ITILv3
Introduction and Overview

Konsep Sistem Informasi

Pertemuan 11

References

- Brett, T. (n.d.). ITILv3 Introduction and Overview. Oxford: Oxford University Computing Services.

- Bon, J. v., Jong, A. d., Kolthof, A., Piper, M., Tjassing, R., Veen, A. v., et al. (2010). *Foundations of ITIL v3.* Amersfoort, Netherland: Van Haren.

- Arraj, V. (2010). *ITIL®: The Basics.* Official Accreditor of the OGC ITIL Portfolio.

Agenda for the Session

- What is ITIL?
- Key Concepts
- Service Management & Delivery
- The Service Lifecycle
- The Five Stages of the lifecycle
- ITIL Roles
- Functions and Processes

What is ITIL?

- ITIL = **Information Technology Infrastructure Library**
- **Systematic approach** to high quality **IT service delivery**
- **Documented** best practice for **IT Service Management**
- Provides common language with **well-defined terms**
- Developed in 1980s by what is now The Office of Government Commerce
- itSMF (IT Service Management Forum) also involved in maintaining best practice documentation in ITIL
  – itSMF is global, independent, not-for-profit

Key Concepts

- **Service**
  – Delivers value to customer by facilitating outcomes customers want to achieve without ownership of the specific costs and risks
  – e.g. The HFS backup service means that you as Unit ITSS don't have to care about how much tapes, disks or robots cost and you don't have to worry if one of the HFS staff is off sick or leaves

Key Concepts

- **Service Level**
  – Measured and reported achievement against one or more service level targets
  – E.g.
    - Red = 1 hour response 24/7
    - Amber = 4 hour response 8/5
    - Green = Next business day
- **Service Level Agreement (SLA)**
  – Written and negotiated agreement between Service Provider and Customer documenting agreed service levels and costs

