# Organisation and Planning

## Information Security

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Høgskolen i Ålesund

Autumn 2011 – Week 8

# Learning Outcomes

After this week, students should

- Understand fundamental concepts of management
- Be able to use management concepts to plan effective and cost-efficient security measures
- Be familiar with different ways of organising a security organisation

# Outline

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# Interpersonal Roles

- Figurehead
- Leader
- Liaison

# Informational Roles

- Monitor
- Dissemination
- Spokesperson

# Decisional Roles

- Entrepreneur
- Disturbance handler
- Resource allocator
- Negotiator

# Outline

# Different Layers of Management

**Strategic Management** Upper management do long-term planning. They define and evealuate organisation-wide, overall goals.

**Functional Management** Middle management is specialised for different functional areas of the organisation, such as finance, IT, (security?), estates, production, etc. Yet, functional managers have a long-term view, and work closely with upper management.

**Operational Management** Lower management is responisble for the day-to-day running of the business. Operational managers steer towards goals and targets set by higher-level managers, and manage the finer detail of the organisation.

*Which layer is responsible for information security?*

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# Strategic Management

- Security Planning
- Security Auditing and Certification
- Risk apetite
  - expensive, high-security service
  - low-cost service with some risk
- Strategic choices depends on customer base and target market

# Senior Information Risk Owner (SIRO)

- Government requirement for all government departments
- Board-level individual responsible for information security across the department
- What's the purpose of this role?
- Raise security awareness to board-level
  - integrate security in board-level management
- Consistent risk management
  - one individual to decide on *acceptable risk*
- Liability and accountability?
  - someone to sack when it goes wrong?
  - or will the SIRO be able to pin the blame on someone else?
- Some departments have reached farther than others

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# Functional Management

- Risk management
- Risk-driven programme

# Operational Management

- Implementations
  - fire walls
  - security software deployments
- Administration and Maintenance
  - software patches
  - monitoring
  - configuration
- Response to Incidents
  - Recovery
  - Reporting

# Outline

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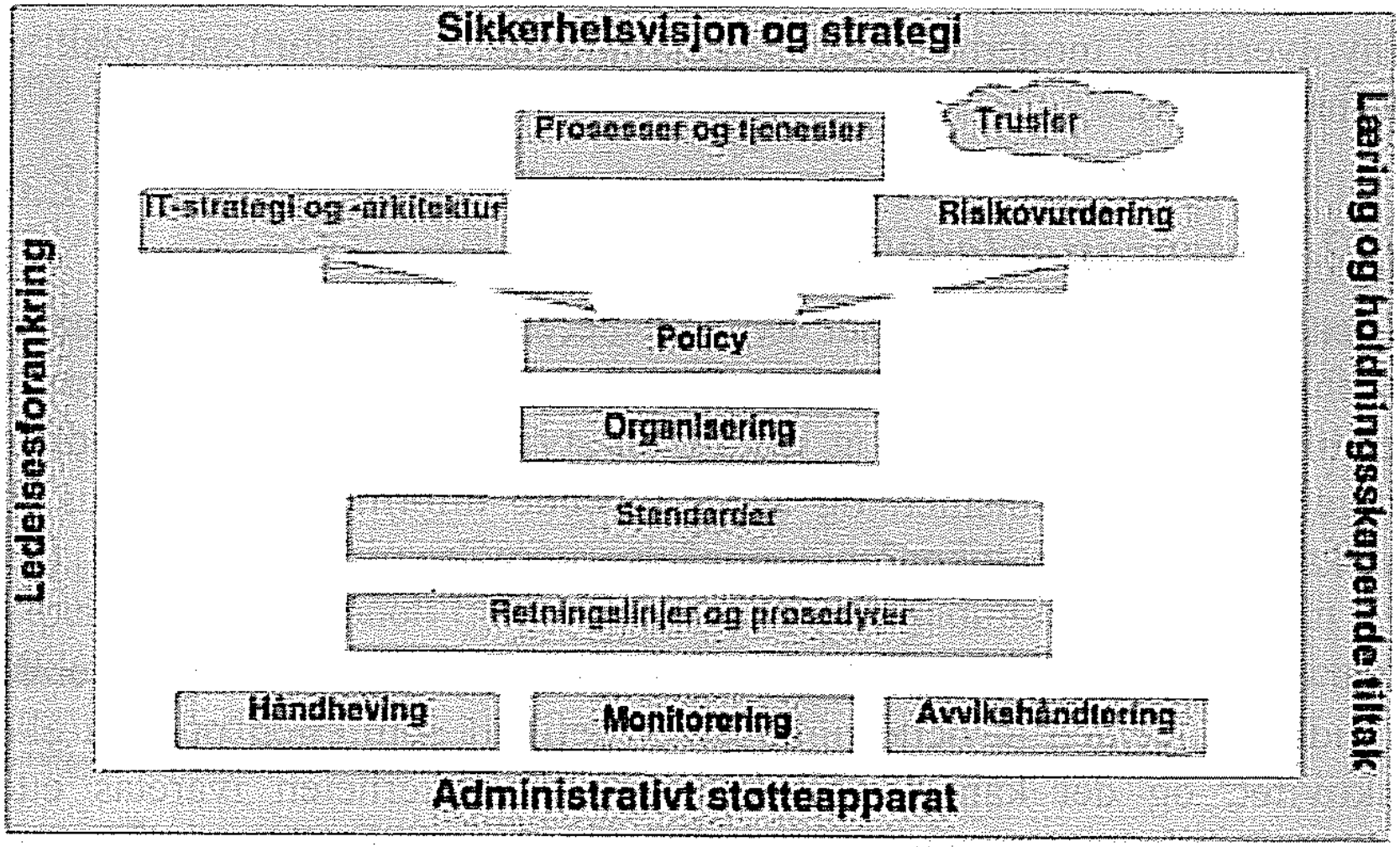
# Framework (from *Håndbok ...*



