

CE29x Team-Project Challenge

Organisations

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with acknowledgements to Keith Primrose, and Mike Fairbank

Mastering Git Skills in CE29x

As you know it is a key objective of this module for you **all** to master Git and Jira.

By now you should be able to (roughly) do the basics on Git-clone, add, commit, push, pull; either from the command line, or from IntelliJ.

Git is a difficult skill so please persevere in mastering it. Future employers will value it.

You will all individually use Jira and Git again next year in CE301, so you are advised to bite the bullet and learn it now, when you can learn as a team.

And, as a final strong incentive, we will only be marking work for CE29x group projects that has been uploaded to Git, in the author's username. So it is essential you all put in the effort early this academic year to learn and use Git.

Git Example: [Erasmus Without Paper](#), [Open Flexure Microscope](#)

Recap of previous lecture

- * Communication

- * Project Stakeholders

- * Professional Email Etiquette

- * Communication within Projects

- * Communication plan

- * What if things go wrong?

- * Change Management

CE29x course so far

University Week Number	Lecture 1 (Friday 9am – UK time)	Lecture 2 (Friday 10am – UK time)
Unit 1 Week 2	Introductory lecture and Employability Preview	Team working
Unit 2 Week 3	Requirements in Agile & Task Estimation	Employability – Career Planning
Unit 3 Week 4	Critical Path Analysis	Keeping your Project on Track with Agile
Week 5	Employability - Narrowing down options	Risk Management
Week 6	Communications	Guest – Project Management
Week 7	Organisations	Ethics
Week 8	Employability – Getting Valuable Experience	Intellectual Property
Week 9	Privacy and Security	Financial Accounting 1
Week 10	Financial Accounting 2	Management Accounting
Week 11	Marketing	Contracts
Week 16	Challenge Week (Individual Project)	
Week 17-18	Entrepreneurship	Equality and Diversity
Week 19	CE301 project launch	
Week 31	Revision Lecture	

- **DONE:** All presentations relating to project management.
- **TO DO:** Presentations about business issues / industrial practice/CE301

Today's Lecture: Organisations

1. What is an Organisation?
2. Management and Decision Hierarchies
3. Types of Organisations
4. Organisational Structures

I. What is an Organisation?

Organisation - Definitions

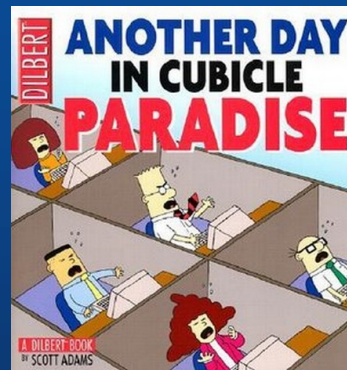
- * A group of people working towards a common goal.
- * “A human structure, such as a family, firm, government or university through which people may exchange goods and services” (Wiley 2002)

Organisations

- * Can take many forms
- * Vary in size
 - * from 2 people to 10s of thousands
- * Have to make the same kinds of decisions

Motivation

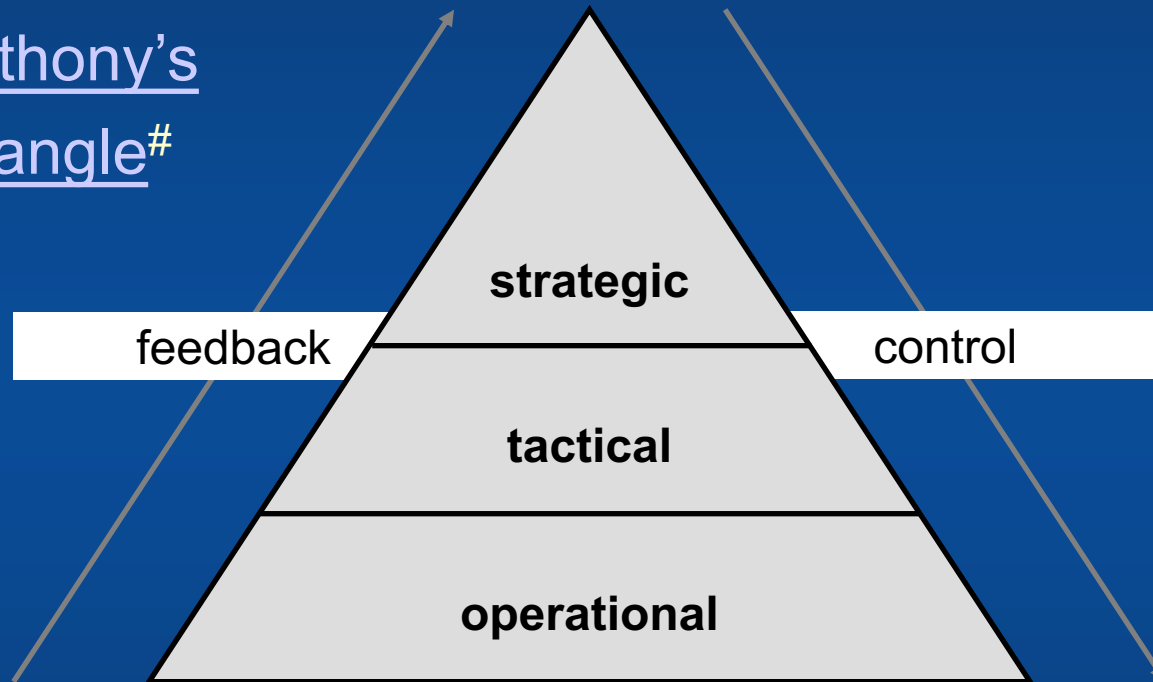
- * You need to have an idea of how businesses are structured so that you can design IT solutions that fit the business's needs
- * Also, you might want to have an idea of what goes on beyond the limited walls of your programming cubicle