Key Concepts

- **Configuration Management System (CMS)**
  - Tools and databases to manage IT service provider's configuration data
  - Contains Configuration Management Database (CMDB)
    - Records hardware, software, documentation and anything else important to IT provision
- **Release**
  - Collection of hardware, software, documentation, processes or other things require to implement one or more approved changes to IT Services
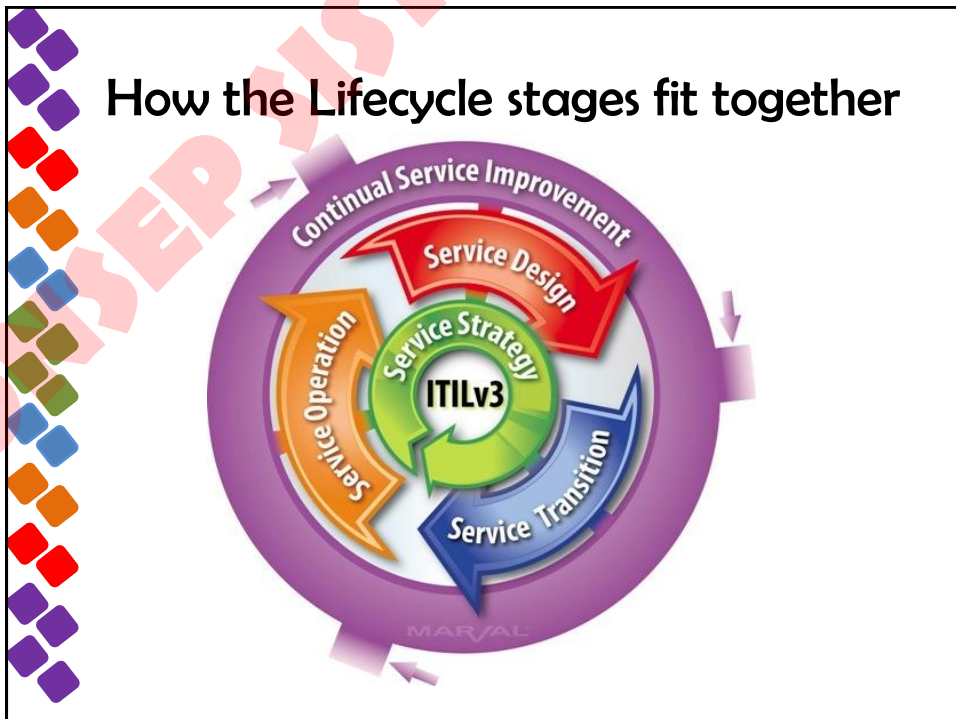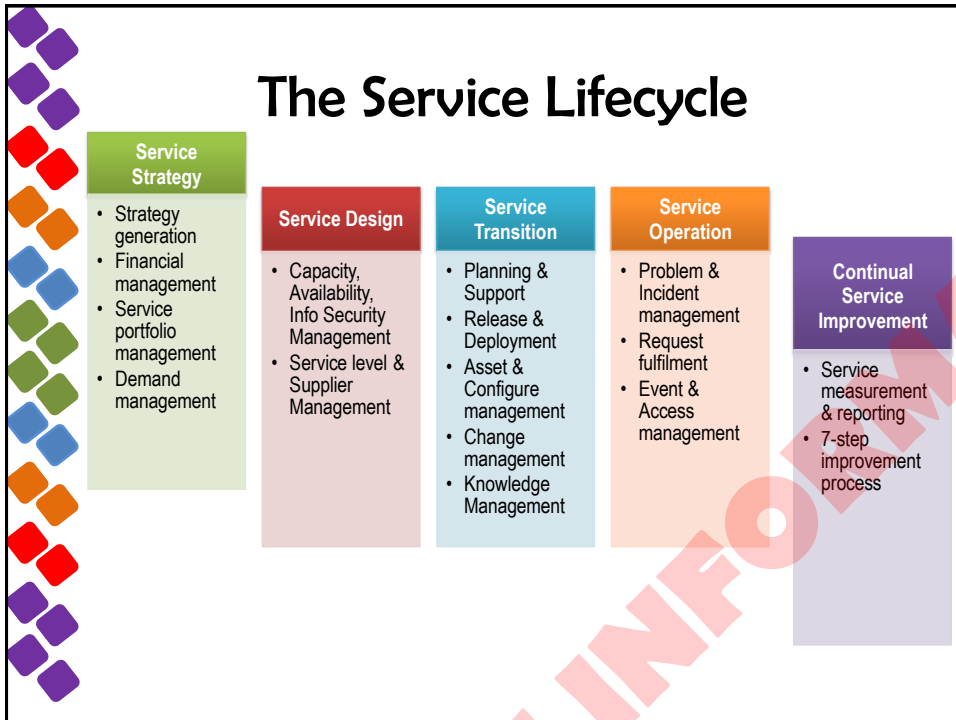
Key Concepts

- **Incident**
  - Unplanned interruption to an IT service or an unplanned reduction in its quality
- **Work-around**
  - Reducing or eliminating the impact of an incident without resolving it
- **Problem**
  - Unknown underlying cause of one or more incidents

4 Ps of Service Management

- **People** – skills, training, communication
- **Processes** – actions, activities, changes, goals
- **Products** – tools, monitor, measure, improve
- **Partners** – specialist suppliers

Service Delivery Strategies

Strategy	Features
In-sourcing	All parts internal
Out-sourcing	External resources for specific and defined areas (e.g. Contract cleaners)
Co-Sourcing	Mixture of internal and external resources
Knowledge Process Outsourcing (domain-based business expertise)	Outsourcing of particular processes, with additional expertise from provider
Application Outsourcing	External hosting on shared computers – applications on demand (e.g. Survey Monkey, Meet-o-matic)
Business Process Outsourcing	Outsourcing of specific processes e.g. HR, Library Circulation, Payroll
Partnership/Multi-sourcing	Sharing service provision over the lifecycle with two or more organisations (e.g. Shared IT Corpus/Oriel)

The Service Lifecycle

Service Strategy
- Strategy generation
- Financial management
- Service portfolio management
- Demand management

Service Design
- Capacity, Availability, Info Security Management
- Service level & Supplier Management

Service Transition
- Planning & Support
- Release & Deployment
- Asset & Configure management
- Change management
- Knowledge Management

Service Operation
- Problem & Incident management
- Request fulfilment
- Event & Access management