# Outline

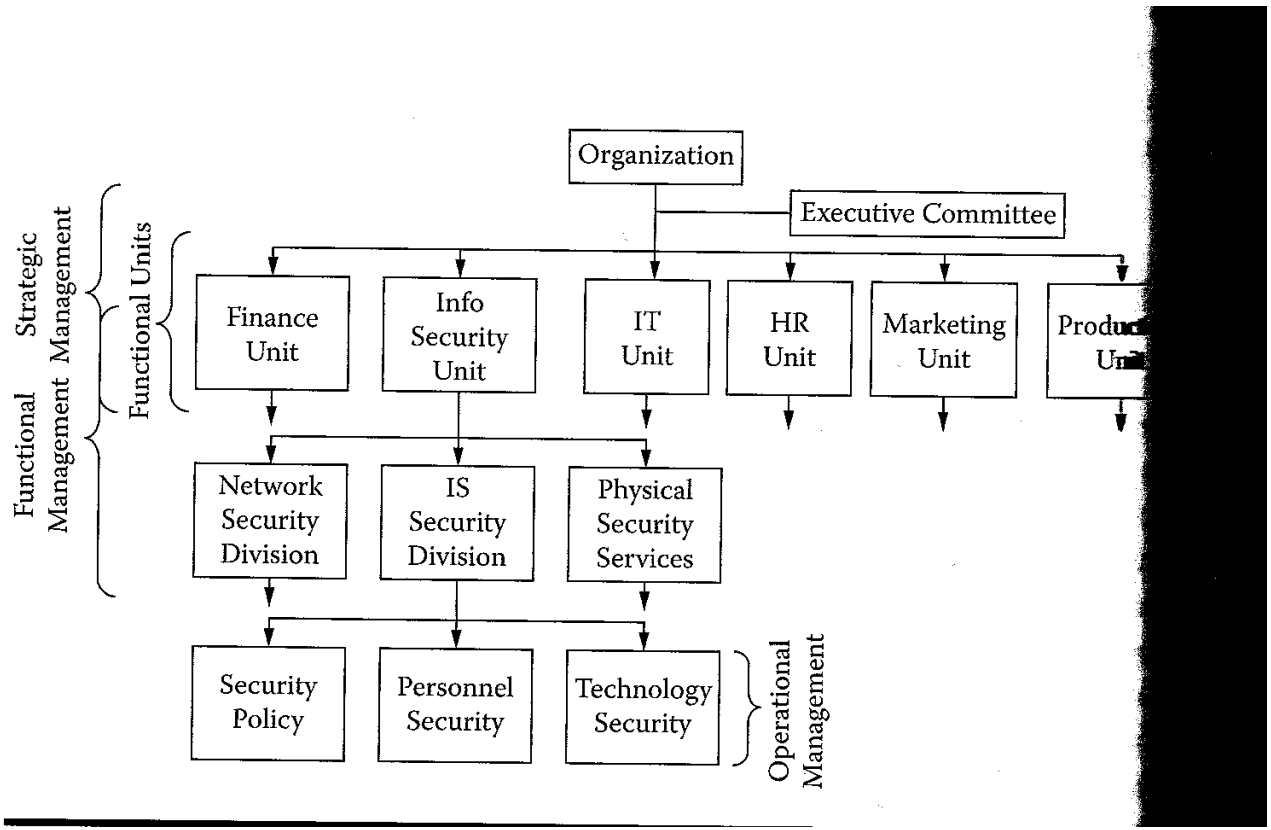
# Placement of the Security Unit

- Functional Information Security Unit
- Information Security Subunit under the IT unit
- Matrix organisation with orthogonal Information Security Unit