2. Management and Decision Hierarchies

Decision Hierarchy

Anthony's
Triangle[#]



The triangle takes a hierarchical view of management structure, with many operational decisions at the bottom, some tactical decisions in the middle and few but important strategic decisions at the top of the triangle. The higher in the triangle an item is, the more scope it covers and less precise it becomes. As items move down they become more detailed and apply more precisely. (Source:Wikipedia)

[#]Anthony, R N (1965). *Planning and Control: a Framework for Analysis*. Cambridge MA: Harvard University Press.

Strategic Management

(that is the top level of Anthony's triangle)



* Responsible for establishing:

- ❖ The long term goals of the organisation
- ❖ major marketing, organisational and investment decisions

* Informed by management information on:

- ❖ Organisational performance
- ❖ Organisational finance
- ❖ Competitors
- ❖ Trends in the economy and society

Tactical Management

(that is the middle level of Anthony's triangle)



- * Implementing company policy at departmental level and dealing with issues as they arise
- * Informed by management information on:
 - ❖ Departmental performance
 - ❖ Departmental finance
 - ❖ Operational metrics

Operational Staff

(Bottom level of triangle)



- * The level where the day to day activities of the company occur
- * Perform the public or customer interface
- * Informed by management information on:
 - ❖ Specific cases and events that need attention
- * This is positioned at the bottom level of Anthony's triangle
 - * also it is the widest level of triangle (most workers involved here)

Characteristics of Information at Management Levels



	Strategic	Tactical	Operational
Time Horizon	long term	medium term	immediate
Level of detail	summaries	categories	specific cases
Source	Mainly external	Internal	Departmental
Frequency	annual / monthly	monthly / weekly	weekly / daily

Structured Decisions



- * Operational level decisions tend to be structured:
 - * There are clear rules
 - * The information is clear and available
 - * The information requires no interpretation
- * Structured decisions are repeatable
- * Problems tend to be well defined

Unstructured Decisions



- * Strategic level decisions tend to be unstructured:
 - * There are no clear or complete rules
 - * The information is incomplete and uncertain
 - * The information requires interpretation.
- * Unstructured decisions will not be repeatable
- * Problems tend to be ill-defined

3. Types of Organisations

Incorporated Organisations

- * In the UK, incorporation means some kind of company formation
- * An Incorporated body would be e.g. a Plc, Ltd or a CoOperative
- * The body is a separate legal entity from its members

Incorporated Organisations

- * Benefits of incorporation

- * “Limited Liability”: In the event that the company incurs debts or other legal liabilities:
 - * The owners of the company have no obligation to pay these
 - * The most that shareholders stand to lose is the money they paid for their shares
- * The company may own property and enter into contracts in its own right
- * Risk is more equal. All members are treated the same
 - * Unless some other arrangement is agreed

Incorporated Organisations

* Disadvantages of incorporation

- * There are start-up costs and annual fees
- * On-going records must be kept and filed with the appropriate registry (e.g. Companies House). This information becomes public.
 - * This is how other parties can assess the reliability of your company to see if they are viable to enter a contract with.
- * Certain details e.g. governing body members' addresses must be on public record.