Continual Service Improvement
- Service measurement & reporting
- 7-step improvement process

How the Lifecycle stages fit together

Service Strategy

- What are we going to provide?
- Can we afford it?
- Can we provide enough of it?
- How do we gain competitive advantage?
- Perspective
  - Vision, mission and strategic goals
- Position
- Plan
- Pattern
  - Must fit organisational culture

Service Strategy has four activities

Define the Market

Develop the Offerings

Develop Strategic Assets

Prepare for Execution

Service Assets

- Resources
  - Things you buy or pay for
  - IT Infrastructure, people, money
  - Tangible Assets
- Capabilities
  - Things you grow
  - Ability to carry out an activity
  - Intangible assets
  - Transform resources into Services

Service Portfolio Management

- Prioritises and manages investments and resource allocation
- Proposed services are properly assessed
  - Business Case
- Existing Services Assessed. Outcomes:
  - Replace
  - Rationalise
  - Renew
  - Retire

Demand Management

- Ensures we don't waste money with excess capacity
- Ensures we have enough capacity to meet demand at agreed quality
- Patterns of Business Activity to be considered
  - E.g. Economy 7 electricity, Congestion Charging

Service Design

- How are we going to provide it?
- How are we going to build it?
- How are we going to test it?
- How are we going to deploy it?

Holistic approach to determine the impact of change introduction on the existing services and management processes

Processes in Service Design

- Availability Management
- Capacity Management
- ITSCM (disaster recovery)
- Supplier Management
- Service Level Management
- Information Security Management
- Service Catalogue Management

Service Catalogue

| Business Process A | Business Process B | Business Process C |

Business Service Catalogue

| Service 1 | Service 2 | Service 3 | Service 4 | Service 5 | Service 6 |

Technical Service Catalogue

Hardware   Software   Support   Applications   Databases   Capability

Keeps service information away from business information
Provides accurate and consistent information enabling service-focussed working

Service Level Management

- Service Level Agreement (SLA)
  - Operational Level Agreements
    - Internal
  - Underpinning Contracts
    - External Organisation
    - Supplier Management
  - Can be an annexe to a contract
  - Should be clear and fair and written in easy-to-understand, unambiguous language
- Success of SLM (KPIs)
  - How many services have SLAs?
  - How does the number of breaches of SLA change over time (we hope it reduces!)?

Things you might find in an SLA

Service Description	Hours of operation	User Response times
Incident Response times	Resolution times	Availability & Continuity targets
Customer Responsibilities	Critical operational periods	Change Response Times

Types of SLA

- Service-based
  - All customers get same deal for same services
- Customer-based
  - Different customers get different deal (and different cost)
- Multi-level
  - These involve corporate, customer and service levels and avoid repetition

Right Capacity, Right Time, Right Cost!

- This is capacity management
- Balances Cost against Capacity so minimises costs while maintaining quality of service

Is it available?

- Ensure that IT services matches or exceeds agreed targets
- Lots of Acronyms
  - Mean Time Between Service Incidents
  - Mean Time Between Failures
  - Mean Time to Restore Service
- Resilience increases availability
  - Service can remain functional even though one or more of its components have failed

ITSCM – what?

- IT Service Continuity Management
- Ensures resumption of services within agreed timescale
- Business Impact Analysis informs decisions about resources
  - E.g. Stock Exchange can't afford 5 minutes downtime but 2 hours downtime probably wont badly affect a departmental accounts office or a college bursary

Standby for liftoff...

- Cold
  - Accommodation and environment ready but no IT equipment
- Warm
  - As cold plus backup IT equipment to receive data
- Hot
  - Full duplexing, redundancy and failover

Information Security Management

- Confidentiality
  - Making sure only those authorised can see data
- Integrity
  - Making sure the data is accurate and not corrupted
- Availability
  - Making sure data is supplied when it is requested

Service Transition

- Build
- Deployment
- Testing
- User acceptance
- Bed-in

Good service transition

- Set customer expectations
- Enable release integration
- Reduce performance variation
- Document and reduce known errors
- Minimise risk
- Ensure proper use of services
- Some things excluded
  - Swapping failed device
  - Adding new user
  - Installing standard software

