

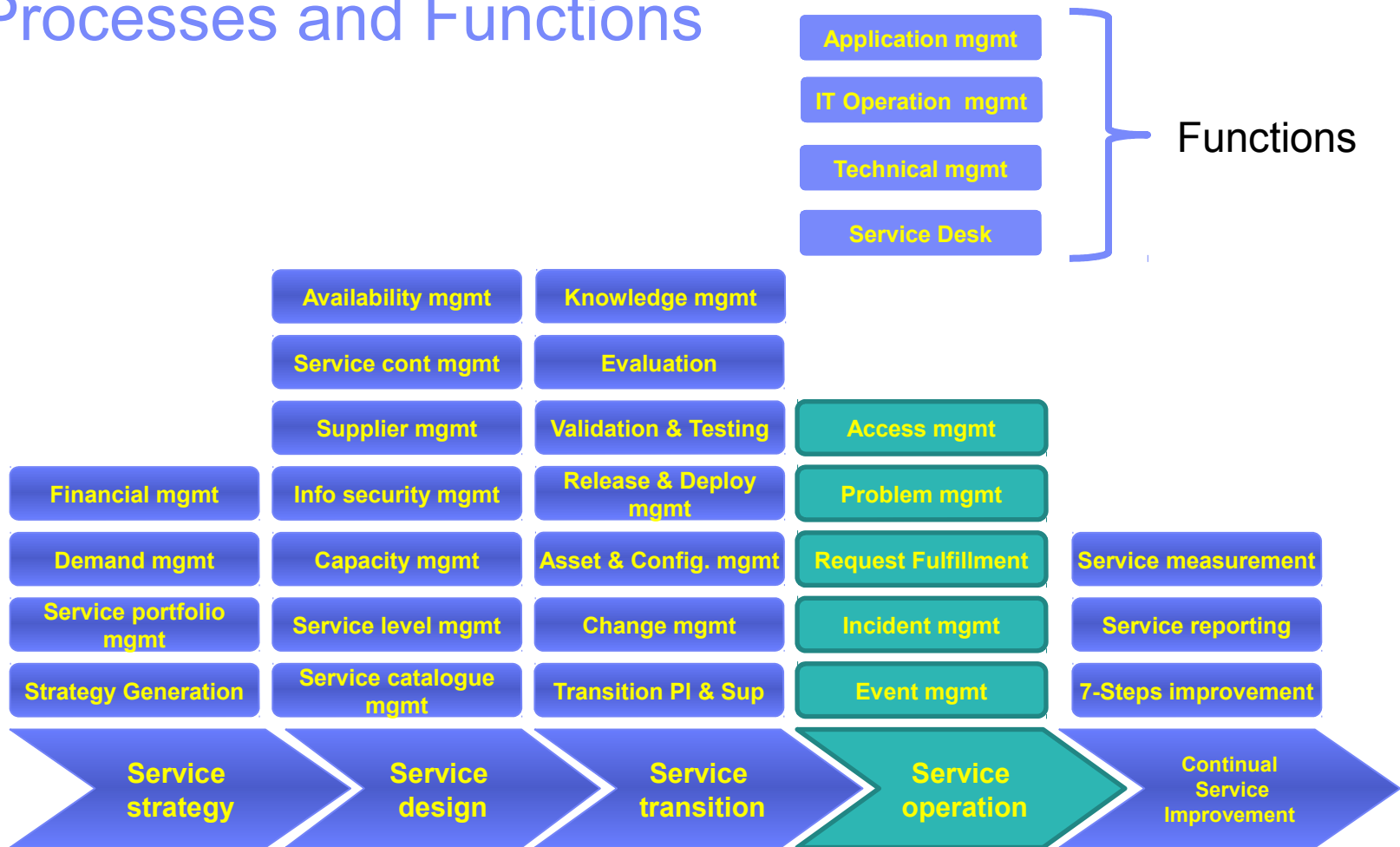
ITIL v3 (Lecture III)

Service Management as a Practice

IT Operation



Processes and Functions



Access Management - Purpose/goal/objective

- Access Management is the process of granting authorized users the right to use a service, while preventing access to non-authorized users. It has also been referred to as Rights Management or Identity Management in different organisations.
- Access Management provides the right for users to be able to use a service or group of services. It is therefore the execution of policies and actions defined in Security and Availability Management.