Incorporated Organisations

- * Companies have directors and shareholders
- * Company ownership is divided into a number of “shares”
 - * Shareholders “own” divided up portions of the company
- * Directors are subject to obligations, e.g.
 - * Act in good faith towards company
 - * e.g. not to take business away from company for yourself
 - * Use skill and care in carrying out duties
 - * E.g. A court might punish a negligent director to pay damages back to their company
 - * Disclose conflicts of interest

Incorporated Organisations

Private Limited Companies (Ltd):

- * If you become a freelance programmer, you will generally operate under your own Ltd company. (Tax advantages; limited liability)
- * Has a “director”, and shareholders
 - * Shares cannot be sold to public (see PLC for that)
- * For the duties of a director of a Ltd, see www.gov.uk/running-a-limited-company

Incorporated Organisations

Public Limited Companies (Plc):

E.g. Barclays Bank PLC

- * Shares can be sold to the public
 - * E.g. in London Stock Exchange, FTSE100
- * Generally much larger than private limited companies
- * Also limited liability

Unincorporated Organisations

- * An unincorporated body does not exist as a separate unit.
 - * e.g. a partnership
 - * Or sole trader
- * Benefits
 - * No administration required by law (unless a charity)
 - * Complete privacy (ditto)
 - * No or limited start-up costs
- * Disadvantages
 - * The people involved hold the legal responsibilities and risks:
 - * All members are jointly and severally liable for any outstanding debts
 - * Contracts can not be entered in the name of the organisation

Sole Trader

- * A sole trader is an individual who runs their own business
- * No legal formalities required
- * All personal assets (including your home) are at risk if the business fails
- * Must register with HMRC for VAT if business income is large enough

Partnership

- * Partnership: A group of people work together to make a business, without forming a limited company
- * No legal formalities required
- * Common for doctors, lawyers, accountants to work as partnership

Note that a “Limited liability partnership (LLP)” is something different:

- * a limited-liability version of a partnership
- * introduced in Limited Liability Partnership Act 2000

Ownership

- * We need to consider who 'owns' an organisation:
 - * Public or Private
 - * Small or Large
- * Different types of ownership affect the publishing obligations and rights of access to information

Privately Owned Organisations

- * The main forms of private ownership are:
 - * The Public Company (plc): quoted on the stock market. (Confusingly this is not a “public” organisation – see next slide)
 - * The Private Company (ltd): owned by individual(s).
 - * Professional Partnerships: doctors, lawyers and accountants.
 - * Cooperatives / Mutual Organisations: owned by participants.
 - * Sole Traders: One-man bands
- * The largest companies tend to be PLCs – but that is not always the case.

Publicly Owned Organisations

- * The main forms of public ownership are:
 - * Public Administration: government departments and local authorities.
 - * Public Services: schools, universities, hospitals, prisons, courts, police and armed services.
 - * Public Enterprises: e.g. The BBC. National Rail. The Post Office was in this category (but has recently been privatised).
- * And a rather different category of:
 - * Non-Governmental Organisations. Examples include charities, think-tanks, petition groups, and many others
 - * The much maligned “quasi-autonomous non-governmental organisation” ("QuANGO")

Stakeholder Organisations

- * A concept of corporate responsibility that is less divisive.
- * Recognises the interests, contribution or stake of:
 - * Shareholders
 - * Customers / clients.
 - * Managers and workers.
 - * Local community.
 - * Society.