Knowledge management

- Vital to enabling the right information to be provided at the right place and the right time to the right person to enable informed decision
- Stops data being locked away with individuals
- Obvious organisational advantage

Data-Information-Knowledge-Wisdom

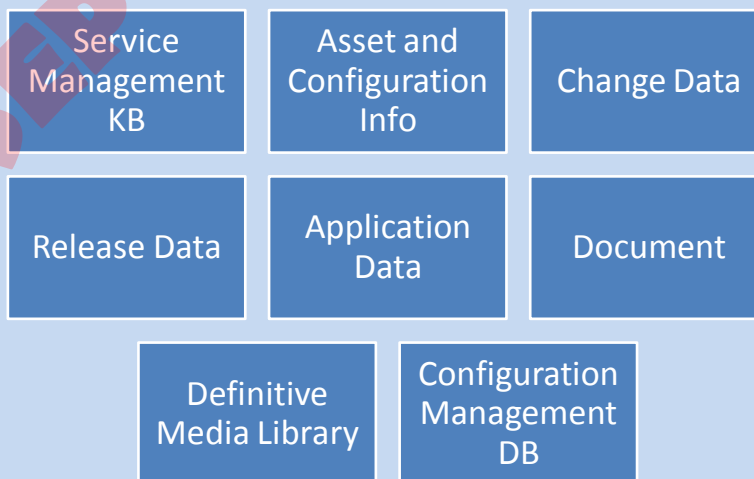Data → Information - who, what , where? → Knowledge - How? → Wisdom - Why?
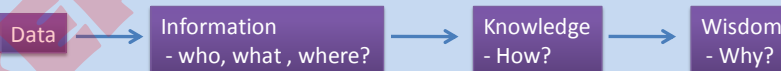
Wisdom cannot be assisted by technology – it only comes with experience!

Service Knowledge Information Management System is crucial to retaining this extremely valuable information

Service Asset and Configuration

- Managing these properly is key
- Provides Logical Model of Infrastructure and Accurate Configuration information
- Controls assets
- Minimised costs
- Enables proper change and release management
- Speeds incident and problem resolution

Configuration Management System

Service Management KB	Asset and Configuration Info	Change Data
Release Data	Application Data	Document

Definitive Media Library	Configuration Management DB

Painting the Forth Bridge...

- A Baseline is a "last known good configuration"
- But the CMS will always be a "work in progress" and probably always out of date. But still worth having
- Current configuration will always be the most recent baseline plus any implemented approved changes

Change Management – or what we all get wrong!

- Respond to customers changing business requirements
- Respond to business and IT requests for change that will align the services with the business needs
- Roles
  - Change Manager
  - Change Authority
    - Change Advisory Board (CAB)
    - Emergency CAB (ECAB)
- 80% of service interruption is caused by operator error or poor change control (Gartner)

Change Types

- Normal
  - Non-urgent, requires approval
- Standard
  - Non-urgent, follows established path, no approval needed
- Emergency
  - Requires approval but too urgent for normal procedure

Change Advisory Board

- Change Manager (VITAL)
- One or more of
  - Customer/User
  - User Manager
  - Developer/Maintainer
  - Expert/Consultant
  - Contractor
- CAB considers the 7 Rs
  - Who RAISED?, REASON, RETURN, RISKS, RESOURCES, RESPONSIBLE, RELATIONSHIPS to other changes

Release Management

- Release is a collection of authorised and tested changes ready for deployment
- A rollout introduces a release into the live environment
- Full Release
  - e.g. Office 2007
- Delta (partial) release
  - e.g. Windows Update
- Package
  - e.g. Windows Service Pack

Phased or Big Bang?