Access Management - Scope

- effectively the execution of both Availability and Information Security Management.
- ensures that users are given the right.
- process that is executed by all Technical and Application Management functions.
- there is likely to be a single control point of coordination, usually in IT Operations Management or on the Service Desk.
- can be initiated by a Service Request through the Service Desk.



Access Management - Metrics

Metrics that can be used to measure the efficiency and effectiveness of Access Management include:

- Number of requests for access (Service Request, RFC, etc.)
- Instances of access granted, by service, user, department, etc.
- Instances of access granted by department or individual granting rights
- Number of incidents requiring a reset of access rights
- Number of incidents caused by incorrect access settings.



Request Fulfillment - Purpose/goal/objective

Request Fulfillment is the processes of dealing with Service Requests from the users. The objectives of the Request Fulfillment process include:

- To provide a channel for users to request and receive standard services for which a pre-defined approval and qualification process exists
- To provide information to users and customers about the availability of services and the procedure for obtaining them
- To source and deliver the components of requested standard services (e.g. licences and software media)
- To assist with general information, complaints or comments.



Request Fulfillment – Value/Scope

- The value of Request Fulfillment is to provide quick and effective access to standard services which business staff can use to improve their productivity or the quality of business services and products.
- The process needed to fulfil a request will vary depending upon exactly what is being requested – but can usually be broken down into a set of activities that have to be performed.
- The organization can choose to widen the scope of the Service Desk to expand upon just IT-related issues and use the desk as a focal point for other types of request for service
- In some organizations Requests are handled as a particular type of incident, an incident is usually an unplanned event whereas a Service Request is usually something that can and should be planned



