition) The Activity responsible for movement of new or changed hardware, software, documentation, Process, etc to the Live Environment. Deployment is part of the Release and Deployment Management Process.

See Rollout.

## Depreciation

(Service Strategy) A measure of the reduction in value of an Asset over its life. This is based on wearing out, consumption or other reduction in the useful economic value.
<table>
<thead>
<tr>
<th>Design</th>
<th><strong>(Service Design)</strong> An Activity or Process that identifies Requirements and then defines a solution that is able to meet these Requirements. See Service Design.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection</td>
<td><strong>(Service Operation)</strong> A stage in the Incident Lifecycle. Detection results in the Incident becoming known to the Service Provider. Detection can be automatic, or can be the result of a User logging an Incident.</td>
</tr>
<tr>
<td>Development</td>
<td><strong>(Service Design)</strong> The Process responsible for creating or modifying an IT Service or Application. Also used to mean the Role or group that carries out Development work.</td>
</tr>
<tr>
<td>Development Environment</td>
<td><strong>(Service Design)</strong> An Environment used to create or modify IT Services or Applications. Development Environments are not typically subjected to the same degree of control as Test Environments or Live Environments. See Development.</td>
</tr>
<tr>
<td>Diagnosis</td>
<td><strong>(Service Operation)</strong> A stage in the Incident and Problem Lifecycles. The purpose of Diagnosis is to identify a Workaround for an Incident or the Root Cause of a Problem.</td>
</tr>
<tr>
<td>Diagnostic Script</td>
<td>(Service Operation) A structured set of questions used by Service Desk staff to ensure they ask the correct questions, and to help them Classify, Resolve and assign Incidents. Diagnostic Scripts may also be made available to Users to help them diagnose and resolve their own Incidents.</td>
</tr>
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<tr>
<td>Differential Charging</td>
<td>A technique used to support Demand Management by charging different amounts for the same IT Service Function at different times.</td>
</tr>
<tr>
<td>Direct Cost</td>
<td>(Service Strategy) A cost of providing an IT Service which can be allocated in full to a specific Customer, Cost Centre, Project etc. For example cost of providing non-shared servers or software licenses. See Indirect Cost.</td>
</tr>
<tr>
<td>Directory Service</td>
<td>(Service Operation) An Application that manages information about IT Infrastructure available on a network, and corresponding User access Rights.</td>
</tr>
<tr>
<td>Do Nothing</td>
<td>(Service Design) A Recovery Option. The Service Provider formally agrees with the Customer that Recovery of this IT Service will not be performed.</td>
</tr>
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<tr>
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</tr>
<tr>
<td><strong>Document</strong></td>
<td>Information in readable form. A Document may be paper or electronic. For example a <strong>Policy</strong> statement, <strong>Service Level Agreement</strong>, <strong>Incident Record</strong>, diagram of computer room layout.</td>
</tr>
<tr>
<td><strong>Downtime</strong></td>
<td>(<strong>Service Design</strong>) (<strong>Service Operation</strong>) The time when a <strong>Configuration Item</strong> or <strong>IT Service</strong> is not <strong>Available</strong> during its <strong>Agreed Service Time</strong>. The <strong>Availability</strong> of an <strong>IT Service</strong> is often calculated from <strong>Agreed Service Time</strong> and Downtime.</td>
</tr>
<tr>
<td><strong>Driver</strong></td>
<td>Something that influences <strong>Strategy</strong>, <strong>Objectives</strong> or <strong>Requirements</strong>. For example new legislation or the actions of competitors.</td>
</tr>
</tbody>
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<table>
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<tr>
<th>Early Life Support</th>
<th>(Service Transition) Support provided for a new or Changed IT Service for a period of time after it is Released. During Early Life Support the IT Service Provider may review the KPIs, Service Levels and Monitoring Thresholds, and provide additional Resources for Incident and Problem Management.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economies of scale</td>
<td>(Service Strategy) The reduction in average Cost that is possible from increasing the usage of an IT Service or Asset. See Economies of Scope.</td>
</tr>
<tr>
<td>Economies of scope</td>
<td>(Service Strategy) The reduction in Cost that is allocated to an IT Service by using an existing Asset for an additional purpose. For example delivering a new IT Service from existing IT Infrastructure. See Economies of Scale.</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>(Continual Service Improvement) A measure of whether the Objectives of a Process, Service or Activity have been achieved. An Effective Process or Activity is one that achieves its agreed Objectives. See KPI.</td>
</tr>
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<tr>
<td>Efficiency</td>
<td>(Continual Service Improvement) A measure of whether the right amount of resources have been used to deliver a Process, Service or Activity. An Efficient Process achieves its Objectives with the minimum amount of time, money, people or other resources. See KPI.</td>
</tr>
<tr>
<td>Emergency Change</td>
<td>(Service Transition) A Change that must be introduced as soon as possible. For example to resolve a Major Incident or implement a Security patch. The Change Management Process will normally have a specific Procedure for handling Emergency Changes. See Emergency Change Advisory Board (ECAB).</td>
</tr>
<tr>
<td>Emergency Change Advisory Board (ECAB)</td>
<td>(Service Transition) A sub-set of the Change Advisory Board who make decisions about high impact Emergency Changes. Membership of the ECAB may be decided at the time a meeting is called, and depends on the nature of the Emergency Change.</td>
</tr>
<tr>
<td>Environment</td>
<td>(Service Transition) A subset of the IT Infrastructure that is used for a particular purpose. For Example: Live Environment, Test Environment, Build Environment. It is possible for multiple Environments to share a Configuration Item, for example Test and Live Environments may use different partitions on a single mainframe computer. Also used in the term Physical Environment to mean the accommodation, air conditioning, power system etc. Environment is also used as a generic term to mean the external conditions that influence or affect something.</td>
</tr>
<tr>
<td>Error</td>
<td>(Service Operation) A design flaw or malfunction that causes a Failure of one or more Configuration Items or IT Services. A mistake made by a person or a faulty Process that impacts a CI or IT Service is also an Error.</td>
</tr>
<tr>
<td>Escalation</td>
<td><strong>(Service Operation)</strong> An <em>Activity</em> that obtains additional <em>Resources</em> when these are needed to meet <em>Service Level Targets</em> or <em>Customer</em> expectations. Escalation may be needed within any <em>IT Service Management Process</em>, but is most commonly associated with <em>Incident Management</em>, <em>Problem Management</em> and the management of <em>Customer</em> complaints. There are two types of Escalation, <em>Functional Escalation</em> and <em>Hierarchic Escalation</em>.</td>
</tr>
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</tr>
<tr>
<td><strong>eSourcing Capability Model for Client Organizations (eSCM-CL)</strong></td>
<td><strong>(Service Strategy)</strong> A framework to help <em>Organisations</em> guide their analysis and decisions on <em>Service Sourcing Models</em> and <em>Strategies</em>. eSCM-CL was developed by Carnegie Mellon University. See eSCM-SP.</td>
</tr>
<tr>
<td><strong>eSourcing Capability Model for Service Providers (eSCM-SP)</strong></td>
<td><strong>(Service Strategy)</strong> A framework to help <em>IT Service Providers</em> develop their <em>IT Service Management Capabilities</em> from a <em>Service Sourcing</em> perspective. eSCM-SP was developed by Carnegie Mellon University. See eSCM-CL.</td>
</tr>
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<tr>
<th><strong>Estimation</strong></th>
<th>The use of experience to provide an approximate value for a Metric or Cost. Estimation is also used in Capacity and Availability Management as the cheapest and least accurate Modelling method.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Evaluation</strong></td>
<td><em>(Service Transition)</em> The Process responsible for assessing a new or Changed IT Service to ensure that Risks have been managed and to help determine whether to proceed with the Change. Evaluation is also used to mean comparing an actual Outcome with the intended Outcome, or comparing one alternative with another.</td>
</tr>
<tr>
<td><strong>Event</strong></td>
<td><em>(Service Operation)</em> A change of state which has significance for the management of a Configuration Item or IT Service. The term Event is also used to mean an Alert or notification created by any IT Service, Configuration Item or Monitoring tool. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.</td>
</tr>
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<tr>
<th>Event Management</th>
<th><strong>(Service Operation)</strong> The <strong>Process</strong> responsible for managing <strong>Events</strong> throughout their <strong>Lifecycle</strong>. Event Management is one of the main <strong>Activities</strong> of <strong>IT Operations</strong>.</th>
</tr>
</thead>
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<tr>
<td>Exception Report</td>
<td>A <strong>Document</strong> containing details of one or more <strong>KPIs</strong> or other important targets that have exceeded defined <strong>Thresholds</strong>. Examples include <strong>SLA</strong> targets being missed or about to be missed, and a <strong>Performance Metric</strong> indicating a potential <strong>Capacity</strong> problem.</td>
</tr>
<tr>
<td>Expanded Incident Lifecycle</td>
<td><strong>(Availability Management)</strong> Detailed stages in the <strong>Lifecycle</strong> of an <strong>Incident</strong>. The stages are <strong>Detection</strong>, <strong>Diagnosis</strong>, <strong>Repair</strong>, <strong>Recovery</strong>, <strong>Restoration</strong>. The Expanded Incident Lifecycle is used to help understand all contributions to the <strong>Impact</strong> of <strong>Incidents</strong> and to <strong>Plan</strong> how these could be controlled or reduced.</td>
</tr>
<tr>
<td>External Customer</td>
<td>A <strong>Customer</strong> who works for a different <strong>Business</strong> to the <strong>IT Service Provider</strong>. See <strong>External Service Provider</strong>, <strong>Internal Customer</strong>.</td>
</tr>
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<tr>
<th>External Metric</th>
<th>A Metric that is used to measure the delivery of IT Service to a Customer. External Metrics are usually defined in SLAs and reported to Customers. See Internal Metric.</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Service Provider</td>
<td>(Service Strategy) An IT Service Provider which is part of a different Organisation to their Customer. An IT Service Provider may have both Internal Customers and External Customers. See Type III Service Provider.</td>
</tr>
<tr>
<td>External Sourcing</td>
<td>Synonym for Outsourcing.</td>
</tr>
</tbody>
</table>

**F**

| Facilities Management    | (Service Operation) The Function responsible for managing the physical Environment where the IT Infrastructure is located. Facilities Management includes all aspects of managing the physical Environment, for example power and cooling, building Access Management, and environmental Monitoring. |

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<td>Fishbone Diagram</td>
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<tr>
<td>-------------------</td>
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<tr>
<td>Fit for Purpose</td>
</tr>
</tbody>
</table>
| Fixed Cost        | **(Service Strategy)** A Cost that does not vary with IT Service usage. For example the cost of Server hardware.  
See Variable Cost. |
See Recovery Option, Portable Facility. |
<p>| Follow the Sun    | <strong>(Service Operation)</strong> A methodology for using Service Desks and Support Groups around the world to provide seamless 24 * 7 Service. Calls, Incidents, Problems and Service Requests are passed between groups in different time zones. |
| Fulfilment        | Performing Activities to meet a need or Requirement. For example by providing a new IT Service, or meeting a Service Request. |
| Function | A team or group of people and the tools they use to carry out one or more Processes or Activities. For example the Service Desk. The term Function also has two other meanings An intended purpose of a Configuration Item, Person, Team, Process, or IT Service. For example one Function of an Email Service may be to store and forward outgoing mails, one Function of a Business Process may be to dispatch goods to Customers. To perform the intended purpose correctly, “The computer is Functioning” |
| Functional Escalation | (Service Operation) Transferring an Incident, Problem or Change to a technical team with a higher level of expertise to assist in an Escalation. |
| <strong>Gap Analysis</strong> | <strong>(Continual Service Improvement)</strong> An Activity which compares two sets of data and identifies the differences. Gap Analysis is commonly used to compare a set of Requirements with actual delivery. See <strong>Benchmarking</strong>. |
| <strong>Governance</strong> | Ensuring that <strong>Policies</strong> and <strong>Strategy</strong> are actually implemented, and that required <strong>Processes</strong> are correctly followed. Governance includes defining <strong>Roles</strong> and responsibilities, measuring and reporting, and taking actions to resolve any issues identified. |
| <strong>Gradual Recovery</strong> | <strong>(Service Design)</strong> A Recovery Option which is also known as Cold Standby. Provision is made to <strong>Recover</strong> the <strong>IT Service</strong> in a period of time greater than 72 hours. Gradual Recovery typically uses a <strong>Portable</strong> or <strong>Fixed Facility</strong> that has environmental support and network cabling, but no computer <strong>Systems</strong>. The hardware and software are installed as part of the <strong>IT Service Continuity Plan</strong>. |</p>
<table>
<thead>
<tr>
<th>Guideline</th>
<th>A Document describing Best Practice, that recommends what should be done. Compliance to a guideline is not normally enforced. See Standard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help Desk</td>
<td>(Service Operation) A point of contact for Users to log Incidents. A Help Desk is usually more technically focussed than a Service Desk and does not provide a Single Point of Contact for all interaction. The term Help Desk is often used as a synonym for Service Desk.</td>
</tr>
<tr>
<td>Hierarchic Escalation</td>
<td>(Service Operation) Informing or involving more senior levels of management to assist in an Escalation.</td>
</tr>
</tbody>
</table>
### High Availability