*What are the advantages and disadvantages?*

# Organisational Model

## With Security Functional Unit (Raggad)



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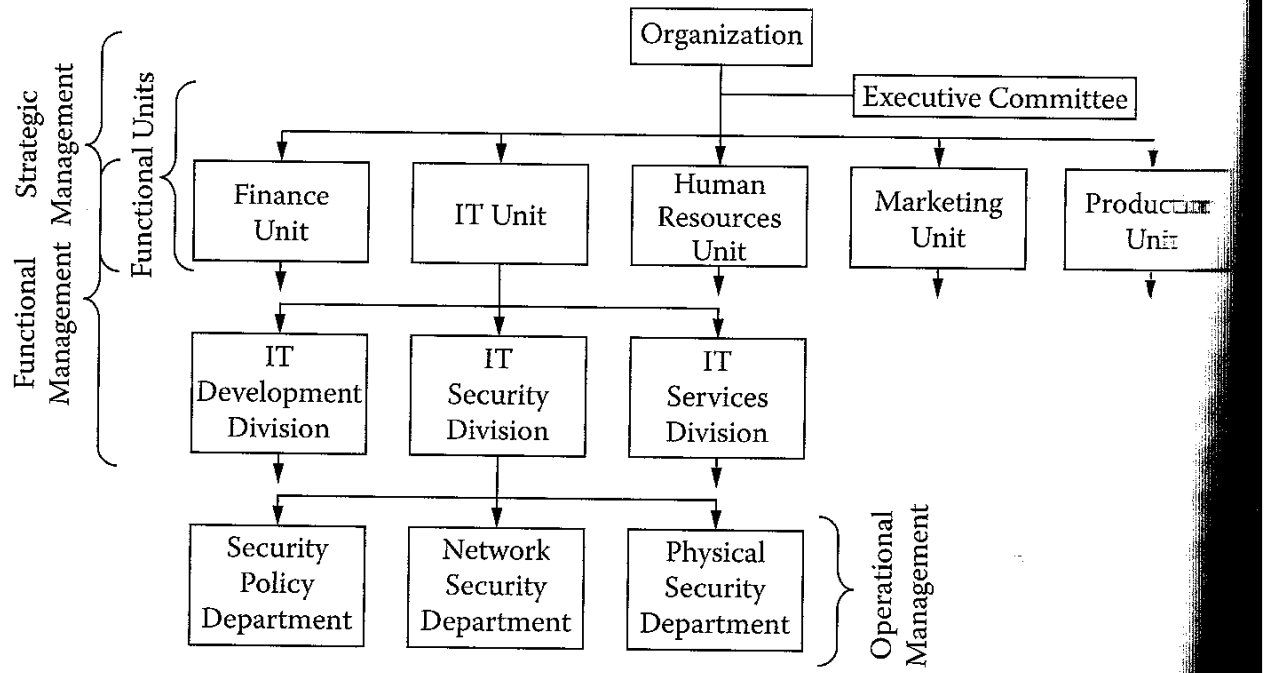