- Phased release is less painful but more work
- Deploy can be manual or automatic
- Automatic can be push or pull
- Release Manager will produce a release policy
- Release MUST be tested and NOT by the developer or the change instigator

KONSEP SISTEM INFORMASI

Service Operation

- Maintenance
- Management
- Realises Strategic Objectives and is where the Value is seen

Processes in Service Operation

- Incident Management
- Problem Management
- Event Management
- Request Fulfilment
- Access Management

Functions in Service Operation

- Service Desk
- Technical Management
- IT Operations Management
- Applications Management

Service Operation Balances

A	B
Reactive	Proactive
Responsiveness	Stability
Cost	Quality
Internal	External
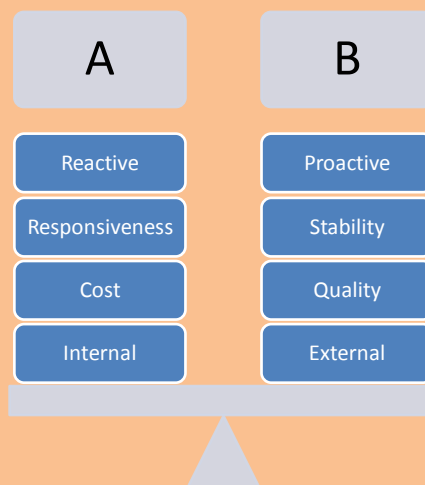
Incident Management

- Deals with unplanned interruptions to IT Services or reductions in their quality
- Failure of a configuration item that has not impacted a service is also an incident (e.g. Disk in RAID failure)
- Reported by:
  - Users
  - Technical Staff
  - Monitoring Tools

Event Management

- 3 Types of events
  - Information
  - Warning
  - Exception
- Can we give examples?
- Need to make sense of events and have appropriate control actions planned and documented

Request Fulfilment

- Information, advice or a standard change
- Should not be classed as Incidents or Changes
- Can we give more examples?

Problem Management

- Aims to prevent problems and resulting incidents
- Minimises impact of unavoidable incidents
- Eliminates recurring incidents
- Proactive Problem Management
  - Identifies areas of potential weakness
  - Identifies workarounds
- Reactive Problem Management
  - Indentifies underlying causes of incidents
  - Identifies changes to prevent recurrence

Access Management

- Right things for right users at right time
- Concepts
  - Access
  - Identity (Authentication, AuthN)
  - Rights (Authorisation, AuthZ)
  - Service Group
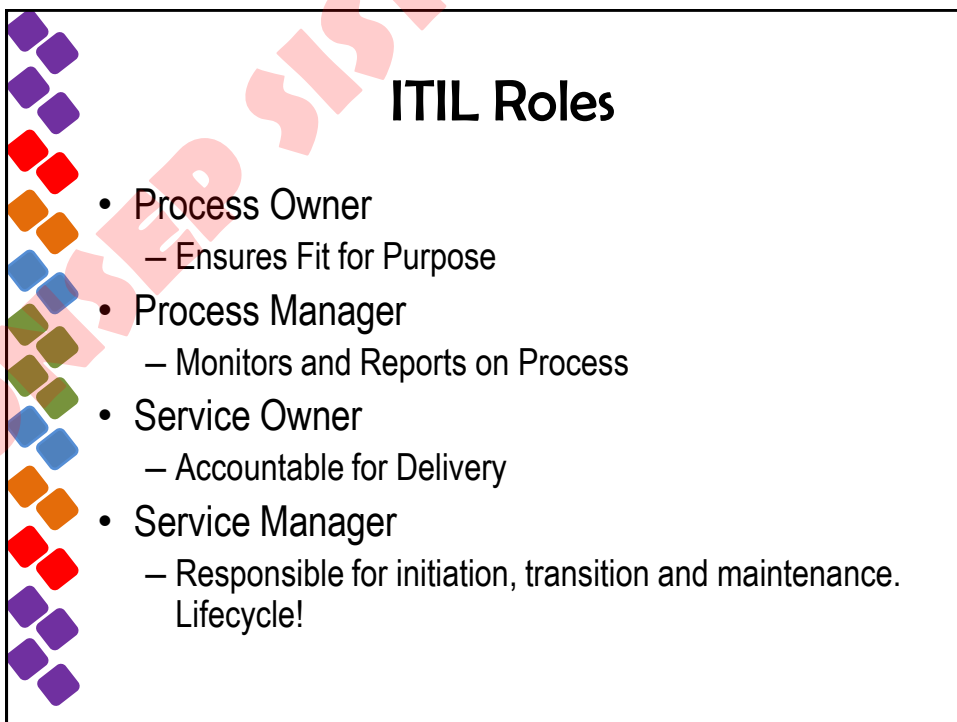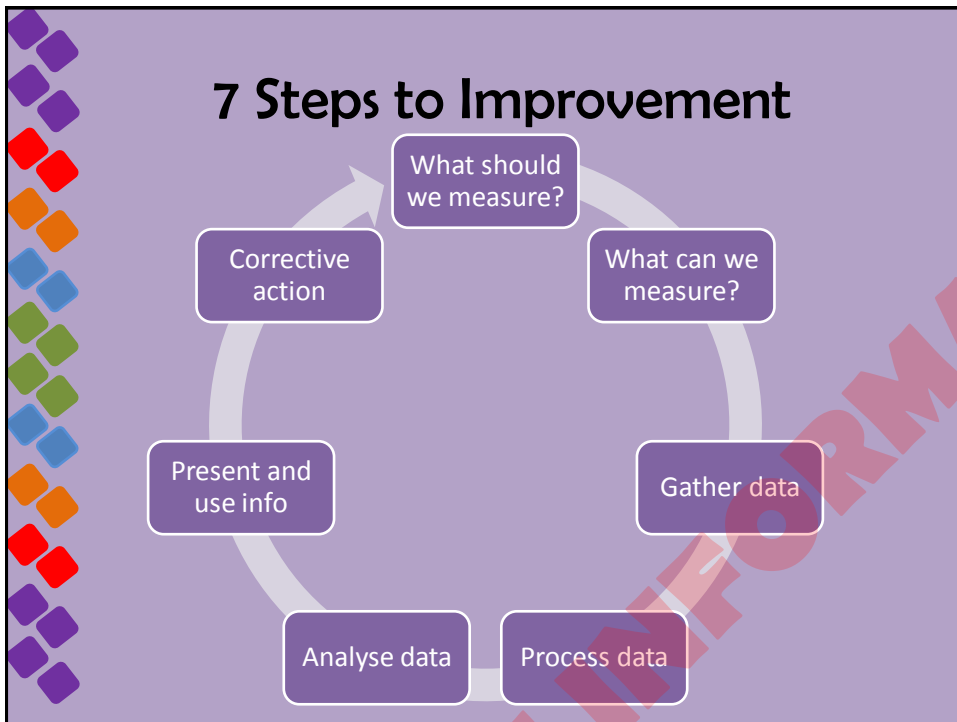 - Directory