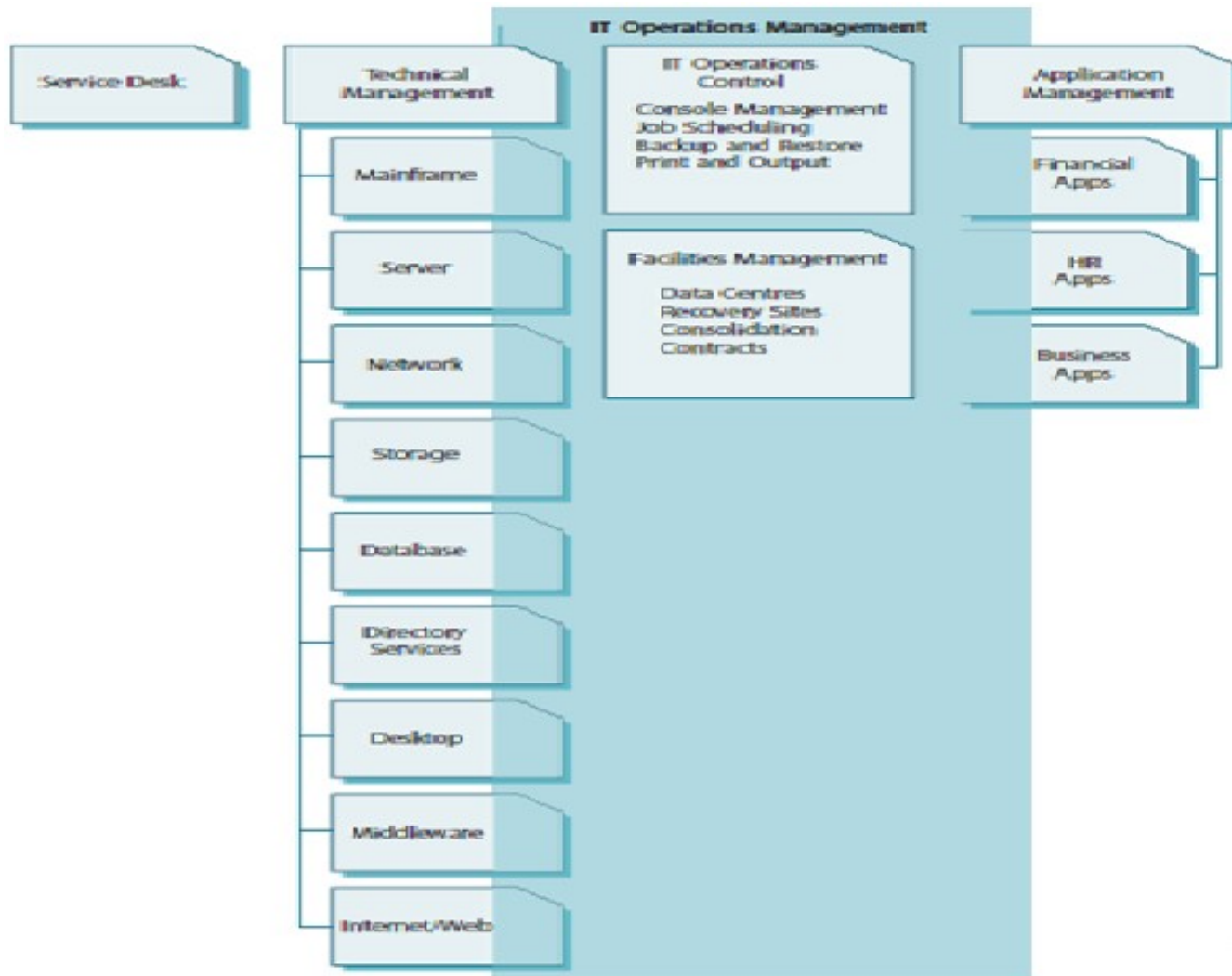
Request Fulfillment - Metrics

The metrics needed to judge the effectiveness and efficiency of Request Fulfilment will include the following (each metric will need to be broken down by request type, within the period):

- The total number of Service Requests (as a control measure)
- Breakdown of service requests at each stage (e.g. logged, WIP, closed, etc.)
- The size of current backlog of outstanding Service Requests
- The mean elapsed time for handling each type of Service Request
- The number and percentage of Service Requests completed within agreed target times
- The average cost per type of Service Request
- Level of client satisfaction with the handling of Service Requests (as measured in some form of satisfaction survey).



IT Operation Functions



Service Desk

A Service Desk is a functional unit made up of a dedicated number of staff responsible for dealing with a variety of service events, often made via telephone calls, web interface, or automatically reported infrastructure events.

- Improved customer service, perception and satisfaction
- Increased accessibility through a single point of contact, communication and information
- Better-quality and faster turnaround of customer or user requests
- Improved teamwork and communication
- Enhanced focus and a proactive approach to service provision
- A reduced negative business impact
- Better-managed infrastructure and control
- Improved usage of IT Support resources and increased productivity of business personnel
- More meaningful management information for decision support
- It is common practice that the Service Desk provides 'entry-level' positions for ITSM staff.



Service Desk

Specific responsibilities will include:

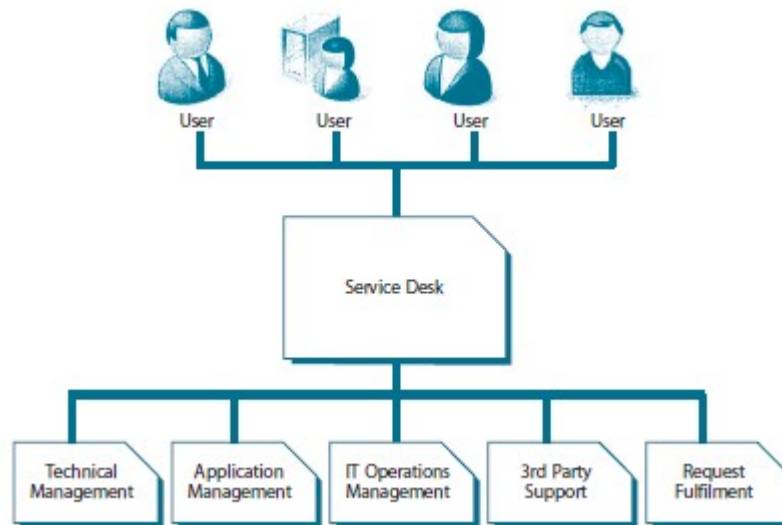
- Logging all relevant incident/service request details, allocating categorization and prioritization codes
- Providing first-line investigation and diagnosis
- Resolving those incidents/service requests they are able
- Escalating incidents/service requests that they cannot resolve within agreed timescales
- Keeping users informed of progress
- Closing all resolved incidents, requests and other calls
- Conducting customer/user satisfaction callbacks/surveys as agreed
- Communication with users - keeping them informed of incident progress, notifying them of impending changes or agreed outages, etc.
- Updating the CMS under the direction and approval of Configuration Management if so agreed.



Service Desk organizational structure

- Local Service Desk

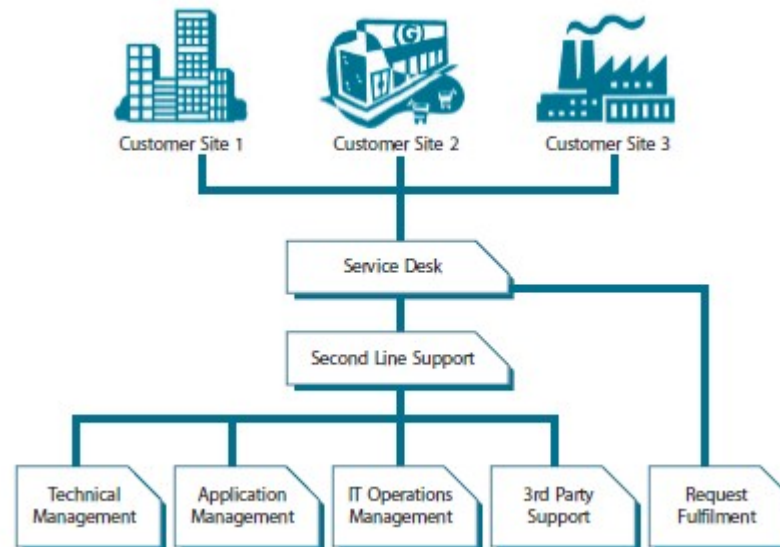
- Language and cultural or political differences
- Different time zones
- Specialized groups of users
- The existence of customized or specialized services that require specialist knowledge
- VIP/criticality status of users.



Service Desk organizational structure

Centralized Service Desk

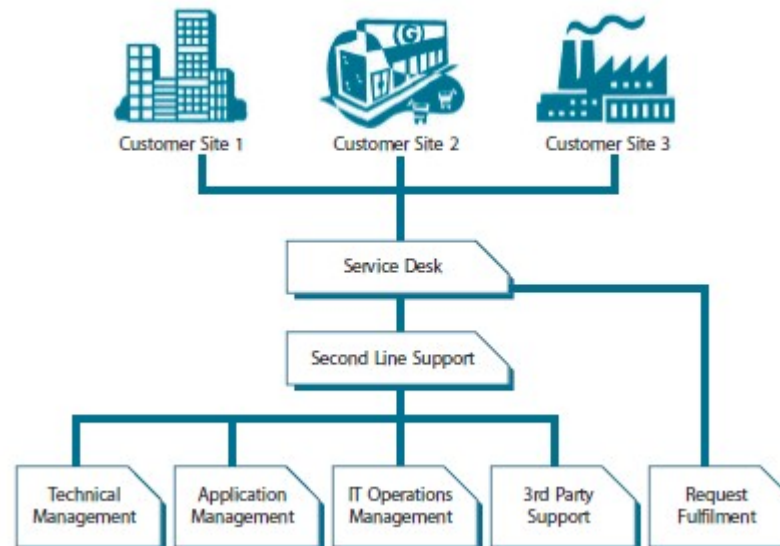
It is possible to reduce the number of Service Desks by merging them into a single location (or into a smaller number of locations) by drawing the staff into one or more centralized Service Desk structures. This can be more efficient and cost-effective, allowing fewer overall staff to deal with a higher volume of calls.