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<table>
<thead>
<tr>
<th>(Service Design) An approach or Design that minimises or hides the effects of Configuration Item Failure on the Users of an IT Service. High Availability solutions are Designed to achieve an agreed level of Availability and make use of techniques such as Fault Tolerance, Resilience and fast Recovery to reduce the number of Incidents, and the Impact of Incidents.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Availability</strong></td>
</tr>
</tbody>
</table>

| Hot Standby | Synonym for Fast Recovery or Immediate Recovery. |
|---|

### Identity

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<table>
<thead>
<tr>
<th>(Service Operation) A unique name that is used to identify a User, person or Role. The Identity is used to grant Rights to that User, person, or Role. Example identities might be the username SmithJ or the Role “Change manager”.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identity</strong></td>
</tr>
</tbody>
</table>

| Immediate Recovery | (Service Design) A Recovery Option which is also known as Hot Standby. Provision is made to Recover the IT Service with no loss of Service. Immediate Recovery typically uses mirroring, load balancing and split site technologies. |
|---|
| **Immediate Recovery** |
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<table>
<thead>
<tr>
<th>Impact</th>
<th><em>(Service Operation) (Service Transition)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>A measure of the effect of an Incident, Problem or Change on Business Processes. Impact is often based on how Service Levels will be affected. Impact and Urgency are used to assign Priority.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Incident</th>
<th><em>(Service Operation)</em></th>
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<tbody>
<tr>
<td>An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example Failure of one disk from a mirror set.</td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Incident Management</th>
<th><em>(Service Operation)</em></th>
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</thead>
<tbody>
<tr>
<td>The Process responsible for managing the Lifecycle of all Incidents. The primary Objective of Incident Management is to return the IT Service to Users as quickly as possible.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Incident Record</th>
<th><em>(Service Operation)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>A Record containing the details of an Incident. Each Incident record documents the Lifecycle of a single Incident.</td>
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</tr>
<tr>
<td><strong>Indirect Cost</strong></td>
<td><em>(Service Strategy)</em> A Cost of providing an IT Service which cannot be allocated in full to a specific Customer. For example Cost of providing shared Servers or software licenses. Also known as Overhead. See Direct Cost.</td>
</tr>
<tr>
<td><strong>Information Security Management (ISM)</strong></td>
<td><em>(Service Design)</em> The Process that ensures the Confidentiality, Integrity and Availability of an Organisation’s Assets, information, data and IT Services. Information Security Management usually forms part of an Organisational approach to Security Management which has a wider scope than the IT Service Provider, and includes handling of paper, building access, phone calls etc., for the entire Organisation.</td>
</tr>
<tr>
<td><strong>Information Security Policy</strong></td>
<td><em>(Service Design)</em> The framework of Policy, Processes, Standards, Guidelines and tools that ensures an Organisation can achieve its Information Security Management Objectives.</td>
</tr>
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</tr>
<tr>
<td><strong>Information Technology (IT)</strong></td>
<td>The use of technology for the storage, communication or processing of information. The technology typically includes computers, telecommunications, <strong>Applications</strong> and other software. The information may include <strong>Business</strong> data, voice, images, video, etc. Information Technology is often used to support <strong>Business Processes</strong> through IT Services.</td>
</tr>
<tr>
<td><strong>Infrastructure Service</strong></td>
<td>An <strong>IT Service</strong> that is not directly used by the <strong>Business</strong>, but is required by the <strong>IT Service Provider</strong> so they can provide other IT Services. For example <strong>Directory Services</strong>, naming services, or communication services.</td>
</tr>
<tr>
<td><strong>Insourcing</strong></td>
<td><strong>Synonym for Internal Sourcing.</strong></td>
</tr>
<tr>
<td><strong>Integrity</strong></td>
<td><strong>(Service Design)</strong> A security principle that ensures data and <strong>Configuration Items</strong> are only modified by authorised personnel and <strong>Activities</strong>. Integrity considers all possible causes of modification, including software and hardware <strong>Failure</strong>, environmental <strong>Events</strong>, and human intervention.</td>
</tr>
<tr>
<td>Interactive Voice Response (IVR)</td>
<td><strong>(Service Operation)</strong> A form of <strong>Automatic Call Distribution</strong> that accepts <strong>User</strong> input, such as key presses and spoken commands, to identify the correct destination for incoming <strong>Calls</strong>.</td>
</tr>
<tr>
<td>----------------------------------</td>
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<tr>
<td>Intermediate Recovery</td>
<td><strong>(Service Design)</strong> A <strong>Recovery Option</strong> which is also known as <strong>Warm Standby</strong>. Provision is made to <strong>Recover</strong> the <strong>IT Service</strong> in a period of time between 24 and 72 hours. Intermediate Recovery typically uses a shared <strong>Portable</strong> or <strong>Fixed Facility</strong> that has computer <strong>Systems</strong> and network <strong>Components</strong>. The hardware and software will need to be configured, and data will need to be restored, as part of the <strong>IT Service Continuity Plan</strong>.</td>
</tr>
<tr>
<td>Internal Customer</td>
<td><strong>A Customer</strong> who works for the same <strong>Business</strong> as the <strong>IT Service Provider</strong>. See <strong>Internal Service Provider</strong>, <strong>External Customer</strong>.</td>
</tr>
<tr>
<td>Internal Metric</td>
<td><strong>A Metric</strong> that is used within the <strong>IT Service Provider</strong> to <strong>Monitor</strong> the <strong>Efficiency</strong>, <strong>Effectiveness</strong> or <strong>Cost Effectiveness</strong> of the <strong>IT Service Provider’s</strong> internal <strong>Processes</strong>. <strong>Internal Metrics</strong> are not normally reported to the <strong>Customer</strong> of the <strong>IT Service</strong>. See <strong>External Metric</strong>.</td>
</tr>
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<tr>
<td><strong>Internal Rate of Return (IRR)</strong></td>
<td><em>(Service Strategy)</em> A technique used to help make decisions about Capital Expenditure. IRR calculates a figure that allows two or more alternative investments to be compared. A larger IRR indicates a better investment. See <strong>Net Present Value</strong>, <strong>Return on Investment</strong>.</td>
</tr>
<tr>
<td><strong>Internal Service Provider</strong></td>
<td><em>(Service Strategy)</em> An IT Service Provider which is part of the same Organisation as their Customer. An IT Service Provider may have both Internal Customers and External Customers. See <strong>Type I Service Provider</strong>, <strong>Type II Service Provider</strong>, <strong>Insource</strong>.</td>
</tr>
<tr>
<td><strong>Internal Sourcing</strong></td>
<td><em>(Service Strategy)</em> Using an Internal Service Provider to manage IT Services. See <strong>Service Sourcing</strong>, <strong>Type I Service Provider</strong>, <strong>Type II Service Provider</strong>.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
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<td>------------------------------------------------</td>
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<tr>
<td>International Organization for Standardization (ISO)</td>
<td>The International Organization for Standardization (ISO) is the world’s largest developer of <strong>Standards</strong>. ISO is a non-governmental organization which is a network of the national standards institutes of 156 countries. Further information about ISO is available from <a href="http://www.iso.org/">http://www.iso.org/</a></td>
</tr>
<tr>
<td>International Standards Organisation</td>
<td>See <strong>International Organization for Standardization (ISO)</strong></td>
</tr>
<tr>
<td>Internet Service Provider (ISP)</td>
<td>An <strong>External Service Provider</strong> that provides access to the Internet. Most ISPs also provide other <strong>IT Services</strong> such as web hosting.</td>
</tr>
<tr>
<td>Invocation</td>
<td><strong>(Service Design)</strong> Initiation of the steps defined in a plan. For example initiating the <strong>IT Service Continuity Plan</strong> for one or more <strong>IT Services</strong>.</td>
</tr>
<tr>
<td>Ishikawa Diagram</td>
<td><strong>(Service Operation)</strong> <strong>(Continual Service Improvement)</strong> A technique that helps a team to identify all the possible causes of a <strong>Problem</strong>. Originally devised by Kaoru Ishikawa, the output of this technique is a diagram that looks like a fishbone.</td>
</tr>
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<tr>
<td>ISO 9000</td>
<td>A generic term that refers to a number of international Standards and Guidelines for Quality Management Systems. See <a href="http://www.iso.org">http://www.iso.org</a> for more information. See ISO.</td>
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<tr>
<td><strong>IT Directorate</strong></td>
<td><em>(Continual Service Improvement)</em> Senior Management within a Service Provider, charged with developing and delivering IT services. Most commonly used in UK Government departments.</td>
</tr>
<tr>
<td><strong>IT Infrastructure</strong></td>
<td>All of the hardware, software, networks, facilities etc. that are required to Develop, Test, deliver, Monitor, Control or support IT Services. The term IT Infrastructure includes all of the Information Technology but not the associated people, Processes and documentation.</td>
</tr>
<tr>
<td><strong>IT Operations</strong></td>
<td><em>(Service Operation)</em> Activities carried out by IT Operations Control, including Console Management, Job Scheduling, Backup and Restore, and Print and Output Management. IT Operations is also used as a synonym for Service Operation.</td>
</tr>
<tr>
<td><strong>IT Operations Control</strong></td>
<td><em>(Service Operation)</em> The Function responsible for Monitoring and Control of the IT Services and IT Infrastructure. See Operations Bridge.</td>
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</tr>
<tr>
<td><strong>IT Operations Management</strong></td>
<td><em>(Service Operation)</em> The Function within an IT Service Provider which performs the daily Activities needed to manage IT Services and the supporting IT Infrastructure. IT Operations Management includes IT Operations Control and Facilities Management.</td>
</tr>
<tr>
<td><strong>IT Service</strong></td>
<td>A Service provided to one or more Customers by an IT Service Provider. An IT Service is based on the use of Information Technology and supports the Customer’s Business Processes. An IT Service is made up from a combination of people, Processes and technology and should be defined in a Service Level Agreement.</td>
</tr>
<tr>
<td><strong>IT Service Continuity Management (ITSCM)</strong></td>
<td><em>(Service Design)</em> The Process responsible for managing Risks that could seriously impact IT Services. ITSCM ensures that the IT Service Provider can always provide minimum agreed Service Levels, by reducing the Risk to an acceptable level and Planning for the Recovery of IT Services. ITSCM should be designed to support Business Continuity Management.</td>
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<tr>
<td><strong>IT Service Continuity Plan</strong></td>
<td><em>(Service Design)</em> A Plan defining the steps required to Recover one or more IT Services. The Plan will also identify the triggers for Invocation, people to be involved, communications etc. The IT Service Continuity Plan should be part of a Business Continuity Plan.</td>
</tr>
</tbody>
</table>
| **IT Service Management (ITSM)** | The implementation and management of Quality IT Services that meet the needs of the Business. IT Service Management is performed by IT Service Providers through an appropriate mix of people, Process and Information Technology.  
See Service Management. |
| **IT Service Management Forum (itSMF)** | The IT Service Management Forum is an independent Organisation dedicated to promoting a professional approach to IT Service Management. The itSMF is a not-for-profit membership Organisation with representation in many countries around the world (itSMF Chapters). The itSMF and its membership contribute to the development of ITIL and associated IT Service Management Standards. See http://www.itsmf.com/ for more information. |
### IT Service Provider

**(Service Strategy)** A **Service Provider** that provides **IT Services** to **Internal Customers** or **External Customers**.

### IT Steering Group (ISG)

A formal group that is responsible for ensuring that **Business** and **IT Service Provider Strategies** and **Plans** are closely aligned. An IT Steering Group includes senior representatives from the **Business** and the **IT Service Provider**.

### ITIL

A set of **Best Practice** guidance for **IT Service Management**. ITIL is owned by the **OGC** and consists of a series of publications giving guidance on the provision of **Quality IT Services**, and on the **Processes** and facilities needed to support them. See [http://www.itil.co.uk/](http://www.itil.co.uk/) for more information.

### Job Description

A **Document** which defines the **Roles**, responsibilities, skills and knowledge required by a particular person. One Job Description can include multiple **Roles**, for example the **Roles** of **Configuration Manager** and **Change Manager** may be carried out by one person.
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| Job Scheduling | **(Service Operation)** Planning and managing the execution of software tasks that are required as part of an IT Service. Job Scheduling is carried out by IT Operations Management, and is often automated using software tools that run batch or online tasks at specific times of the day, week, month or year. |

| Kano Model | **(Service Strategy)** A Model developed by Noriaki Kano that is used to help understand Customer preferences. The Kano Model considers Attributes of an IT Service grouped into areas such as Basic Factors, Excitement Factors, Performance Factors etc. |

| Kepner & Tregoe Analysis | **(Service Operation) (Continual Service Improvement)** A structured approach to Problem solving. The Problem is analysed in terms of what, where, when and extent. Possible causes are identified. The most probable cause is tested. The true cause is verified. |
### Key Performance Indicator (KPI)

**A Metric** that is used to help manage a Process, IT Service or Activity. Many Metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the Process, IT Service or Activity. KPIs should be selected to ensure that Efficiency, Effectiveness, and Cost Effectiveness are all managed.

See Critical Success Factor.

### Knowledge Base

**A logical database containing the data used by the Service Knowledge Management System.**

### Knowledge Management

**The Process responsible for gathering, analysing, storing and sharing knowledge and information within an Organisation.** The primary purpose of Knowledge Management is to improve Efficiency by reducing the need to rediscover knowledge.

See Data-to-Information-to-Knowledge-to-Wisdom, Service Knowledge Management System.
<table>
<thead>
<tr>
<th>Known Error</th>
<th><strong>(Service Operation)</strong> A Problem that has a documented Root Cause and a Workaround. Known Errors are created and managed throughout their Lifecycle by Problem Management. Known Errors may also be identified by Development or Suppliers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known Error Database (KEDB)</td>
<td><strong>(Service Operation)</strong> A database containing all Known Error Records. This database is created by Problem Management and used by Incident and Problem Management. The Known Error Database is part of the Service Knowledge Management System.</td>
</tr>
<tr>
<td>Known Error Record</td>
<td><strong>(Service Operation)</strong> A Record containing the details of a Known Error. Each Known Error Record documents the Lifecycle of a Known Error, including the Status, Root Cause and Workaround. In some implementations a Known Error is documented using additional fields in a Problem Record.</td>
</tr>
</tbody>
</table>
| **Lifecycle** | The various stages in the life of an IT Service, Configuration Item, Incident, Problem, Change etc. The Lifecycle defines the Categories for Status and the Status transitions that are permitted. For example:

The Lifecycle of an Application includes Requirements, Design, Build, Deploy, Operate, Optimise.