**Figure 2.6 Organizational structure without a separate security unit.**

# Matrix organisation

- All functional units are responsible for security
  - within their area
- The security organisation oversees and co-ordinates
- Staff may have to report both
  - own functional or operational head
  - to a member of security staff liaising with their unit

# Security in the Organisation

*Do we need a functional unit for (Information) Security?*

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# Communication with your Organisation

- The organisation is a fine machinery
  - each part must know its role
  - all the parts must be co-ordinated to work together
- Management is responsible for co-ordination and consistency
  - has the overview
- Everyone must no his/her own part
  - good communication is key to co-ordination
- Policies, standards, and other documents are essential communication tools

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- Documents do not exist for there own sake
- Documents are not security features
- Each document has a purpose
  - otherwise it is not worth writing
- Each document has a target audience
  - and must be written specifically for that audience
  - different audiences have different needs and abilities
- Don't write documents that no one will read
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# Do not cut and paste

- For instance: BP's Gulf Oil Spill Response Plan
  `http://www.csmonitor.com/From-the-news-wires/2010/0609/BP-s-gulf-oil-spill-response-plan-lists-the-walrus-Louisiana-Gov.-Bobby-Jindal-is-furious`
- Addresses species which do not even exist

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- Probably google
- Old documents on the web is a serious threat
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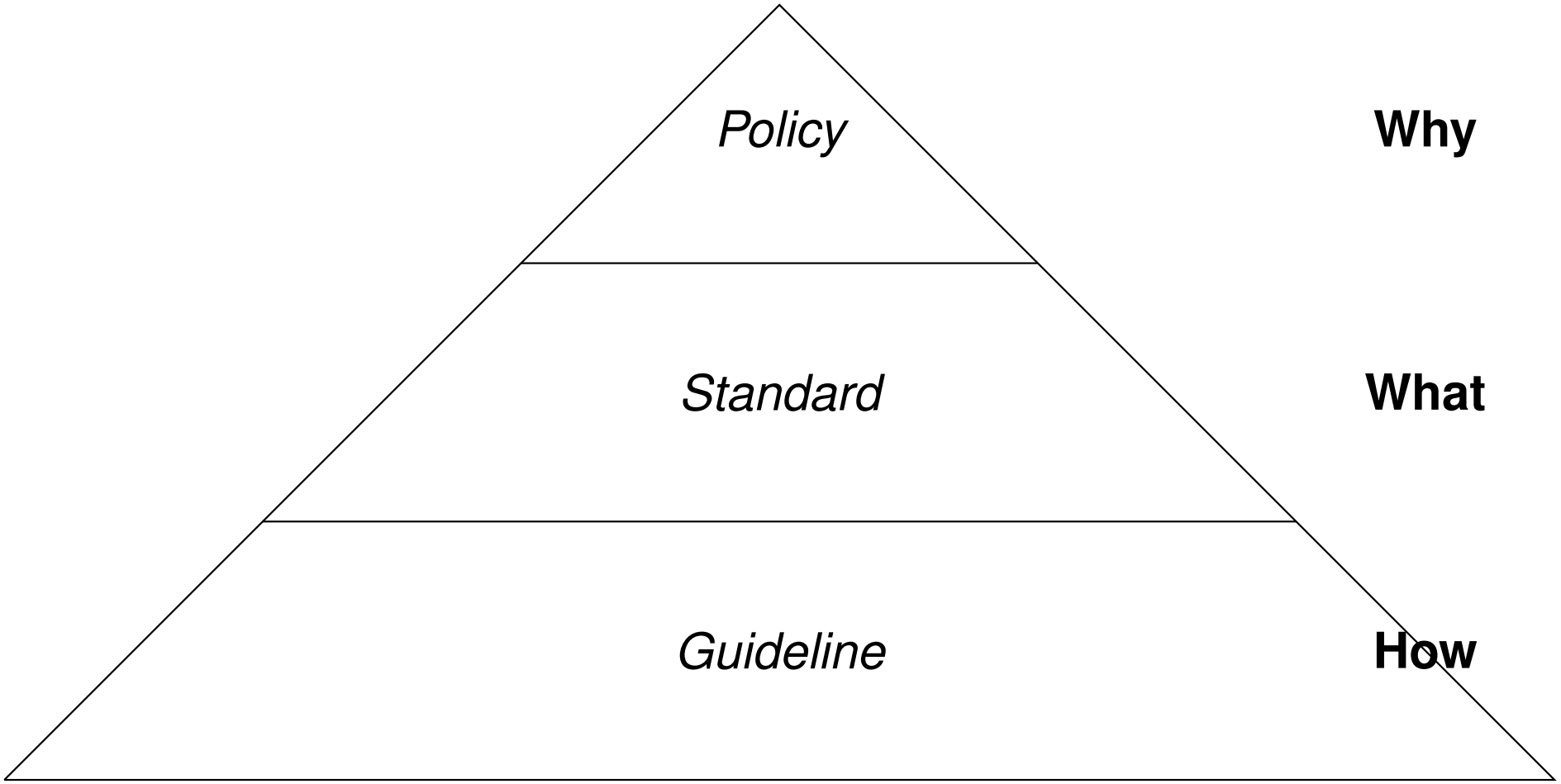