Service Desk organizational structure

Virtual Service Desk

Through the use of technology, particularly the Internet, and the use of corporate support tools, it is possible to give the impression of a single, centralized Service Desk when in fact the personnel may be spread or located in any number or type of geographical or structural locations.



Service Desk Metrics

- Percentage of customer or user updates conducted within target times, as defined in SLA targets
- Average time to review and close a resolved call
- The number of calls broken down by time of day and day of week, combined with the average call-time metric, is critical in determining the number of staff required.
- The first-line resolution rate: the percentage of calls resolved at first line
- Average time to resolve an incident (when resolved at first line)
- Average time to escalate an incident (where first-line resolution is not possible)
- Average Service Desk cost of handling an incident.



Technical Management

Technical Management refers to the groups, departments or teams that provide technical expertise and overall management of the IT Infrastructure.

Covering 2 activities:

- It is the custodian of technical knowledge and expertise related to managing the IT Infrastructure. In this role, Technical Management ensures that the knowledge required to design, test, manage and improve IT services is identified, developed and refined.
- It provides the actual resources to support the ITSM Lifecycle. In this role Technical Management ensures that resources are effectively trained and deployed to design, build, transition, operate and improve the technology required to deliver and support IT services.



Technical Management - Objectives

The objectives of Technical Management are to help plan, implement and maintain a stable technical infrastructure to support the organization's business processes through:

- Well designed and highly resilient, cost-effective technical topology
- The use of adequate technical skills to maintain the technical infrastructure in optimum condition
- Swift use of technical skills to speedily diagnose and resolve any technical failures that do occur.



Technical Management - Metrics

Metrics for Technical Management will largely depend on which technology is being managed, but some generic metrics include:

■ **Measurement of agreed outputs.** These could include:

- Contribution to achievement of services to the business. Although many of the Technical Management teams will not be in direct contact with the business, the technology they manage impacts the business. Metrics should reflect both negative (incidents traced to their team) and positive (system performance and availability) contributions:

- Transaction rates and availability for critical business transactions
- Service Desk training
- Recording problem resolutions into the KEDB
- User measures of the quality of outputs as defined in the SLAs
- Installation and configuration of components under their control.



Technical Management - Metrics

Metrics for Technical Management will largely depend on which technology is being managed, but some generic metrics include:

- **Process metrics.** Technical Management teams execute many Service Management process activities. Examples include:
 - Response time to events and event completion rates
 - Incident resolution times for second- and third-line support
 - Problem resolution statistics
 - Number of escalations and reason for those escalations
 - Number of changes implemented and backed out
 - Number of unauthorized changes detected
 - Number of releases deployed, total and successful
 - Security issues detected and resolved
 - Actual system utilization against Capacity Plan forecasts (where the team has contributed to the development of the plan)
 - Tracking against SIPs
 - Expenditure against budget.



Technical Management - Metrics

Metrics for Technical Management will largely depend on which technology is being managed, but some generic metrics include:

- **Technology performance.** These metrics are based on Service Design specifications and technical performance standards set by vendors, and will typically be contained in OLAs or Standard Operation Procedures. Actual metrics will vary by technology, but are likely to include:
 - Utilization rates (e.g. memory or processor for server, bandwidth for networks, etc.)
 - Availability (of systems, network, devices, etc.), which is helpful for measuring team or system performance, but is not to be confused with Service Availability – which requires the ability to measure the overall availability of the service and may use the availability figures for a number of individual systems or components
 - Performance (e.g. response times, queuing rates, etc.).