The Expanded Incident Lifecycle includes Detect, Respond, Diagnose, Repair, Recover, Restore.

The lifecycle of a Server may include: Ordered, Received, In Test, Live, Disposed etc. |
<p>| <strong>Line of Service (LOS)</strong> | (<strong>Service Strategy</strong>) A Core Service or Supporting Service that has multiple Service Level Packages. A line of Service is managed by a Product Manager and each Service Level Package is designed to support a particular market segment. |
| <strong>Live</strong> | (<strong>Service Transition</strong>) Refers to an IT Service or Configuration Item that is being used to deliver Service to a Customer. |</p>
<table>
<thead>
<tr>
<th>Live Environment</th>
<th>(Service Transition) A controlled Environment containing Live Configuration Items used to deliver IT Services to Customers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintainability</td>
<td>(Service Design) A measure of how quickly and Effectively a Configuration Item or IT Service can be restored to normal working after a Failure. Maintainability is often measured and reported as MTRS. Maintainability is also used in the context of Software or IT Service Development to mean ability to be Changed or Repaired easily.</td>
</tr>
<tr>
<td>Major Incident</td>
<td>(Service Operation) The highest Category of Impact for an Incident. A Major Incident results in significant disruption to the Business.</td>
</tr>
<tr>
<td>Managed Services</td>
<td>(Service Strategy) A perspective on IT Services which emphasizes the fact that they are managed. The term Managed Services is also used as a synonym for Outsourced IT Services.</td>
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<tr>
<td><strong>Management Information</strong></td>
<td>Information that is used to support decision making by managers. Management Information is often generated automatically by tools supporting the various IT Service Management Processes. Management Information often includes the values of KPIs such as “Percentage of Changes leading to Incidents”, or “first time fix rate”.</td>
</tr>
<tr>
<td><strong>Management of Risk (MoR)</strong></td>
<td>The OGC methodology for managing Risks. MoR includes all the Activities required to identify and Control the exposure to Risk which may have an impact on the achievement of an Organisation’s Business Objectives. See <a href="http://www.m-o-r.org/">http://www.m-o-r.org/</a> for more details.</td>
</tr>
<tr>
<td><strong>Management System</strong></td>
<td>The framework of Policy, Processes and Functions that ensures an Organisation can achieve its Objectives.</td>
</tr>
<tr>
<td><strong>Manual Workaround</strong></td>
<td>A Workaround that requires manual intervention. Manual Workaround is also used as the name of a Recovery Option in which The Business Process Operates without the use of IT Services. This is a temporary measure and is usually combined with another Recovery Option.</td>
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<tr>
<td><strong>Marginal Cost</strong></td>
<td><em>(Service Strategy)</em> The Cost of continuing to provide the <strong>IT Service</strong>. Marginal Cost does not include investment already made, for example the cost of developing new software and delivering training.</td>
</tr>
<tr>
<td><strong>Market Space</strong></td>
<td><em>(Service Strategy)</em> All opportunities that an <strong>IT Service Provider</strong> could exploit to meet business needs of <strong>Customers</strong>. The Market Space identifies the possible <strong>IT Services</strong> that an <strong>IT Service Provider</strong> may wish to consider delivering.</td>
</tr>
<tr>
<td><strong>Maturity</strong></td>
<td><em>(Continual Service Improvement)</em> A measure of the <strong>Reliability</strong>, <strong>Efficiency</strong> and <strong>Effectiveness</strong> of a <strong>Process</strong>, <strong>Function</strong>, <strong>Organisation</strong> etc. The most mature <strong>Processes</strong> and <strong>Functions</strong> are formally aligned to <strong>Business Objectives</strong> and <strong>Strategy</strong>, and are supported by a framework for continual improvement.</td>
</tr>
<tr>
<td><strong>Maturity Level</strong></td>
<td>A named level in a <strong>Maturity</strong> model such as the Carnegie Mellon <strong>Capability Maturity Model Integration</strong>.</td>
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<tr>
<td><strong>Mean Time Between Failures (MTBF)</strong></td>
<td>(Service Design) A Metric for measuring and reporting Reliability. MTBF is the average time that a Configuration Item or IT Service can perform its agreed Function without interruption. This is measured from when the CI or IT Service starts working, until it next fails.</td>
</tr>
<tr>
<td><strong>Mean Time Between Service Incidents (MTBSI)</strong></td>
<td>(Service Design) A Metric used for measuring and reporting Reliability. MTBSI is the mean time from when a System or IT Service fails, until it next fails. MTBSI is equal to MTBF + MTRS.</td>
</tr>
<tr>
<td><strong>Mean Time To Repair (MTTR)</strong></td>
<td>The average time taken to repair a Configuration Item or IT Service after a Failure. MTTR is measured from when the CI or IT Service fails until it is Repaired. MTTR does not include the time required to Recover or Restore. MTTR is sometimes incorrectly used to mean Mean Time to Restore Service.</td>
</tr>
<tr>
<td><strong>Mean Time to Restore Service (MTRS)</strong></td>
<td>The average time taken to Restore a Configuration Item or IT Service after a Failure. MTRS is measured from when the CI or IT Service fails until it is fully Restored and delivering its normal functionality. See Maintainability, Mean Time to Repair.</td>
</tr>
</tbody>
</table>
| Metric          | **(Continual Service Improvement)** Something that is measured and reported to help manage a Process, IT Service or Activity.  
|                | See KPI. |
| Middleware     | **(Service Design)** Software that connects two or more software Components or Applications. Middleware is usually purchased from a Supplier, rather than developed within the IT Service Provider.  
|                | See Off the Shelf. |
| Mission Statement | The Mission Statement of an Organisation is a short but complete description of the overall purpose and intentions of that Organisation. It states what is to be achieved, but not how this should be done. |
| Model          | A representation of a System, Process, IT Service, Configuration Item etc. that is used to help understand or predict future behaviour. |
| Modelling      | A technique that is used to predict the future behaviour of a System, Process, IT Service, Configuration Item etc. Modelling is commonly used in Financial Management, Capacity Management and Availability Management. |
### Monitor Control Loop

(Service Operation) Monitoring the output of a Task, Process, IT Service or Configuration Item; comparing this output to a predefined norm; and taking appropriate action based on this comparison.

### Monitoring

(Service Operation) Repeated observation of a Configuration Item, IT Service or Process to detect Events and to ensure that the current status is known.

### Near-Shore

(Service Strategy) Provision of Services from a country near the country where the Customer is based. This can be the provision of an IT Service, or of supporting Functions such as Service Desk.

See On-shore, Off-shore.

### Net Present Value (NPV)

(Service Strategy) A technique used to help make decisions about Capital Expenditure. NPV compares cash inflows to cash outflows. Positive NPV indicates that an investment is worthwhile.

See Internal Rate of Return, Return on Investment.
Notional Charging

(Service Strategy) An approach to Charging for IT Services. Charges to Customers are calculated and Customers are informed of the charge, but no money is actually transferred. Notional Charging is sometimes introduced to ensure that Customers are aware of the Costs they incur, or as a stage during the introduction of real Charging.

Objective

The defined purpose or aim of a Process, an Activity or an Organisation as a whole. Objectives are usually expressed as measurable targets. The term Objective is also informally used to mean a Requirement.