# Security Policy

**Definition (Organisational Security Policy)**

The laws, rules, and practices regulating how an organisation manages, protects, and distributes resources to achieve specified security policy objectives.

**Definition (Automated Security Policy)**

Set of restrictions and properties that specify how a computing system prevents information and computing resources from being used to violate an organisational security policy.

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# Scope of the Security Policy

- The organisational security policy
  - aims to secure the resources of the organisation
  - not limited to software and hardware
  - the users are part of the system
- The automated security policy
  - one of the means to implement the organisational security policy
  - limited to software and hardware
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# Policies and Other Documents

**Policy** defines the priorities and focus on the why of security. Responsibilities are assigned, and security requirements may be defined.

**Standard** defines mandatory rules of conduct, aiming to implement the policy.

**Guidelines** is a set of *best practice* and advice to help units and individuals to implement the policies and the standards. They are not mandatory.

# The Audience

## The Organisational Security Policy

- Different audiences
  - Users
  - Owners
  - System Administrators
  - Customers (and other beneficiaries)
  - Developers (system designers and programmers)
- Each group needs
  1. Assurance
     - their security needs are taken care of
  2. Awareness of their responsibility
     - they know to act correctly, maintaining security

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# Structure of the Policy

- No set format for policies
  - you write what the application requires
  - different organisations — different needs
- It depends on other documents
  - Some things are necessary, but could go in a policy document or elsewhere
  - Catalogue of Assets, Threat Descriptions, Risk Analysis
- Literature tends to focus on large corporations
  - rarely explicit or specific
  - but tend to assume a dozen people in the information security department...
- Very little literature on policies for SMEs
  - Ilona Ilvonen (ECIW 2009)
- Bottom line — there is no cookbook for this
  - you will help to think, and look at what the problem requires
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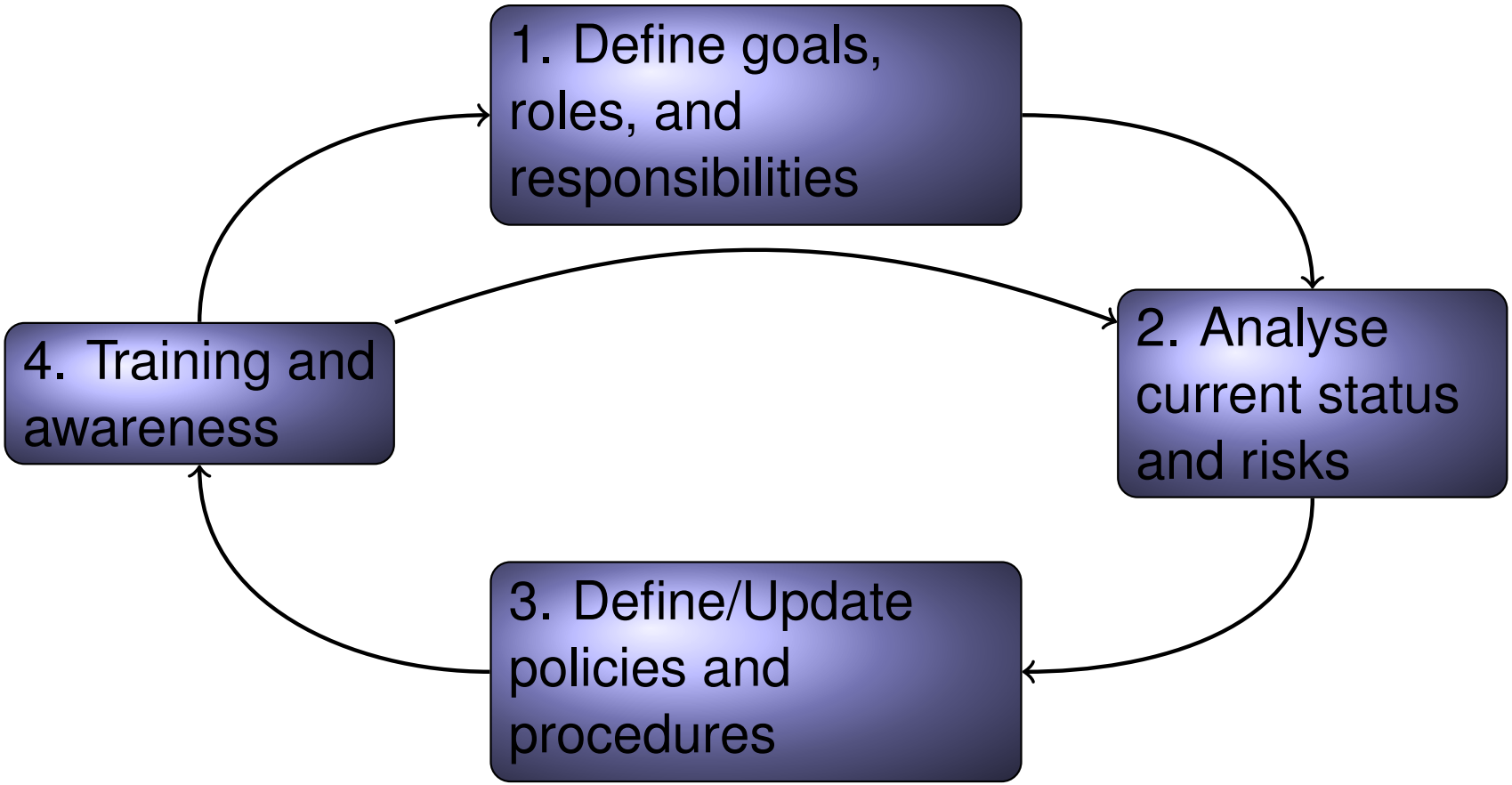
# Information Security Management Life Cycle

Ilona Ilvonen 2009



# Security Policy in Context

## Systems Design

- Working as a system designer