Technical Management - Metrics

Metrics for Technical Management will largely depend on which technology is being managed, but some generic metrics include:

- **Mean Time Between Failures of specified equipment.** This metric is used to ensure that good purchasing decisions are being made and, when compared with maintenance schedules, whether the equipment is being properly maintained
- **Measurement of maintenance activity**, including:
 - Maintenance performed per schedule
 - Number of maintenance windows exceeded
 - Maintenance objectives achieved (number and percentage).
- **Training and skills development.** These metrics ensure that staff have the skills and training to manage the technology that is under their control, and will also identify areas where training is still required



Technical Management - Metrics

IT Operations Management is measured in terms of its effective execution of specified activities and procedures, as well as its execution of process activities. Examples of these are as follows:

- Successful completion of scheduled jobs
- Number of exceptions to scheduled activities and jobs
- Number of data or system restores required
- Equipment installation statistics, including number of items installed by type, successful installations, etc.
- Process metrics. IT Operations Management executes many Service Management process activities. Their ability to do so will be measured as part of the process metrics where appropriate



IT Operations Management

In business, the term 'Operations Management' is used to mean the department, group or team of people responsible for performing the organization's day-to-day operational activities – such as running the production line in a manufacturing environment or managing the distribution centres and fleet movements within a logistics organization. Operations Management generally has the following characteristics:

- There is work to ensure that a device, system or process is actually running or working (as opposed to strategy or planning)
- This is where plans are turned into actions
- The focus is on daily or shorter-term activities, although it should be noted that these activities will generally be performed and repeated over a relatively long period (as opposed to one-off project type activities)
- These activities are executed by specialized technical staff, who often have to undergo technical training to learn how to perform each activity
- There is a focus on building repeatable, consistent actions that – if repeated frequently enough at the right level of quality – will ensure the success of the operation



IT Operations Management

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- This is where the actual value of the organization is delivered and measured
- There is a dependency on investment in equipment or human resources or both
- The value generated, must exceed the cost of the investment and all other organizational overheads (such as management and marketing costs) if the business is to succeed.



IT Operation Management - Metrics

IT Operations Management is measured in terms of its effective execution of specified activities and procedures, as well as its execution of process activities. Examples of these are as follows:

- If maintenance activities have been delegated, then metrics related to these activities will also be appropriate:
 - Maintenance performed per schedule
 - Number of maintenance windows exceeded
 - Maintenance objectives achieved (number and percentage).
- Metrics related to Facilities Management are extensive, but typically include:
 - Costs versus budget related to maintenance, construction, security, shipping, etc.
 - Incidents related to the building, e.g. repairs needed to the facility
 - Reports on access to the facility
 - Number of security events and Incidents and their resolution
 - Power usage statistics, especially as related to changes in layout and environmental conditioning strategies
 - Events or incidents related to shipping and distribution.



IT Operation Management - Metrics

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Application Management

Application Management is responsible for managing applications throughout their lifecycle. The Application Management function is performed by any department, group or team involved in managing and supporting operational applications. Application Management also plays an important role in the design, testing and improvement of applications that form part of IT services. As such, it may be involved in development projects, but is not usually the same as the Applications Development teams.



Application Management

The objectives of Application Management are to support the organization's business processes by helping to identify functional and manageability requirements for application software, and then to assist in the design and deployment of those applications and the ongoing support and improvement of those applications.