Off the Shelf

Synonym for Commercial Off the Shelf.
| Office of Government Commerce (OGC) | OGC owns the ITIL brand (copyright and trademark). OGC is a UK Government department that supports the delivery of the government’s procurement agenda through its work in collaborative procurement and in raising levels of procurement skills and capability with departments. It also provides support for complex public sector projects. |
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| Off-shore | (Service Strategy) Provision of Services from a location outside the country where the Customer is based, often in a different continent. This can be the provision of an IT Service, or of supporting Functions such as Service Desk. See On-shore, Near-shore. |
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<table>
<thead>
<tr>
<th>On-shore</th>
<th><strong>(Service Strategy)</strong> Provision of Services from a location within the country where the Customer is based. See Off-shore, Near-shore.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate</td>
<td>To perform as expected. A Process or Configuration Item is said to Operate if it is delivering the Required outputs. Operate also means to perform one or more Operations. For example, to Operate a computer is to do the day-to-day Operations needed for it to perform as expected.</td>
</tr>
<tr>
<td>Operation</td>
<td><strong>(Service Operation)</strong> Day-to-day management of an IT Service, System, or other Configuration Item. Operation is also used to mean any pre-defined Activity or Transaction. For example loading a magnetic tape, accepting money at a point of sale, or reading data from a disk drive.</td>
</tr>
<tr>
<td>Operational</td>
<td>The lowest of three levels of Planning and delivery (Strategic, Tactical, Operational). Operational Activities include the day-to-day or short term Planning or delivery of a Business Process or IT Service Management Process. The term Operational is also a synonym for Live.</td>
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</tr>
<tr>
<td><strong>Operational Cost</strong></td>
<td><strong>Cost</strong> resulting from running the <strong>IT Services</strong>. Often repeating payments. For example staff costs, hardware maintenance and electricity (also known as “current expenditure” or “revenue expenditure”). See <strong>Capital Expenditure</strong>.</td>
</tr>
<tr>
<td><strong>Operational Expenditure (OPEX)</strong></td>
<td><strong>Synonym for Operational Cost.</strong></td>
</tr>
<tr>
<td><strong>Operational Level Agreement (OLA)</strong></td>
<td><strong>(Service Design) (Continual Service Improvement)</strong> An <strong>Agreement</strong> between an <strong>IT Service Provider</strong> and another part of the same <strong>Organisation</strong>. An OLA supports the <strong>IT Service Provider’s</strong> delivery of <strong>IT Services</strong> to <strong>Customers</strong>. The OLA defines the goods or <strong>Services</strong> to be provided and the responsibilities of both parties. For example there could be an OLA between the <strong>IT Service Provider</strong> and a procurement department to obtain hardware in agreed times between the <strong>Service Desk</strong> and a <strong>Support Group</strong> to provide <strong>Incident Resolution</strong> in agreed times. See <strong>Service Level Agreement</strong>.</td>
</tr>
<tr>
<td>Operations Bridge</td>
<td><strong>(Service Operation)</strong> A physical location where IT Services and IT Infrastructure are monitored and managed.</td>
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</tr>
<tr>
<td>Operations Control</td>
<td>Synonym for IT Operations Control.</td>
</tr>
<tr>
<td>Operations Management</td>
<td>Synonym for IT Operations Management.</td>
</tr>
<tr>
<td><strong>Opportunity Cost</strong></td>
<td><strong>(Service Strategy)</strong> A Cost that is used in deciding between investment choices. Opportunity Cost represents the revenue that would have been generated by using the Resources in a different way. For example the Opportunity Cost of purchasing a new Server may include not carrying out a Service Improvement activity that the money could have been spent on. Opportunity cost analysis is used as part of a decision making processes, but is not treated as an actual Cost in any financial statement.</td>
</tr>
<tr>
<td><strong>Optimise</strong></td>
<td>Review, Plan and request Changes, in order to obtain the maximum Efficiency and Effectiveness from a Process, Configuration Item, Application etc.</td>
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</tr>
<tr>
<td><strong>Organisation</strong></td>
<td>A company, legal entity or other institution. Examples of Organisations that are not companies include International Standards Organisation or itSMF. The term Organisation is sometimes used to refer to any entity which has People, Resources and Budgets. For example a Project or Business Unit.</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>The result of carrying out an Activity; following a Process; delivering an IT Service etc. The term Outcome is used to refer to intended results, as well as to actual results. See Objective.</td>
</tr>
<tr>
<td><strong>Outsourcing</strong></td>
<td><em>(Service Strategy)</em> Using an External Service Provider to manage IT Services. See Service Sourcing, Type III Service Provider.</td>
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<tr>
<td><strong>Overhead</strong></td>
<td>Synonym for Indirect cost</td>
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<tr>
<td><strong>Pain Value Analysis</strong></td>
<td><em>(Service Operation)</em> A technique used to help identify the <em>Business Impact</em> of one or more <em>Problems</em>. A formula is used to calculate Pain Value based on the number of <em>Users</em> affected, the duration of the <em>Downtime</em>, the <em>Impact</em> on each <em>User</em>, and the cost to the <em>Business</em> (if known).</td>
</tr>
<tr>
<td><strong>Pareto Principle</strong></td>
<td><em>(Service Operation)</em> A technique used to prioritise <em>Activities</em>. The Pareto Principle says that 80% of the value of any <em>Activity</em> is created with 20% of the effort. Pareto Analysis is also used in <em>Problem Management</em> to prioritise possible <em>Problem</em> causes for investigation.</td>
</tr>
<tr>
<td><strong>Partnership</strong></td>
<td>A relationship between two <em>Organisations</em> which involves working closely together for common goals or mutual benefit. The <em>IT Service Provider</em> should have a Partnership with the <em>Business</em>, and with <em>Third Parties</em> who are critical to the delivery of <em>IT Services</em>. See <em>Value Network</em>.</td>
</tr>
<tr>
<td>Passive Monitoring</td>
<td>(Service Operation) Monitoring of a Configuration Item, an IT Service or a Process that relies on an Alert or notification to discover the current status. See Active Monitoring.</td>
</tr>
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</tr>
<tr>
<td>Pattern of Business Activity (PBA)</td>
<td>(Service Strategy) A Workload profile of one or more Business Activities. Patterns of Business Activity are used to help the IT Service Provider understand and plan for different levels of Business Activity. See User Profile.</td>
</tr>
<tr>
<td>Percentage utilisation</td>
<td>(Service Design) The amount of time that a Component is busy over a given period of time. For example, if a CPU is busy for 1800 seconds in a one hour period, its utilisation is 50%</td>
</tr>
<tr>
<td>Performance</td>
<td>A measure of what is achieved or delivered by a System, person, team, Process, or IT Service.</td>
</tr>
<tr>
<td>Performance Anatomy</td>
<td>(Service Strategy) An approach to Organisational Culture that integrates, and actively manages, leadership and strategy, people development, technology enablement, performance management and innovation.</td>
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<tr>
<th>Performance Management</th>
<th><em>(Continual Service Improvement)</em></th>
<th>The Process responsible for day-to-day Capacity Management Activities. These include Monitoring, Threshold detection, Performance analysis and Tuning, and implementing Changes related to Performance and Capacity.</th>
</tr>
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<tr>
<td>Pilot</td>
<td><em>(Service Transition)</em></td>
<td>A limited Deployment of an IT Service, a Release or a Process to the Live Environment. A Pilot is used to reduce Risk and to gain User feedback and Acceptance. See Test, Evaluation.</td>
</tr>
<tr>
<td>Plan</td>
<td></td>
<td>A detailed proposal which describes the Activities and Resources needed to achieve an Objective. For example a Plan to implement a new IT Service or Process. ISO/IEC 20000 requires a Plan for the management of each IT Service Management Process.</td>
</tr>
</tbody>
</table>
| Plan-Do-Check-Act | (Continual Service Improvement) A four stage cycle for Process management, attributed to Edward Deming. Plan-Do-Check-Act is also called the Deming Cycle.  
PLAN: Design or revise Processes that support the IT Services.  
DO: Implement the Plan and manage the Processes.  
CHECK: Measure the Processes and IT Services, compare with Objectives and produce reports  
ACT: Plan and implement Changes to improve the Processes. |
| --- | --- |
| Planned Downtime | (Service Design) Agreed time when an IT Service will not be available. Planned Downtime is often used for maintenance, upgrades and testing.  
See Change Window, Downtime. |
<p>| Planning | An Activity responsible for creating one or more Plans. For example, Capacity Planning. |</p>
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<td><strong>Problem Management</strong></td>
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<td>Procedure</td>
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<td>Role</td>
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<td><strong>Process Manager</strong></td>
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<td><strong>Process Owner</strong></td>
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<td><strong>Profit Centre</strong></td>
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<td><strong>Projected Service Outage (PSO)</strong></td>
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<td>Qualification (Service Transition)</td>
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<td>Quality</td>
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<th>Quality Assurance (QA)</th>
<th>(Service Transition) The Process responsible for ensuring that the Quality of a product, Service or Process will provide its intended Value.</th>
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<tr>
<td>Quality Management System (QMS)</td>
<td>(Continual Service Improvement) The set of Processes responsible for ensuring that all work carried out by an Organisation is of a suitable Quality to reliably meet Business Objectives or Service Levels. See ISO 9000.</td>
</tr>
<tr>
<td>Quick Win</td>
<td>(Continual Service Improvement) An improvement Activity which is expected to provide a Return on Investment in a short period of time with relatively small Cost and effort. See Pareto Principle.</td>
</tr>
<tr>
<td><strong>RACI</strong></td>
<td><strong>(Service Design) (Continual Service Improvement)</strong> A Model used to help define Roles and Responsibilities. RACI stands for Responsible, Accountable, Consulted and Informed. See <a href="#">Stakeholder</a>.</td>
</tr>
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<tr>
<td><strong>Reactive Monitoring</strong></td>
<td><strong>(Service Operation)</strong> Monitoring that takes action in response to an Event. For example submitting a batch job when the previous job completes, or logging an Incident when an Error occurs. See <a href="#">Proactive Monitoring</a>.</td>
</tr>
<tr>
<td><strong>Reciprocal Arrangement</strong></td>
<td><strong>(Service Design)</strong> A Recovery Option. An agreement between two Organisations to share resources in an emergency. For example, <a href="#">Computer Room</a> space or use of a mainframe.</td>
</tr>
<tr>
<td>Record</td>
<td>A <strong>Document</strong> containing the results or other output from a <strong>Process</strong> or <strong>Activity</strong>. Records are evidence of the fact that an <strong>Activity</strong> took place and may be paper or electronic. For example, an <strong>Audit</strong> report, an <strong>Incident Record</strong>, or the minutes of a meeting.</td>
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<tr>
<td>Recovery</td>
<td><strong>(Service Design)</strong> <strong>(Service Operation)</strong> Returning a <strong>Configuration Item</strong> or an <strong>IT Service</strong> to a working state. Recovery of an <strong>IT Service</strong> often includes recovering data to a known consistent state. After Recovery, further steps may be needed before the <strong>IT Service</strong> can be made available to the <strong>Users</strong> <strong>(Restoration)</strong>.</td>
</tr>
<tr>
<td>Recovery Option</td>
<td><strong>(Service Design)</strong> <strong>A Strategy</strong> for responding to an interruption to <strong>Service</strong>. Commonly used <strong>Strategies</strong> are <strong>Do Nothing</strong>, <strong>Manual Workaround</strong>, <strong>Reciprocal Arrangement</strong>, <strong>Gradual Recovery</strong>, <strong>Intermediate Recovery</strong>, <strong>Fast Recovery</strong>, <strong>Immediate Recovery</strong>. Recovery Options may make use of dedicated facilities, or <strong>Third Party</strong> facilities shared by multiple <strong>Businesses</strong>.</td>
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<tr>
<td>Recovery Point Objective (RPO)</td>
<td><strong>(Service Operation)</strong> The maximum amount of data that may be lost when <strong>Service</strong> is <strong>Restored</strong> after an interruption. Recovery Point Objective is expressed as a length of time before the <strong>Failure</strong>. For example a Recovery Point Objective of one day may be supported by daily <strong>Backups</strong>, and up to 24 hours of data may be lost. Recovery Point Objectives for each <strong>IT Service</strong> should be negotiated, agreed and documented, and used as <strong>Requirements</strong> for <strong>Service Design</strong> and <strong>IT Service Continuity Plans</strong>.</td>
</tr>
<tr>
<td>Recovery Time Objective (RTO)</td>
<td><strong>(Service Operation)</strong> The maximum time allowed for recovery of an <strong>IT Service</strong> following an interruption. The <strong>Service Level</strong> to be provided may be less than normal <strong>Service Level Targets</strong>. Recovery Time Objectives for each <strong>IT Service</strong> should be negotiated, agreed and documented. See <strong>Business Impact Analysis</strong>.</td>
</tr>
<tr>
<td>Redundancy</td>
<td>Synonym for <strong>Fault Tolerance</strong>. The term <strong>Redundant</strong> also has a generic meaning of obsolete, or no longer needed.</td>
</tr>
<tr>
<td>Relationship</td>
<td>A connection or interaction between two people or things. In <strong>Business Relationship Management</strong> it is the interaction between the <strong>IT Service Provider</strong> and the <strong>Business</strong>. In <strong>Configuration Management</strong> it is a link between two <strong>Configuration Items</strong> that identifies a dependency or connection between them. For example <strong>Applications</strong> may be linked to the <strong>Servers</strong> they run on, <strong>IT Services</strong> have many links to all the <strong>CIs</strong> that contribute to them.</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Relationship Processes</td>
<td>The <strong>ISO/IEC 20000 Process group</strong> that includes <strong>Business Relationship Management</strong> and <strong>Supplier Management</strong>.</td>
</tr>
<tr>
<td>Release</td>
<td>(<strong>Service Transition</strong>) A collection of hardware, software, documentation, <strong>Processes</strong> or other <strong>Components</strong> required to implement one or more approved <strong>Changes</strong> to <strong>IT Services</strong>. The contents of each Release are managed, <strong>Tested</strong>, and <strong>Deployed</strong> as a single entity.</td>
</tr>
<tr>
<td>Release and Deployment Management</td>
<td>(<strong>Service Transition</strong>) The <strong>Process</strong> responsible for both <strong>Release Management</strong> and <strong>Deployment</strong>.</td>
</tr>
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<tr>
<th>Release Identification</th>
<th>(Service Transition)An naming convention used to uniquely identify a Release. The Release Identification typically includes a reference to the Configuration Item and a version number. For example Microsoft Office 2003 SR2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release Management</td>
<td>(Service Transition) The Process responsible for Planning, scheduling and controlling the movement of Releases to Test and Live Environments. The primary Objective of Release Management is to ensure that the integrity of the Live Environment is protected and that the correct Components are released. Release Management is part of the Release and Deployment Management Process.</td>
</tr>
<tr>
<td>Release Process</td>
<td>The name used by ISO/IEC 20000 for the Process group that includes Release Management. This group does not include any other Processes. Release Process is also used as a synonym for Release Management Process.</td>
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<tr>
<td><strong>Release Record</strong></td>
<td><em>(Service Transition)</em> A Record in the CMDB that defines the content of a <em>Release</em>. A Release Record has Relationships with all Configuration Items that are affected by the <em>Release</em>.</td>
</tr>
<tr>
<td><strong>Release Unit</strong></td>
<td><em>(Service Transition)</em> Components of an IT Service that are normally Released together. A Release Unit typically includes sufficient Components to perform a useful <em>Function</em>. For example one Release Unit could be a Desktop PC, including Hardware, Software, Licenses, Documentation etc. A different Release Unit may be the complete Payroll Application, including <em>IT Operations Procedures</em> and <em>User</em> training.</td>
</tr>
<tr>
<td><strong>Release Window</strong></td>
<td>Synonym for <em>Change Window</em>.</td>
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<tr>
<td><strong>Reliability</strong></td>
<td><strong>(Service Design) (Continual Service Improvement)</strong> A measure of how long a Configuration Item or IT Service can perform its agreed Function without interruption. Usually measured as MTBF or MTBSI. The term Reliability can also be used to state how likely it is that a Process, Function etc. will deliver its required outputs. See Availability.</td>
</tr>
<tr>
<td><strong>Remediation</strong></td>
<td><strong>(Service Transition)</strong> Recovery to a known state after a failed Change or Release.</td>
</tr>
<tr>
<td><strong>Repair</strong></td>
<td><strong>(Service Operation)</strong> The replacement or correction of a failed Configuration Item.</td>
</tr>
<tr>
<td><strong>Request for Change (RFC)</strong></td>
<td><strong>(Service Transition)</strong> A formal proposal for a Change to be made. An RFC includes details of the proposed Change, and may be recorded on paper or electronically. The term RFC is often misused to mean a Change Record, or the Change itself.</td>
</tr>
<tr>
<td><strong>Request Fulfilment</strong></td>
<td><strong>(Service Operation)</strong> The Process responsible for managing the Lifecycle of all Service Requests.</td>
</tr>
</tbody>
</table>
| Requirement | **Service Design** | A formal statement of what is needed. For example a Service Level Requirement, a Project Requirement or the required Deliverables for a Process.
See Statement of Requirements. |
|-------------|-------------------|-------------------------------------------------------------------------------------------------|
| Resilience | **Service Design** | The ability of a Configuration Item or IT Service to resist Failure or to Recover quickly following a Failure. For example, an armoured cable will resist failure when put under stress.
See Fault Tolerance. |
| Resolution | **Service Operation** | Action taken to repair the Root Cause of an Incident or Problem, or to implement a Workaround.
In ISO/IEC 20000, Resolution Processes is the Process group that includes Incident and Problem Management. |
<p>| Resolution Processes | ISO/IEC 20000 Process group that includes Incident Management and Problem Management. |</p>
<table>
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<tr>
<th>Resource</th>
<th>(Service Strategy) A generic term that includes IT Infrastructure, people, money or anything else that might help to deliver an IT Service. Resources are considered to be Assets of an Organisation. See Capability, Service Asset.</th>
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<tr>
<td>Response Time</td>
<td>A measure of the time taken to complete an Operation or Transaction. Used in Capacity Management as a measure of IT Infrastructure Performance, and in Incident Management as a measure of the time taken to answer the phone, or to start Diagnosis.</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>A measurement of the time taken to respond to something. This could be Response Time of a Transaction, or the speed with which an IT Service Provider responds to an Incident or Request for Change etc.</td>
</tr>
<tr>
<td>Restoration of Service</td>
<td>See Restore.</td>
</tr>
<tr>
<td>Restore</td>
<td>(Service Operation) Taking action to return an IT Service to the Users after Repair and Recovery from an Incident. This is the primary Objective of Incident Management.</td>
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<tr>
<td><strong>Retire</strong></td>
<td><strong>(Service Transition)</strong> Permanent removal of an <strong>IT Service</strong>, or other <strong>Configuration Item</strong>, from the <strong>Live Environment</strong>. Retired is a stage in the <strong>Lifecycle</strong> of many <strong>Configuration Items</strong>.</td>
</tr>
<tr>
<td><strong>Return on Investment (ROI)</strong></td>
<td><strong>(Service Strategy) (Continual Service Improvement)</strong> A measurement of the expected benefit of an investment. In the simplest sense it is the net profit of an investment divided by the net worth of the assets invested. See <strong>Net Present Value</strong>, <strong>Value on Investment</strong>.</td>
</tr>
<tr>
<td><strong>Return to Normal</strong></td>
<td><strong>(Service Design)</strong> The phase of an <strong>IT Service Continuity Plan</strong> during which full normal operations are resumed. For example, if an alternate data centre has been in use, then this phase will bring the primary data centre back into operation, and restore the ability to invoke <strong>IT Service Continuity Plans</strong> again.</td>
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<td><strong>Review</strong></td>
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<td>An evaluation of a Change, Problem, Process, Project etc. Reviews are typically carried out at predefined points in the Lifecycle, and especially after Closure. The purpose of a Review is to ensure that all Deliverables have been provided, and to identify opportunities for improvement.</td>
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<tr>
<td>See Post Implementation Review.</td>
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<td><strong>Rights</strong></td>
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<tr>
<td>(Service Operation) Entitlements, or permissions, granted to a User or Role. For example the Right to modify particular data, or to authorize a Change.</td>
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<tr>
<td><strong>Risk</strong></td>
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<tr>
<td>A possible Event that could cause harm or loss, or affect the ability to achieve Objectives. A Risk is measured by the probability of a Threat, the Vulnerability of the Asset to that Threat, and the Impact it would have if it occurred.</td>
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<td><strong>Risk Assessment</strong></td>
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<tr>
<td>The initial steps of Risk Management. Analysing the value of Assets to the business, identifying Threats to those Assets, and evaluating how Vulnerable each Asset is to those Threats. Risk Assessment can be quantitative (based on numerical data) or qualitative.</td>
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<th>Definition</th>
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<td>A set of responsibilities, Activities and authorities granted to a person or team. A Role is defined in a Process. One person or team may have multiple Roles, for example the Roles of Configuration Manager and Change Manager may be carried out by a single person.</td>
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<td><strong>Rollout</strong></td>
<td>(Service Transition) Synonym for Deployment. Most often used to refer to complex or phased Deployments or Deployments to multiple locations.</td>
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<td><strong>Root Cause</strong></td>
<td>(Service Operation) The underlying or original cause of an Incident or Problem.</td>
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<td><strong>Root Cause Analysis (RCA)</strong></td>
<td>(Service Operation) An Activity that identifies the Root Cause of an Incident or Problem. RCA typically concentrates on IT Infrastructure failures. See Service Failure Analysis.</td>
</tr>
<tr>
<td><strong>Running Costs</strong></td>
<td>Synonym for Operational Costs</td>
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### S