  - what is the role of the security policy?
- Requirements gathering
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# The Enron/Andersen Scandal

- The Enron Energy Corporation (USA)
  - Criminal investigation for fraud (a few years ago)
- Arthur Andersen Consulting
  - World renowned accounting company
- Andersen was implicated when they destroyed client files
  - ... relating to Enron

# Security Policy

## or Obstruction of Justice

- Andersen staff charged with obstruction of justice
  - shredding documents relevant for the investigation
- Claimed to be following policy
  - Anderson should not keep client files longer than necessary
- Who's right? Should client files be destroyed?

# A question of timing

- When policy contradicts law
  - the law is right
  - the policy is illegal
- However, that was not the problem
- Incosistent implementation of the policy
  - Shredded started after the investigation
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  - one could get away with that
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- Legal requirememnts
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# Liability and Accountability

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  - not necessarily to follow standards
- Focus on results, and not method
- Liability applies both to organisations and individuals
  - organisations may be liable for damage to client assets
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  - intelligent decisions based on local knowledge
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  - what constitutes negligence and what is reasonable care
  - liability under criminal or civil law?

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# Accountability in Information Security

- Accountability usually refers to an obligation to follow policy
- In information security it motivates audit logs monitoring the actions of users
  - who must answer for their actions
- It is usually not related to an expectation to achieve (or avoid) particular results
- However, managers are different from users
  - their accountability has to be different

# Outline

# Summary

- Security Awareness and Decissions are required at all levels of management
  - Strategic management
  - Functional management
  - Operational management
- Good communications is essential to implement decissions in the *organisation*
- Management and Development require continuous learning and improvement
  - Lifecycles is a common and useful model
  - Evaluation and Reflection is key to the cycle

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