Service Desk

- Local, Central or Virtual
- Examples?
- Single point of contact
- Skills for operators
  - Customer Focus
  - Articulate
  - Interpersonal Skills (patient!)
  - Understand Business
  - Methodical/Analytical
  - Technical knowledge
  - Multi-lingual
- Service desk often seen as the bottom of the pile
  - Bust most visible to customers so important to get right!

Continual Service Improvement

- Focus on Process owners and Service Owners
- Ensures that service management processes continue to support the business
- Monitor and enhance Service Level Achievements
- Plan – do –check – act (Deming)

Service Measurement

- Technology (components, MTBF etc)
- Process (KPIs - Critical Success Factors)
- Service (End-to end, e.g. Customer Satisfaction)
- Why?
  - Validation – Soundness of decisions
  - Direction – of future activities
  - Justify – provide factual evidence
  - Intervene – when changes or corrections are needed

7 Steps to Improvement

- What should we measure?
- What can we measure?
- Gather data
- Process data
- Analyse data
- Present and use info
- Corrective action

ITIL Roles

- Process Owner
  - Ensures Fit for Purpose
- Process Manager
  - Monitors and Reports on Process
- Service Owner
  - Accountable for Delivery
- Service Manager
  - Responsible for initiation, transition and maintenance. Lifecycle!

More Roles

- Business Relationship Manager
- Service Asset & Configuration
  - Service Asset Manager
  - Service Knowledge Manager
  - Configuration Manager
  - Configuration Analyst
  - Configuration Librarian
  - CMS tools administrator

Functions and Processes

- Process
  - Structured set of activities designed to accomplish a defined objective
  - Inputs & Outputs
  - Measurable
  - e.g. ??
- Function
  - Team or group of people and tools they use to carry out one or more processes or activities
  - Own practices and knowledge body
  - e.g. ??