<table>
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<tr>
<th>Scalability</th>
<th>The ability of an IT Service, Process, Configuration Item etc. to perform its agreed Function when the Workload or Scope changes.</th>
</tr>
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<tbody>
<tr>
<td>Scope</td>
<td>The boundary, or extent, to which a Process, Procedure, Certification, Contract etc. applies. For example the Scope of Change Management may include all Live IT Services and related Configuration Items, the Scope of an ISO/IEC 20000 Certificate may include all IT Services delivered out of a named data centre.</td>
</tr>
<tr>
<td>Second-line Support</td>
<td>(Service Operation) The second level in a hierarchy of Support Groups involved in the resolution of Incidents and investigation of Problems. Each level contains more specialist skills, or has more time or other Resources.</td>
</tr>
<tr>
<td>Security</td>
<td>See Information Security Management</td>
</tr>
<tr>
<td>Security Management</td>
<td>Synonym for Information Security Management</td>
</tr>
<tr>
<td>Security Policy</td>
<td>Synonym for Information Security Policy</td>
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<td>------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Separation of Concerns (SoC)</strong></td>
<td><strong>(Service Strategy)</strong> An approach to Designing a solution or IT Service that divides the problem into pieces that can be solved independently. This approach separates “what” is to be done from “how” it is to be done.</td>
</tr>
<tr>
<td><strong>Server</strong></td>
<td><strong>(Service Operation)</strong> A computer that is connected to a network and provides software Functions that are used by other computers.</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td>A means of delivering value to Customers by facilitating Outcomes Customers want to achieve without the ownership of specific Costs and Risks.</td>
</tr>
<tr>
<td><strong>Service Acceptance Criteria (SAC)</strong></td>
<td><strong>(Service Transition)</strong> A set of criteria used to ensure that an IT Service meets its functionality and Quality Requirements and that the IT Service Provider is ready to Operate the new IT Service when it has been Deployed. See Acceptance.</td>
</tr>
<tr>
<td>Service Analytics</td>
<td>(Service Strategy) A technique used in the Assessment of the Business Impact of Incidents. Service Analytics Models the dependencies between Configuration Items, and the dependencies of IT Services on Configuration Items.</td>
</tr>
<tr>
<td>Service Asset</td>
<td>Any Capability or Resource of a Service Provider. See Asset.</td>
</tr>
<tr>
<td>Service Asset and Configuration Management (SACM)</td>
<td>(Service Transition) The Process responsible for both Configuration Management and Asset Management.</td>
</tr>
<tr>
<td>Service Capacity Management (SCM)</td>
<td>(Service Design) (Continual Service Improvement) The Activity responsible for understanding the Performance and Capacity of IT Services. The Resources used by each IT Service and the pattern of usage over time are collected, recorded, and analysed for use in the Capacity Plan. See Business Capacity Management, Component Capacity Management.</td>
</tr>
</tbody>
</table>
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<p>| Service Catalogue | <strong>(Service Design)</strong> A database or structured Document with information about all Live IT Services, including those available for Deployment. The Service Catalogue is the only part of the Service Portfolio published to Customers, and is used to support the sale and delivery of IT Services. The Service Catalogue includes information about deliverables, prices, contact points, ordering and request Processes. See Contract Portfolio. |
| Service Continuity Management | Synonym for IT Service Continuity Management. |
| Service Contract | <strong>(Service Strategy)</strong> A Contract to deliver one or more IT Services. The term Service Contract is also used to mean any Agreement to deliver IT Services, whether this is a legal Contract or an SLA. See Contract Portfolio. |
| Service Culture | A Customer oriented Culture. The major Objectives of a Service Culture are Customer satisfaction and helping the Customer to achieve their Business Objectives. |</p>
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<tr>
<td><strong>Service Design</strong></td>
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<td><strong>Service Design Package</strong></td>
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<td><strong>Service Desk</strong></td>
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<td><strong>Service Failure Analysis (SFA)</strong></td>
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<thead>
<tr>
<th>Service Hours</th>
<th><strong>(Service Design) (Continual Service Improvement)</strong></th>
<th>An agreed time period when a particular IT Service should be Available. For example, “Monday-Friday 08:00 to 17:00 except public holidays”. Service Hours should be defined in a Service Level Agreement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Improvement Plan (SIP)</td>
<td><strong>(Continual Service Improvement)</strong></td>
<td>A formal Plan to implement improvements to a Process or IT Service.</td>
</tr>
<tr>
<td>Service Knowledge Management System (SKMS)</td>
<td><strong>(Service Transition)</strong></td>
<td>A set of tools and databases that are used to manage knowledge and information. The SKMS includes the Configuration Management System, as well as other tools and databases. The SKMS stores, manages, updates, and presents all information that an IT Service Provider needs to manage the full Lifecycle of IT Services.</td>
</tr>
<tr>
<td>Service Level</td>
<td>Measured and reported achievement against one or more Service Level Targets. The term Service Level is sometimes used informally to mean Service Level Target.</td>
<td></td>
</tr>
</tbody>
</table>
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<p>| Service Level Agreement (SLA) | (Service Design) (Continual Service Improvement) An Agreement between an IT Service Provider and a Customer. The SLA describes the IT Service, documents Service Level Targets, and specifies the responsibilities of the IT Service Provider and the Customer. A single SLA may cover multiple IT Services or multiple Customers. See Operational Level Agreement. |
| Service Level Management (SLM) | (Service Design) (Continual Service Improvement) The Process responsible for negotiating Service Level Agreements, and ensuring that these are met. SLM is responsible for ensuring that all IT Service Management Processes, Operational Level Agreements, and Underpinning Contracts, are appropriate for the agreed Service Level Targets. SLM monitors and reports on Service Levels, and holds regular Customer reviews. |
| Service Level Package (SLP) | (Service Strategy) A defined level of Utility and Warranty for a particular Service Package. Each SLP is designed to meet the needs of a particular Pattern of Business Activity. See Line of Service. |</p>
<table>
<thead>
<tr>
<th>Service Level Requirement (SLR)</th>
<th>(Service Design) (Continual Service Improvement) A Customer Requirement for an aspect of an IT Service. SLRs are based on Business Objectives and are used to negotiate agreed Service Level Targets.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Level Target</td>
<td>(Service Design) (Continual Service Improvement) A commitment that is documented in a Service Level Agreement. Service Level Targets are based on Service Level Requirements, and are needed to ensure that the IT Service design is Fit for Purpose. Service Level Targets should be SMART, and are usually based on KPIs.</td>
</tr>
<tr>
<td>Service Maintenance Objective</td>
<td>(Service Operation) The expected time that a Configuration Item will be unavailable due to planned maintenance Activity.</td>
</tr>
<tr>
<td>Service Management</td>
<td>Service Management is a set of specialized organizational capabilities for providing value to customers in the form of services.</td>
</tr>
<tr>
<td>Service Management Lifecycle</td>
<td>An approach to <strong>IT Service Management</strong> that emphasizes the importance of coordination and <strong>Control</strong> across the various <strong>Functions</strong>, <strong>Processes</strong>, and <strong>Systems</strong> necessary to manage the full <strong>Lifecycle</strong> of <strong>IT Services</strong>. The Service Management Lifecycle approach considers the <strong>Strategy</strong>, <strong>Design</strong>, <strong>Transition</strong>, <strong>Operation</strong> and <strong>Continuous Improvement</strong> of <strong>IT Services</strong>.</td>
</tr>
<tr>
<td>Service Manager</td>
<td>A manager who is responsible for managing the end-to-end <strong>Lifecycle</strong> of one or more <strong>IT Services</strong>. The term Service Manager is also used to mean any manager within the <strong>IT Service Provider</strong>. Most commonly used to refer to a <strong>Business Relationship Manager</strong>, a <strong>Process Manager</strong>, an <strong>Account Manager</strong> or a senior manager with responsibility for <strong>IT Services</strong> overall.</td>
</tr>
<tr>
<td>Service Operation</td>
<td><strong>(Service Operation)</strong> A stage in the <strong>Lifecycle</strong> of an <strong>IT Service</strong>. Service Operation includes a number of <strong>Processes</strong> and <strong>Functions</strong> and is the title of one of the Core <strong>ITIL</strong> publications. See <strong>Operation</strong>.</td>
</tr>
<tr>
<td>Service Owner</td>
<td>(Continual Service Improvement) A Role which is accountable for the delivery of a specific IT Service.</td>
</tr>
<tr>
<td>Service Package</td>
<td>(Service Strategy) A detailed description of an IT Service that is available to be delivered to Customers. A Service Package includes a Service Level Package and one or more Core Services and Supporting Services.</td>
</tr>
<tr>
<td>Service Pipeline</td>
<td>(Service Strategy) A database or structured Document listing all IT Services that are under consideration or Development, but are not yet available to Customers. The Service Pipeline provides a Business view of possible future IT Services and is part of the Service Portfolio which is not normally published to Customers.</td>
</tr>
</tbody>
</table>
| **Service Portfolio** | **(Service Strategy)** The complete set of Services that are managed by a Service Provider. The Service Portfolio is used to manage the entire Lifecycle of all Services, and includes three Categories: Service Pipeline (proposed or in Development); Service Catalogue (Live or available for Deployment); and Retired Services.

See Service Portfolio Management, Contract Portfolio. |
| **Service Portfolio Management (SPM)** | **(Service Strategy)** The Process responsible for managing the Service Portfolio. Service Portfolio Management considers Services in terms of the Business value that they provide. |
| **Service Potential** | **(Service Strategy)** The total possible value of the overall Capabilities and Resources of the IT Service Provider. |
| **Service Provider** | **(Service Strategy)** An Organisation supplying Services to one or more Internal Customers or External Customers. Service Provider is often used as an abbreviation for IT Service Provider.

See Type I Service Provider, Type II Service Provider, Type III Service Provider. |
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<tr>
<td><strong>Service Provider Interface (SPI)</strong></td>
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<td><strong>Service Strategy</strong></td>
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<td><strong>Service Provisioning Optimization (SPO)</strong></td>
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<td><strong>Service Strategy</strong></td>
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<td><strong>Service Reporting</strong></td>
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<td><strong>Continual Service Improvement</strong></td>
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<td><strong>Service Request</strong></td>
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<tr>
<td><strong>Service Operation</strong></td>
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| Service Sourcing | (Service Strategy) The Strategy and approach for deciding whether to provide a Service internally or to Outsource it to an External Service Provider. Service Sourcing also means the execution of this Strategy. Service Sourcing includes:  

**Internal Sourcing** - Internal or Shared Services using Type I or Type II Service Providers.  

**Traditional Sourcing** - Full Service Outsourcing using a Type III Service Provider.  

**Multivendor Sourcing** - Prime, Consortium or Selective Outsourcing using Type III Service Providers. |

<p>| Service Strategy | (Service Strategy) The title of one of the Core ITIL publications. Service Strategy establishes an overall Strategy for IT Services and for IT Service Management. |</p>
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<td>Service Transition</td>
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<td>Service Utility</td>
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<tr>
<td>Service Validation and Testing</td>
</tr>
<tr>
<td>Service Valuation</td>
</tr>
</tbody>
</table>
### Service Warranty

**Service Strategy** Assurance that an IT Service will meet agreed Requirements. This may be a formal Agreement such as a Service Level Agreement or Contract, or may be a marketing message or brand image. The Business value of an IT Service is created by the combination of Service Utility (what the Service does) and Service Warranty (how well it does it).

See Warranty.

### Serviceability

**Service Design** **(Continual Service Improvement)** The ability of a Third Party Supplier to meet the terms of their Contract. This Contract will include agreed levels of Reliability, Maintainability or Availability for a Configuration Item.