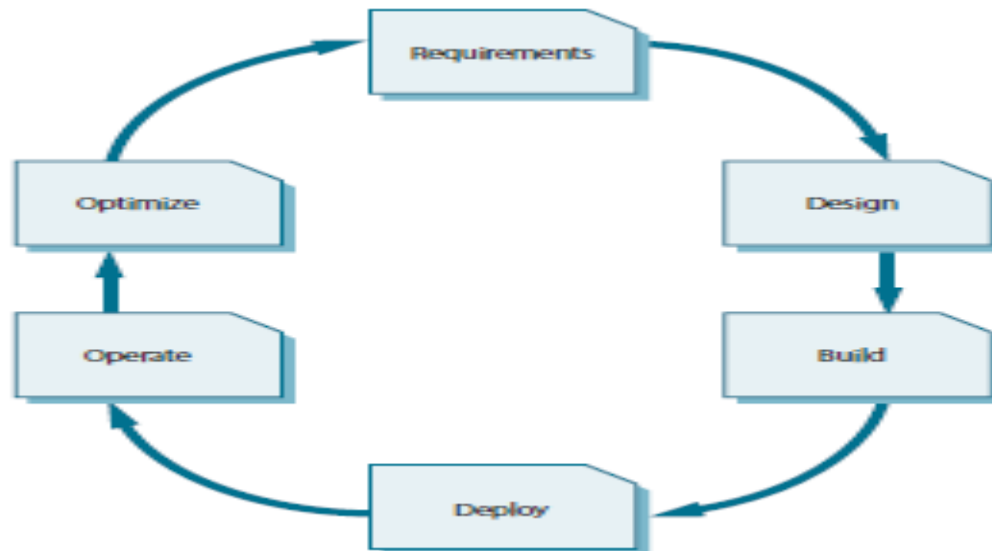
These objectives are achieved through:

- Applications that are well designed, resilient and cost-effective
- Ensuring that the required functionality is available to achieve the required business outcome
- The organization of adequate technical skills to maintain operational applications in optimum condition
- Swift use of technical skills to speedily diagnose and resolve any technical failures that do occur.



Application Management

The lifecycle followed to develop and manage applications has been referred to by many names, including the Software Lifecycle (SLC) and Software Development Lifecycle (SDLC). These are generally used by Applications Development teams and their Project Managers to define their involvement in designing, building, testing, deploying and supporting applications



Application Management - Metrics

Metrics for Application Management will largely depend on which applications are being managed, but some generic metrics include:

- **Measurement of agreed outputs.** These could include:
 - Ability of users to access the application and its functionality
 - Reports and files are transmitted to the users
 - Transaction rates and availability for critical business transactions
 - Service Desk training
 - Recording problem resolutions into the KEDB
 - User measures of the quality of outputs as defined in the SLAs.



Application Management - Metrics

Metrics for Application Management will largely depend on which applications are being managed, but some generic metrics include:

- **Process metrics.** Technical Management teams execute many Service Management process activities. Their ability to do so will be measured as part of the process metrics where appropriate. Examples include:
 - Response time to events and event completion rates
 - Incident resolution times for second- and third-line support
 - Problem resolution statistics
 - Number of escalations and reason for those escalations
 - Number of changes implemented and backed out
 - Number of unauthorized changes detected
 - Number of releases deployed, total and successful, including ensuring adherence to the Release Policies of the organization
 - Security issues detected and resolved
 - Actual system utilization against Capacity Plan forecasts (where the team has contributed to the development of the plan)
 - Tracking against SIPs
 - Expenditure against budget.



Application Management - Metrics

Metrics for Application Management will largely depend on which applications are being managed, but some generic metrics include:

■ **Application performance.** These metrics are based on Service Design specifications and technical performance standards set by vendors and will typically be contained in OLAs or SOPs. Actual metrics will vary by application, but are likely to include:

- Response times
- Application availability, which is helpful for measuring team or application performance but is not to be confused with Service Availability – which requires the ability to measure the overall availability of the service, and may use the availability figures for a number of individual systems or components
- Integrity of data and reporting.



Application Management - Metrics

Metrics for Application Management will largely depend on which applications are being managed, but some generic metrics include:

- **Measurement of maintenance activity**, including:
 - Maintenance performed per schedule
 - Number of maintenance windows exceeded
 - Maintenance objectives achieved (number and percentage).
- Application Management teams are likely to work closely with Application Development teams on **projects**, and appropriate metrics should be used to measure this, including:
 - Time spent on projects
 - Customer and user satisfaction with the output of the project
 - Cost of involvement in the project.
- **Training and skills development.** These metrics ensure that staff have the skills and training to manage the technology that is under their control, and will also identify areas where training is still required.