### Shift

**Service Operation** A group or team of people who carry out a specific Role for a fixed period of time. For example there could be four shifts of IT Operations Control personnel to support an IT Service that is used 24 hours a day.
### Simulation modelling

**Definition:**
A technique that creates a detailed **Model** to predict the behaviour of a **Configuration Item** or **IT Service**. Simulation Models can be very accurate but are expensive and time consuming to create. A Simulation Model is often created by using the actual **Configuration Items** that are being modelled, with artificial **Workloads** or **Transactions**. They are used in **Capacity Management** when accurate results are important. A simulation model is sometimes called a **Performance Benchmark**.

### Single Point of Contact

**Definition:**
Providing a single consistent way to communicate with an **Organisation** or **Business Unit**. For example, a Single Point of Contact for an **IT Service Provider** is usually called a **Service Desk**.

### Single Point of Failure (SPOF)

**Definition:**
Any **Configuration Item** that can cause an **Incident** when it fails, and for which a **Countermeasure** has not been implemented. A SPOF may be a person, or a step in a **Process** or **Activity**, as well as a **Component** of the **IT Infrastructure**.

See **Failure**.
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<tr>
<td><strong>SLAM Chart</strong></td>
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<tr>
<td><strong>Continual Service Improvement</strong> A Service Level Agreement Monitoring Chart is used to help monitor and report achievements against Service Level Targets. A SLAM Chart is typically colour coded to show whether each agreed Service Level Target has been met, missed, or nearly missed during each of the previous 12 months.</td>
</tr>
<tr>
<td><strong>SMART</strong></td>
</tr>
<tr>
<td><strong>Service Design</strong> (Continual Service Improvement) An acronym for helping to remember that targets in Service Level Agreements and Project Plans should be Specific, Measurable, Achievable, Relevant and Timely.</td>
</tr>
<tr>
<td><strong>Snapshot</strong></td>
</tr>
<tr>
<td><strong>Service Transition</strong> The current state of a Configuration as captured by a discovery tool. Also used as a synonym for Benchmark. See Baseline.</td>
</tr>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td>See Service Sourcing.</td>
</tr>
<tr>
<td>Specification</td>
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<tr>
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<td><strong>Standard Change</strong></td>
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<td><strong>Standard Operating Procedures (SOP)</strong></td>
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<td><strong>Standby</strong></td>
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<td><strong>Statement of requirements (SOR)</strong></td>
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<tr>
<td>Status</td>
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<tr>
<td>Status Accounting</td>
</tr>
<tr>
<td>Storage Management</td>
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<tr>
<td>Strategic</td>
</tr>
<tr>
<td>Strategy</td>
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<tr>
<td>Super User</td>
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<p>| <strong>Supplier</strong> | (Service Strategy) (Service Design) A Third Party responsible for supplying goods or Services that are required to deliver IT services. Examples of suppliers include commodity hardware and software vendors, network and telecom providers, and Outsourcing Organisations. See Underpinning Contract, Supply Chain. |
| <strong>Supplier and Contract Database (SCD)</strong> | (Service Design) A database or structured Document used to manage Supplier Contracts throughout their Lifecycle. The SCD contains key Attributes of all Contracts with Suppliers, and should be part of the Service Knowledge Management System. |
| <strong>Supplier Management</strong> | (Service Design) The Process responsible for ensuring that all Contracts with Suppliers support the needs of the Business, and that all Suppliers meet their contractual commitments. |
| <strong>Supply Chain</strong> | (Service Strategy) The Activities in a Value Chain carried out by Suppliers. A Supply Chain typically involves multiple Suppliers, each adding value to the product or Service. See Value Network. |</p>
<table>
<thead>
<tr>
<th><strong>Table of Contents</strong></th>
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</table>
| **Support Group**     | *(Service Operation)* A group of people with technical skills. Support Groups provide the Technical Support needed by all of the IT Service Management Processes.  
See Technical Management. |
| **Support Hours**     | *(Service Design) (Service Operation)* The times or hours when support is available to the Users. Typically this is the hours when the Service Desk is available. Support Hours should be defined in a Service Level Agreement, and may be different from Service Hours. For example, Service Hours may be 24 hours a day, but the Support Hours may be 07:00 to 19:00. |
| **Supporting Service**| *(Service Strategy)* A Service that enables or enhances a Core Service. For example a Directory Service or a Backup Service.  
See Service Package. |
<p>| <strong>SWOT Analysis</strong>     | <em>(Continual Service Improvement)</em> A technique that reviews and analyses the internal strengths and weaknesses of an Organisation and the external opportunities and threats which it faces. SWOT stands for Strengths, Weaknesses, Opportunities and Threats. |</p>
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<td><strong>System</strong></td>
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<tr>
<td><strong>System Management</strong></td>
</tr>
</tbody>
</table>

**Tactical**

The middle of three levels of **Planning** and delivery (**Strategic**, **Tactical**, **Operational**). **Tactical Activities** include the medium term **Plans** required to achieve specific **Objectives**, typically over a period of weeks to months.
<table>
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<tr>
<th>Tag</th>
<th><strong>(Service Strategy)</strong> A short code used to identify a <strong>Category</strong>. For example tags EC1, EC2, EC3 etc. might be used to identify different <strong>Customer</strong> outcomes when analysing and comparing <strong>Strategies</strong>. The term <strong>Tag</strong> is also used to refer to the <strong>Activity</strong> of assigning Tags to things.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Management</td>
<td><strong>(Service Operation)</strong> The <strong>Function</strong> responsible for providing technical skills in support of <strong>IT Services</strong> and management of the <strong>IT Infrastructure</strong>. Technical Management defines the <strong>Roles of Support Groups</strong>, as well as the tools, <strong>Processes</strong> and <strong>Procedures</strong> required.</td>
</tr>
<tr>
<td>Technical Observation (TO)</td>
<td><strong>(Continual Service Improvement)</strong> A technique used in <strong>Service Improvement</strong>, <strong>Problem</strong> investigation and <strong>Availability Management</strong>. Technical support staff meet to monitor the behaviour and <strong>Performance</strong> of an <strong>IT Service</strong> and make recommendations for improvement.</td>
</tr>
<tr>
<td>Technical Service</td>
<td>Synonym for <strong>Infrastructure Service</strong>.</td>
</tr>
<tr>
<td>Technical Support</td>
<td>Synonym for <strong>Technical Management</strong>.</td>
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</tr>
<tr>
<td><strong>Tension Metrics</strong></td>
<td><em>(Continual Service Improvement)</em> A set of related <strong>Metrics</strong>, in which improvements to one <strong>Metric</strong> have a negative effect on another. Tension Metrics are designed to ensure that an appropriate balance is achieved.</td>
</tr>
<tr>
<td><strong>Terms of Reference (TOR)</strong></td>
<td><em>(Service Design)</em> A <strong>Document</strong> specifying the <strong>Requirements</strong>, <strong>Scope</strong>, <strong>Deliverables</strong>, <strong>Resources</strong> and schedule for a <strong>Project</strong> or <strong>Activity</strong>.</td>
</tr>
<tr>
<td><strong>Test</strong></td>
<td><em>(Service Transition)</em> An <strong>Activity</strong> that verifies that a Configuration Item, IT Service, Process, etc. meets its <strong>Specification</strong> or agreed <strong>Requirements</strong>. See <strong>Service Validation and Testing, Acceptance</strong>.</td>
</tr>
<tr>
<td><strong>Test Environment</strong></td>
<td><em>(Service Transition)</em> A controlled <strong>Environment</strong> used to <strong>Test Configuration Items</strong>, Builds, IT Services, Processes etc.</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Third Party</td>
<td>A person, group, or <strong>Business</strong> who is not part of the <strong>Service Level Agreement</strong> for an <strong>IT Service</strong>, but is required to ensure successful delivery of that <strong>IT Service</strong>. For example a software <strong>Supplier</strong>, a hardware maintenance company, or a facilities department. <strong>Requirements</strong> for Third Parties are typically specified in <strong>Underpinning Contracts</strong> or <strong>Operational Level Agreements</strong>.</td>
</tr>
<tr>
<td>Third-line Support</td>
<td><strong>(Service Operation)</strong> The third level in a hierarchy of <strong>Support Groups</strong> involved in the resolution of <strong>Incidents</strong> and investigation of <strong>Problems</strong>. Each level contains more specialist skills, or has more time or other <strong>Resources</strong>.</td>
</tr>
<tr>
<td>Threat</td>
<td>Anything that might exploit a <strong>Vulnerability</strong>. Any potential cause of an <strong>Incident</strong> can be considered to be a Threat. For example a fire is a Threat that could exploit the <strong>Vulnerability</strong> of flammable floor coverings. This term is commonly used in <strong>Information Security Management</strong> and <strong>IT Service Continuity Management</strong>, but also applies to other areas such as <strong>Problem</strong> and <strong>Availability Management</strong>.</td>
</tr>
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<table>
<thead>
<tr>
<th>Metric</th>
<th>Definition</th>
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</table>
| **Threshold**                                                          | The value of a Metric which should cause an Alert to be generated, or management action to be taken. For example “Priority1 Incident not solved within 4 hours”, “more than 5 soft disk errors in an hour”, or “more than 10 failed changes in a month”.
| **Throughput**                                                         | *(Service Design)* A measure of the number of Transactions, or other Operations, performed in a fixed time. For example 5000 emails sent per hour, or 200 disk I/Os per second. |
| **Total Cost of Ownership (TCO)**                                      | *(Service Strategy)* A methodology used to help make investment decisions. TCO assesses the full Lifecycle Cost of owning a Configuration Item, not just the initial Cost or purchase price. See Total Cost of Utilization. |
| **Total Cost of Utilization (TCU)**                                    | *(Service Strategy)* A methodology used to help make investment and Service Sourcing decisions. TCU assesses the full Lifecycle Cost to the Customer of using an IT Service. See Total Cost of Ownership. |
## Total Quality Management (TQM)

(Continual Service Improvement) A methodology for managing continual improvement by using a Quality Management System. TQM establishes a Culture involving all people in the Organisation in a Process of continual monitoring and improvement.

## Transaction

A discrete Function performed by an IT Service. For example transferring money from one bank account to another. A single Transaction may involve numerous additions, deletions and modifications of data. Either all of these complete successfully or none of them is carried out.

## Transition

(Service Transition) A change in state, corresponding to a movement of an IT Service or other Configuration Item from one Lifecycle status to the next.
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<table>
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<tr>
<th>Transition Planning and Support</th>
<th><strong>(Service Transition)</strong> The Process responsible for Planning all Service Transition Processes and co-ordinating the resources that they require. These Service Transition Processes are Change Management, Service Asset and Configuration Management, Release and Deployment Management, Service Validation and Testing, Evaluation, and Knowledge Management.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trend Analysis</strong></td>
<td><strong>(Continual Service Improvement)</strong> Analysis of data to identify time related patterns. Trend Analysis is used in Problem Management to identify common Failures or fragile Configuration Items, and in Capacity Management as a Modelling tool to predict future behaviour. It is also used as a management tool for identifying deficiencies in IT Service Management Processes.</td>
</tr>
<tr>
<td><strong>Tuning</strong></td>
<td>The Activity responsible for Planning Changes to make the most efficient use of Resources. Tuning is part of Performance Management, which also includes Performance Monitoring and implementation of the required Changes.</td>
</tr>
</tbody>
</table>
### Type I Service Provider

**Service Strategy**
An Internal Service Provider that is embedded within a Business Unit. There may be several Type I Service Providers within an Organisation.

### Type II Service Provider

**Service Strategy**
An Internal Service Provider that provides shared IT Services to more than one Business Unit.

### Type III Service Provider

**Service Strategy**
A Service Provider that provides IT Services to External Customers.

### Underpinning Contract (UC)

**Service Design**
A Contract between an IT Service Provider and a Third Party. The Third Party provides goods or Services that support delivery of an IT Service to a Customer. The Underpinning Contract defines targets and responsibilities that are required to meet agreed Service Level Targets in an SLA.
<table>
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<tr>
<th>Unit Cost</th>
<th><strong>(Service Strategy)</strong> The <strong>Cost</strong> to the <strong>IT Service Provider</strong> of providing a single <strong>Component</strong> of an <strong>IT Service</strong>. For example the <strong>Cost</strong> of a single desktop PC, or of a single <strong>Transaction</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgency</td>
<td><strong>(Service Transition)</strong> <strong>(Service Design)</strong> A measure of how long it will be until an <strong>Incident</strong>, <strong>Problem</strong> or <strong>Change</strong> has a significant <strong>Impact</strong> on the <strong>Business</strong>. For example a high <strong>Impact</strong> Incident may have low Urgency, if the <strong>Impact</strong> will not affect the <strong>Business</strong> until the end of the financial year. <strong>Impact</strong> and Urgency are used to assign <strong>Priority</strong>.</td>
</tr>
<tr>
<td>Usability</td>
<td><strong>(Service Design)</strong> The ease with which an <strong>Application</strong>, product, or <strong>IT Service</strong> can be used. <strong>Usability Requirements</strong> are often included in a <strong>Statement of Requirements</strong>.</td>
</tr>
<tr>
<td>Use Case</td>
<td><strong>(Service Design)</strong> A technique used to define required functionality and <strong>Objectives</strong>, and to <strong>Design Tests</strong>. Use Cases define realistic scenarios that describe interactions between <strong>Users</strong> and an <strong>IT Service</strong> or other <strong>System</strong>. See <strong>Change Case</strong>.</td>
</tr>
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<tr>
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</tr>
<tr>
<td><strong>User</strong></td>
<td>A person who uses the <strong>IT Service</strong> on a day-to-day basis. Users are distinct from <strong>Customers</strong>, as some <strong>Customers</strong> do not use the <strong>IT Service</strong> directly.</td>
</tr>
<tr>
<td><strong>User Profile (UP)</strong></td>
<td><strong>(Service Strategy)</strong> A pattern of <strong>User</strong> demand for <strong>IT Services</strong>. Each User Profile includes one or more <strong>Patterns of Business Activity</strong>.</td>
</tr>
<tr>
<td><strong>Utility</strong></td>
<td><strong>(Service Strategy)</strong> Functionality offered by a <strong>Product</strong> or <strong>Service</strong> to meet a particular need. Utility is often summarised as “what it does”. See <strong>Service Utility</strong>.</td>
</tr>
<tr>
<td><strong>Validation</strong></td>
<td><strong>(Service Transition)</strong> An <strong>Activity</strong> that ensures a new or changed <strong>IT Service</strong>, <strong>Process</strong>, <strong>Plan</strong>, or other <strong>Deliverable</strong> meets the needs of the <strong>Business</strong>. Validation ensures that <strong>Business Requirements</strong> are met even though these may have changed since the original <strong>Design</strong>. See <strong>Verification</strong>, <strong>Acceptance</strong>, <strong>Qualification</strong>, <strong>Service Validation and Testing</strong>.</td>
</tr>
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</tbody>
</table>
| **Value Chain**   | *(Service Strategy)* A sequence of Processes that creates a product or Service that is of value to a Customer. Each step of the sequence builds on the previous steps and contributes to the overall product or Service.  
     See Value Network. |
| **Value for Money**| An informal measure of Cost Effectiveness. Value for Money is often based on a comparison with the Cost of alternatives.  
     See Cost Benefit Analysis. |
| **Value Network**  | *(Service Strategy)* A complex set of Relationships between two or more groups or organisations. Value is generated through exchange of knowledge, information, goods or Services.  
     See Value Chain, Partnership. |
| **Value on Investment (VOI)** | *(Continual Service Improvement)* A measurement of the expected benefit of an investment. VOI considers both financial and intangible benefits.  
     See Return on Investment. |
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<tbody>
<tr>
<td><strong>Variable Cost</strong></td>
</tr>
<tr>
<td><em>(Service Strategy)</em> A Cost that depends on how much the IT Service is used, how many products are produced, the number and type of Users, or something else that cannot be fixed in advance. See Variable Cost Dynamics.</td>
</tr>
<tr>
<td><strong>Variable Cost Dynamics</strong></td>
</tr>
<tr>
<td><em>(Service Strategy)</em> A technique used to understand how overall Costs are impacted by the many complex variable elements that contribute to the provision of IT Services.</td>
</tr>
<tr>
<td><strong>Variance</strong></td>
</tr>
<tr>
<td>The difference between a planned value and the actual measured value. Commonly used in Financial Management, Capacity Management and Service Level Management, but could apply in any area where Plans are in place.</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
</tr>
<tr>
<td><em>(Service Transition)</em> An Activity that ensures a new or changed IT Service, Process, Plan, or other Deliverable is complete, accurate, Reliable and matches its Design Specification. See Validation, Acceptance, Service Validation and Testing.</td>
</tr>
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<td><strong>Verification and Audit</strong></td>
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<td><strong>Vision</strong></td>
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<tr>
<td>Vulnerability</td>
<td>A weakness that could be exploited by a Threat. For example an open firewall port, a password that is never changed, or a flammable carpet. A missing Control is also considered to be a Vulnerability.</td>
</tr>
<tr>
<td>Warm Standby</td>
<td>Synonym for Intermediate Recovery.</td>
</tr>
</tbody>
</table>
| Warranty                     | (Service Strategy) A promise or guarantee that a product or Service will meet its agreed Requirements.  
<pre><code>                          | See Service Validation and Testing, Service Warranty. |
</code></pre>
<p>| Work in Progress (WIP)       | A Status that means Activities have started but are not yet complete. It is commonly used as a Status for Incidents, Problems, Changes etc. |</p>
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<td><strong>Work Instruction</strong></td>
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<td><strong>Workaround</strong></td>
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<td><strong>Workload</strong></td>
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<td><strong>Document Name</strong></td>
<td>V3 Intermediate Certificate Syllabus: Managing Across the Lifecycle_v3.0</td>
</tr>
<tr>
<td><strong>Purpose of Document</strong></td>
<td>Provide a detailed syllabus for the ITIL Intermediate Qualification: Managing Across the Lifecycle Certificate</td>
</tr>
<tr>
<td><strong>Document Version Number</strong></td>
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<td>Chief Examiner</td>
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<td><strong>Prepared By</strong></td>
<td>V3 Examination Panel</td>
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<tr>
<td><strong>Date of First Draft</strong></td>
<td>March 2007</td>
</tr>
<tr>
<td><strong>Date Approved</strong></td>
<td>29 July 2008</td>
</tr>
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<td>Chief Examiner</td>
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<td><strong>Version</strong></td>
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Professional Qualifications for

ITIL® PRACTICES FOR SERVICE MANAGEMENT: INTERMEDIATE CERTIFICATE

The ITIL Intermediate Qualification:
Managing Across the Lifecycle Certificate
SYLLABUS
The ITIL Intermediate Qualification: Managing Across the Lifecycle Certificate is a free-standing qualification, but is also the final module of the Service Lifecycle and/or Service Capability modules that leads to the ITIL Expert in IT Service Management. The purpose of this training module and the associated exam and certificate is, respectively, to impart, test, and validate the knowledge across the contents of the ITIL V3 publications; focusing on business, management and supervisory objectives, purpose, processes, functions and activities, and on the interfaces and interactions between the processes addressed in the five core ITIL V3 publications.

Target Group

The target group of the ITIL Intermediate Qualification: Managing Across the Lifecycle Certificate is:

- Individuals who require a business and management level understanding of the ITIL V3 core Lifecycle and how it may be implemented to enhance the quality of IT service provision within an organisation
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- Individuals seeking the ITIL Expert certification in IT Service Management for which this qualification is the final mandatory module leading to the Expert certification
- Individuals seeking progress towards the ITIL Master in IT Service Management for which the ITIL Expert is a prerequisite

This may include but is not limited to, CIOs, Senior IT Managers, IT Managers and Supervisors, IT professionals and IT Operation practitioners

**Learning Objectives**

Candidates can expect to gain competencies in the following upon successful completion of the education and examination components related to this certification:

- Introduction to IT Service Management Business and Managerial Issues
- Managing the Planning and Implementation of IT Service Management
- Management of Strategic Change
- Risk Management
- Understanding Organisational Challenges
- Service Assessment
- Understanding Complementary Industry Guidance
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In addition the training for this certification should include examination preparation, including a mock examination opportunity.

Prerequisite Entry Criteria

Candidates wishing to be trained and examined for this qualification must already hold the ITIL Foundation Certificate in IT Service Management (2 credits from the V3 Foundation or V2 Foundation plus Bridge Certificate) and have obtained a further 15 credits (a total of at least 17 credits) as a minimum from a balanced selection of ITIL Service Lifecycle or Service Capability qualifications. Documentary evidence of this must be presented to gain admission to this certification level.

Eligibility for Examination

To be eligible for the ITIL Qualification: Managing Across the Lifecycle examination, candidates must have fulfilled the following requirements:

- At least 30 contact hours (hours of instruction, excluding breaks, with an Accredited Training Organisation (ATO) or an accredited e-learning solution) for this syllabus, as part of a formal, approved training course/scheme

- Hold the ITIL V3 Foundation Certificate in IT Service Management or ITIL V2 Foundation plus the bridging certificate
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- Have obtained a minimum of 15 credits through formal Service Lifecycle Stream or Service Capability scheme qualifications.
- It is also recommended that students should complete at least 28 hours of personal study by reviewing the syllabus and the core Lifecycle publications in preparation for the examination

**Level of Difficulty**

All ITIL Service Management certifications use the Bloom’s taxonomy in both the construction of the learning units and in the examination which is based on this syllabus.

A learning taxonomy is a scale of the degree of difficulty in the learning process. These levels apply to the cognitive, affective and psychomotor domains of learning but in the ITIL Qualification Scheme, we deal only with the cognitive sphere.

Bloom defines six levels of learning in the COGNITIVE domain which are both sequential and cumulative. They move from the simple to the complex. This implies that in order to achieve the sixth level of learning, for example, the instructor must ensure that the previous five levels have been mastered.
The **KNOWING level**: Here the student is able to bring to mind or remember the appropriate material. The behavioural tasks associated with this level tax the student’s memory and include such tasks as defining, recalling, listing, recognizing, describing and naming.

The **COMPREHENDING stage**: Here the student is able to understand or grasp the meaning of what is being communicated and make use of the idea without relating it to other ideas or materials and without seeing the fullest possible meaning or translation of the idea. Behavioural tasks at this level would include stating in the student’s own words, giving examples of, illustrating, inferring, summarizing and interpreting. These actions involve the knowing which has taken place at the first level.

The **APPLYING level**: Here the student should be able to use ideas, principles and theories in new, particular and concrete situations. Behavioural tasks at this level involve both knowing and comprehension and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.

The **ANALYZING level**: This is the fourth level of learning described by Bloom. At this level the student is able to break down a communication (rendered in any form) into constituent parts in order to make the organization and significance of the whole clear. Breaking down, discriminating, diagramming, detecting,
differentiating and illustrating are important behavioural tasks at this level and can be seen to include the previous levels of knowing, comprehending and applying. Here the significance of the constituent parts of an entity are examined in order to understand the whole more fully.

**The SYNTHESIS level:** At this level the student is able to put back together again the various parts or elements of a concept into a unified organization or whole. This putting together again and making sense of small parts is a crucial factor in intelligence and learning. Behavioural tasks at this level would include creating, writing, designing, combining, composing, organizing, revising and planning. This level of learning in order to occur must include the first four levels – knowing, comprehending, analyzing and applying. This level of learning is probably the most intense and exciting for student and teacher alike.

**The EVALUATING phase:** In this phase the student is able to arrive at an overview and to judge the value and relative merit of ideas or procedures by using appropriate criteria. At this level of learning the student will be able to compare, judge, appraise, justify, criticize and contrast theories, procedures, methods and concepts. This level involves mastery of the five previous levels of knowing, comprehending, applying analyzing and synthesizing.

For the purposes of the ITIL Qualifications Scheme, the Blooms level will appear in each syllabus module to identify the highest
level of cognitive difficulty that course content should deliver to meet the learning outcome and competence to meet the examination level of difficulty.

The following table illustrates the use of the taxonomy in ITIL professional qualifications.

<table>
<thead>
<tr>
<th>Bloom Levels and taxonomy</th>
<th>Used by ITIL certification</th>
<th>Intellectual activity in learning outcome and exam proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing</td>
<td>ITIL Service Management Foundation Level stream (includes V2 – V3 Foundation Bridge certification)</td>
<td>The ability to recall, recite, name, and understand the meaning of ITIL terminology and basic practice fundamentals. Vernacular examples used in Syllabus: Understand; Describe; Identify</td>
</tr>
<tr>
<td>Comprehending</td>
<td></td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Applying Analyzing</th>
<th>ITIL Service Management Lifecycle Stream Capability Stream Managing Across the Lifecycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ability to use the practices and concepts in a situation or unprompted use of an abstraction. Can apply what is learned in the classroom, in workplace situations. Can separate concepts into component parts to understand structure and can distinguish between facts and inferences.</td>
<td></td>
</tr>
</tbody>
</table>

**Vernacular examples used in Syllabus:**

- Analyze;
- Demonstrate;
- Apply;
- Distinguish;
- Justify;
- Produce;
- Decide
<table>
<thead>
<tr>
<th>Synthesis Evaluate</th>
<th>ITIL Service Management</th>
<th>The ability to create patterns or structure from composite elements to achieve a new meaning or outcome. Can make judgement, weigh options of ideas and elements to justify and support an argument or case.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Managing Across the Lifecycle – level 5 only</td>
<td>Vernacular examples used in Syllabus: Evaluate; Justify; Summarize; Plan; Modify; Manage; Control</td>
</tr>
<tr>
<td></td>
<td>ITIL Service Management Professional – Advanced Series</td>
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</tbody>
</table>

Intermediate stream qualifications will examine according to the Bloom level assigned to each syllabus learning unit within each of the Service Lifecycle and Service Capability streams. This means that a student must be prepared to be tested up to and including that level for any question related to that learning unit or units.

The examination format of complex multiple choice will offer a scenario and questions with a corresponding series of possible
answers. Each is constructed to test a student’s competency up to and including the bloom level associated to the syllabus learning unit that the question is mapped to. Instructors should ensure that the module curriculum offers discussion, practical exercises and instruction that will satisfy the competency needed to meet the exam level of difficulty.

The intermediate modules are expected to provide a practical level of proficiency for a student to be able to utilize the knowledge learned in their work environment. The examinations test a level of proficiency that allows students to apply the knowledge learned in the course to correctly select the correct sequence of possible answers.

Managing Across the Lifecycle Syllabus

The ITIL Intermediate Qualification: Managing Across the Lifecycle is awarded to those who complete the following seven units of study and successfully pass the relevant examination. The units cover the topics listed (section numbers from the book are included, with indicative contact study-hours).
## Introduction to IT Service Management

### Business and Managerial Issues

This unit introduces the candidate to the management concepts and terminology used in the field of IT Service Management.

To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide or analyze:

- Lifecycle positioning and transition
  - The difference between open-loop and closed-loop systems (SS 2.4.4, SS 4.3.1, SO, 5.1.2)
  - Complex Monitor Control loops (SO 5.1.2)
  - ITSM Monitor Control loops (SO 5.1.2)

- Relationship between Business and IT
  - How to achieve business value with people, process and function (SS 2.1, SS 2.2, SS 2.3, SS 2.4, SS 2.6.1, SS 2.6.2, SS 3.1.1, SS 3.1.2)
<table>
<thead>
<tr>
<th>ITIL EX: MALC01</th>
<th>How to achieve business value with supplier relationship and technology alignment (SS 3.3.4, SS 3.4, SS 4.3.2, SD 4.7.1, SD 4.7.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Difficulty – up to Bloom level 4</td>
<td><strong>The recommended minimum study period for this module is 2.0 hours.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ITIL EX: MALC02</th>
<th>Management of Strategic Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Difficulty – up to Bloom level 5</td>
<td>This unit will cover the managing of strategic change.</td>
</tr>
<tr>
<td></td>
<td>To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide, justify or analyze:</td>
</tr>
<tr>
<td></td>
<td>• Value creation challenge (SS 3.1, SD 2.4, SD 1.0, SD 2.1)</td>
</tr>
<tr>
<td></td>
<td>• Critical success components to managing lifecycle risk (SS 2.1, SS 2.2, SS 4.4.4, SS 4.4.5, SS 4.4.10, SS 9.3, SS 9.4, SS 9.5.6)</td>
</tr>
<tr>
<td>ITIL EX: MALC02 Level of Difficulty – up to Bloom level 5</td>
<td></td>
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<tr>
<td>----------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>• Business benefits</td>
<td></td>
</tr>
<tr>
<td>o Determining Benefit Realization (SS 5.2, SS 5.4)</td>
<td></td>
</tr>
<tr>
<td>o Determining Value to Business VOI, ROI (CSI 2.4.5)</td>
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<tr>
<td>o Determining Variable Cost Dynamics (VCD) (SS 5.1.2.9)</td>
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<tr>
<td>o Alignment of business policy, future direction and Demand Management (SS 5.4, SS 5.5, exclude tables SS 5.8, 5.9, 5.10)</td>
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</tr>
<tr>
<td>o Alignment to service portfolio and service catalogue management (SS 5.3, SD 3.6.1, SD 3.6.2, SD 4.1.1, SD 4.1.2, SD 4.1.3)</td>
<td></td>
</tr>
<tr>
<td>• Planning and Defining scope (SS 3.1.1, SS 3.1.2, SS 3.1.3, SD 3.3, SD 3.4, ST 4.1, SO 8.1, SO 8.2, CSI 8.5)</td>
<td></td>
</tr>
<tr>
<td>• Resource and Capability planning</td>
<td></td>
</tr>
<tr>
<td>o Awareness of design and delivery model choices (SD 3.11.1, SD 3.11.2)</td>
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<tr>
<th>Level of Difficulty</th>
<th>Section</th>
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<td>ITIL ex: MALC02</td>
<td>Budgeting, costing, service assets (SS 3.2, SS 5.1)</td>
</tr>
<tr>
<td></td>
<td>• Controlling Quality</td>
</tr>
<tr>
<td></td>
<td>o Quality opportunities (CSI 2.4.9)</td>
</tr>
<tr>
<td></td>
<td>o Intangible and Measuring benefits (SS 5.2.2.1, CSI 4.4.2, CSI 4.4.3)</td>
</tr>
<tr>
<td></td>
<td>o Assets- Service and Strategic (SS 3.2, SS 4.3)</td>
</tr>
<tr>
<td></td>
<td>• Strategic Influencing</td>
</tr>
<tr>
<td></td>
<td>o Defining awareness communication activities (ST 5.1, CSI 8.5)</td>
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<td></td>
<td>o People Education and knowledge transfer management (ST 4.7.1, ST 4.7.2, ST 4.7.3)</td>
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<td></td>
<td>• Customer liaison</td>
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<td></td>
<td>o Business Relationship Management (SS 4.1, SS 5.5, SD 4.2)</td>
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<td></td>
<td>o Service Structure and Value nets and value-chains (SS 3.4)</td>
</tr>
<tr>
<td>ITIL EX: MALC02</td>
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<tr>
<td>Level of Difficulty</td>
<td></td>
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<tr>
<td>– up to Bloom level 5</td>
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<tr>
<td>o Termination and Retirement of Services (SS 5.4, ST 4.4.5.6, SS 4.4.5.10)</td>
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</table>

The recommended minimum study period for this module is 6.5 hours.

| ITIL EX: MALC03  |
| Level of Difficulty  |
| – up to Bloom level 5 |

| Risk Management |
| This unit will cover managing project and IT risk. |

To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide, justify or analyze:

- The challenges, critical success factors and risks to service management (ST 8.1.5, ST 9.1, ST 9.2, ST 9.3, SD 4.6, SD 4.5.9, CSI 5.6.3)
- Identification of Risk (SS 9.5, SD 3.5, SD 4.5, SD 9.2, ST 4.6.5.9, SD 4.4.5.2)
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<td>Evaluation of Risk – CFIA, FTA, BIA, SFA, Risk Analysis and Management (SS 9.5, SD 4.4.5.2, SD 4.5.5.2, ST 4.6.5, ST 4.6.6, SO 8.3, CSI 5.6.1)</td>
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<tr>
<td>Corrective Actions (SD 3.5, CSI 5.6.3, CSI 4.1 “Step 7”, CSI 6.1.1)</td>
</tr>
<tr>
<td>Controlling Risk (SS 9.1, SS 9.2, CSI 5.6.3)</td>
</tr>
<tr>
<td>Transfer of risks (SS 9.5.2)</td>
</tr>
<tr>
<td>Service Provider risks (SS 9.5.3)</td>
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<td>Contract risks (SS 9.5.4)</td>
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<td>Design risks (SS 9.5.5)</td>
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<tr>
<td>Operational risks (SS 9.5.6, SO 4.6.8, SO 8.3, SO 9.3)</td>
</tr>
<tr>
<td>Market risks (SS 9.5.7)</td>
</tr>
</tbody>
</table>

*The recommended minimum study period for this module is 4.0 hours.*
Managing the Planning and Implementation of IT Service Management

This unit will cover the activities related to planning and implementation.

To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide, justify or analyze:

- Activities during Plan, Do, Check, Act including Aspects of Strategy and the 4P’s of Strategy (SS 3.5.1, SS 3.5.2, ST 4.4.5.4, CSI 5.5)
- Policy considerations
  - Strategy considerations (SS 3.5, SS 6.1.7, CSI 4.3.12)
  - Design considerations (SD 3.2, SD 3.8, SD 4.5.5.1)
  - Transition considerations (ST 3.2, ST 4.1.5.3, ST 4.5.4, ST 4.5.4.9)
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<th>ITIL EX: MALC04 Level of Difficulty – up to Bloom level 5</th>
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<td><strong>Directing</strong></td>
</tr>
<tr>
<td>o Value of achieving business goals by guiding, leading and monitoring (ST 4.1.1, ST 4.1.2, ST 4.1.3, ST 4.1.5.3, ST 4.1.6.2)</td>
</tr>
<tr>
<td><strong>Controlling and Evaluating</strong></td>
</tr>
<tr>
<td>o Value of verifying and using feedback to control lifecycle (ST 4.6, CSI 4.1.2)</td>
</tr>
<tr>
<td><strong>Organizational Form and Design</strong></td>
</tr>
<tr>
<td>(SS 6.1, SS 6.2, SS 6.3, SS 6.4)</td>
</tr>
<tr>
<td><strong>Communication, Coordination and Control</strong></td>
</tr>
<tr>
<td>(SS 9.2, SD 4.5.5.2, SD 6- introduction, SD 6.3, SD 6.4.10, SD 8.4, SD 9.1, ST 5.1, SO 3.6, SO Appendix B, CSI 8.5)</td>
</tr>
</tbody>
</table>

*The recommended minimum study period for this module is 5.0 hours.*
### Understanding Organizational Challenges

This unit will address organization challenges.

To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide, justify or analyze:

- organizational maturity (CSI 2.4.4, CSI 5.2, SD Appendix H)
- organizational structure (SS 6.1-introduction, SD 3.6.1, ST 6.3, SO 6.1, CSI 8.4)
- knowledge management and security of information (SD 4.6.1, SD 4.6.2, SD 4.6.3, SD 4.6.4, ST 7.1, ST 7.2)
- organizational transition (ST 5.2, ST 6.2)
- governance (CSI 3.10)
- Balance in Service Operations (SO 3.2)

The recommended minimum study period for this module is 3.5 hours.
### Service Assessment

This unit will address assessment of service value.

To meet the learning outcomes and examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide, justify or analyze:

- **Value of Measuring**
  - Why Measure (CSI 3.7)
  - What to Measure (CSI 4.1.1, CSI 4.1.2, CSI 4.3.4)

- **Value of Monitoring**
  - What to Monitor (CSI 4.1.1, CSI 4.1 “Step 3” and “Step 4”)

- **Reporting** (CSI 4.2.1, CSI 4.3.5, SO 9.2.8, SO Appendix B3)

- **Value of benchmarking** (CSI 3.9)
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<table>
<thead>
<tr>
<th>ITIL EX: MALC06</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Level of Difficulty – up to Bloom level 5</td>
<td>• Service Portfolio assessment across the lifecycle</td>
</tr>
<tr>
<td></td>
<td>o Assessment of achievements (CSI 4.1 “Step 5” and “Step 6”, CSI 4.1.1, CSI 5.2)</td>
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<tr>
<td></td>
<td>o Corrective action (CSI 4.1.1, CSI 4.1 “Step 7”, CSI 6.1.1)</td>
</tr>
<tr>
<td></td>
<td>• Business Perspective and Improvements (CSI 4.5)</td>
</tr>
</tbody>
</table>

*The recommended minimum study period for this module is 3.5 hours.*

<table>
<thead>
<tr>
<th>ITIL EX: MALC07</th>
<th>Understanding Complementary Industry Guidance and Tool Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This unit will address other practices. Specifically, after completing this module, candidates will be expected to understand value and distinguish between these complementary practices in support of ITIL initiatives:</td>
</tr>
<tr>
<td></td>
<td>• COBIT (SO A1, CSI A2)</td>
</tr>
<tr>
<td></td>
<td>• ISO/IEC 20000 (SO A2, CSI A2)</td>
</tr>
<tr>
<td></td>
<td>• CMMI (SO A3, CSI A2)</td>
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## Table of Contents

<table>
<thead>
<tr>
<th>ITIL EX: MALC07</th>
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</thead>
<tbody>
<tr>
<td>• Balanced Scorecard (SO A4)</td>
</tr>
<tr>
<td>• Quality Management (SO A5)</td>
</tr>
<tr>
<td>• OSI Framework (SO A6)</td>
</tr>
<tr>
<td>• Annuity (SS A1)</td>
</tr>
<tr>
<td>• Service Management maturity framework (SD AH)</td>
</tr>
<tr>
<td>• Six Sigma (CSI A2)</td>
</tr>
<tr>
<td>• Project Management (CSI A2)</td>
</tr>
<tr>
<td>• TQM (CSI A2)</td>
</tr>
<tr>
<td>• Management Governance framework (CSI A2)</td>
</tr>
<tr>
<td>• Tool Strategies (SS 8.3, SD 7.1, ST 7.1, SO 7, CSI 7.1)</td>
</tr>
</tbody>
</table>

*The recommended minimum study period for this module is 3.5 hours.*
Note:

Lecture and exercises

Meeting the learning objectives of this syllabus can be assisted through the use of practical exercises during the delivery of an accredited course. It is recommended that course providers make use of exercises to enhance the reinforcement of the learning objectives in this syllabus. To aid course providers, there are areas within each learning unit whose learning objective include such phrases as “identify, describe, analyse”, etc, which may be considered as opportunities to introduce practical course exercises. These are not mandated areas for practical exercises, but provided as suggestions for use by course providers.

Course Criteria

About 30% of the overall contact hours should consist of in practical assignments or exercises to reenforce knowledge learning.
## Format of the Examination

<table>
<thead>
<tr>
<th>Type</th>
<th>Eight (8) multiple choice, scenario-based, gradient scored questions. Each question will have 4 possible answer options, one of which is worth 5 marks, one which is worth 3 marks, one which is worth 1 mark, and one which is a distracter and achieves no marks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>Maximum 90 minutes for all candidates in their respective language (Candidates sitting the examination in a language other than their first language have a maximum of 120 minutes and are allowed to use a dictionary)</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>ITIL V3 Foundation Certificate or ITIL V2 Foundation plus Bridge Certificate and completion of an accredited Course from an ITIL Accredited Training Provider</td>
</tr>
<tr>
<td>Supervised</td>
<td>Yes</td>
</tr>
<tr>
<td>Open Book</td>
<td>No</td>
</tr>
<tr>
<td>Pass Score</td>
<td>28/40 or 70%</td>
</tr>
<tr>
<td>Distinction Score</td>
<td>TBC</td>
</tr>
<tr>
<td>Delivery</td>
<td>Online or Paper Based Examination</td>
</tr>
</tbody>
</table>
Trainer Qualification Criteria

This syllabus can only be delivered by an accredited provider/trainer. Any provider/trainer must hold the following qualifications to be eligible to provide this syllabus:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Eligibility</th>
<th>Degree of proficiency validation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited Training Organization</td>
<td>Required</td>
<td>The company shall be registered and in good standing with the Official Accrider</td>
</tr>
<tr>
<td>ITIL Managing Across the Lifecycle Certification</td>
<td>Required</td>
<td>Instructor must present a valid certificate issued by an accredited Examination Institute</td>
</tr>
<tr>
<td>ITIL V3 Expert Certification</td>
<td>Required</td>
<td>Instructor must present a valid certificate issued by an accredited Examination Institute</td>
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</table>