Large Organisations

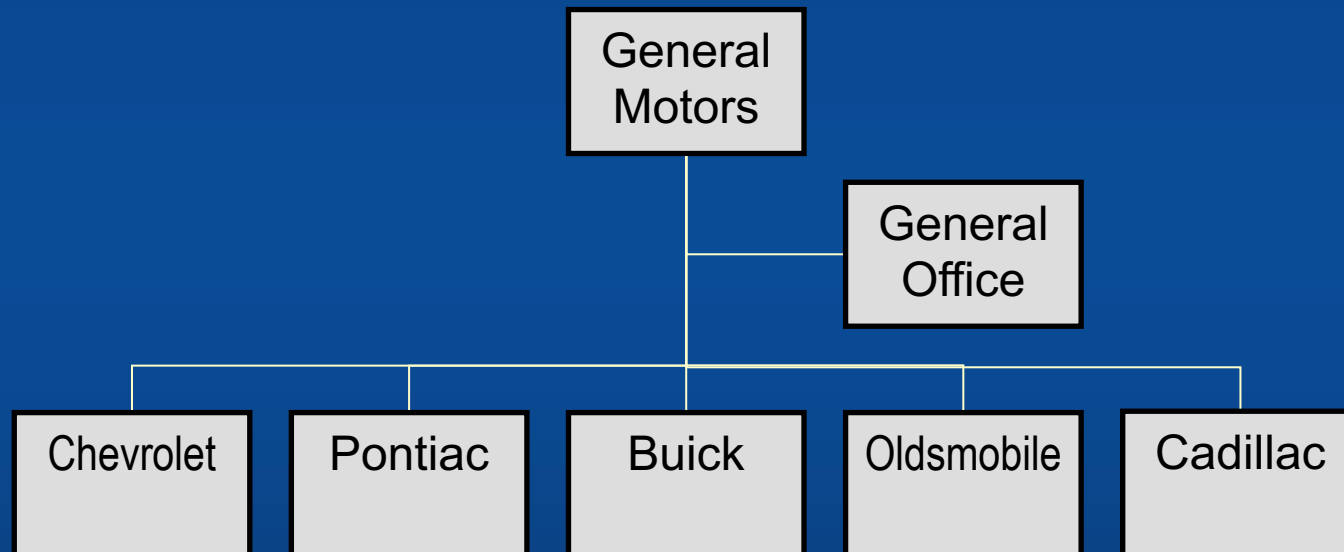
- * Large organisations have similarities whether private or public:
 - * Run by professional managers.
 - * Have to account for income and expenditure.
 - * Hire labour from the same employment market.
 - * Use IS (Information Systems) and IT (Information Technology)

4. Organisational Structures

Organisational Structure

- * Organisations, irrespective of the model of ownership, need a management structure.
 - * Small company - can be informal.
 - * Larger organisation - formal structure.
- * Various models of organisation exist with different characteristics, advantages and disadvantages.

Divisional Organisation



Divisional Organisation

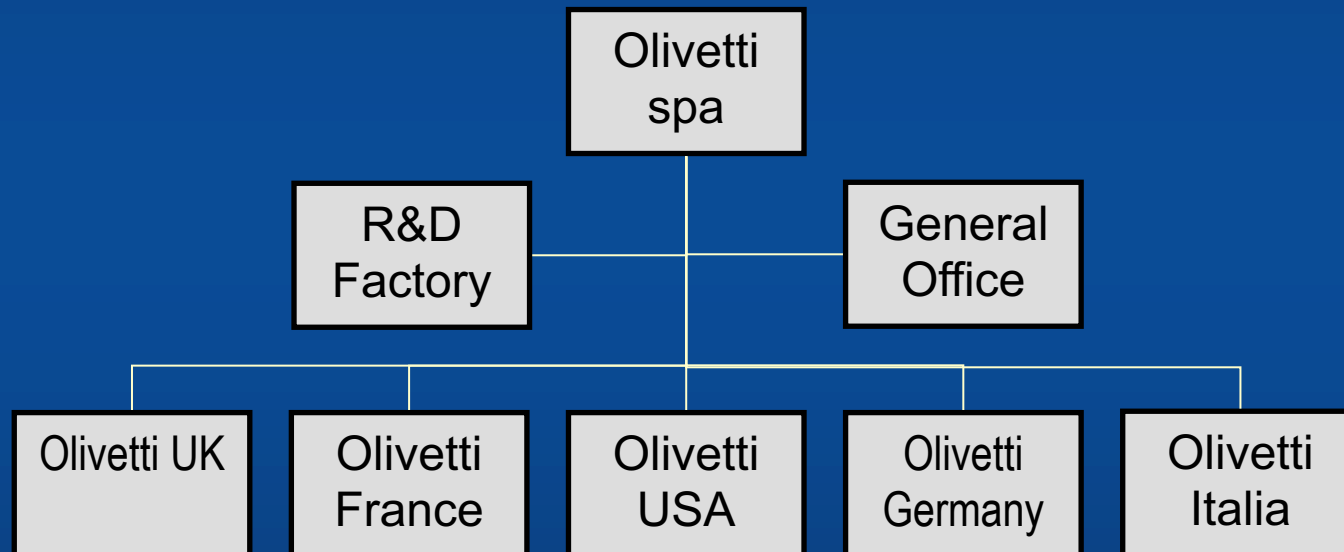
* Advantages:

- * Clear accounting for success of unit.
- * Encourages entrepreneurship.

* Disadvantages:

- * Controlling and paying for central services.
- * Transfer pricing.
- * Duplication of effort / infrastructure.
- * Diversity / loss of focus.
- * Multiple external identities and interfaces.

Regional Organisation



Regional Organisation

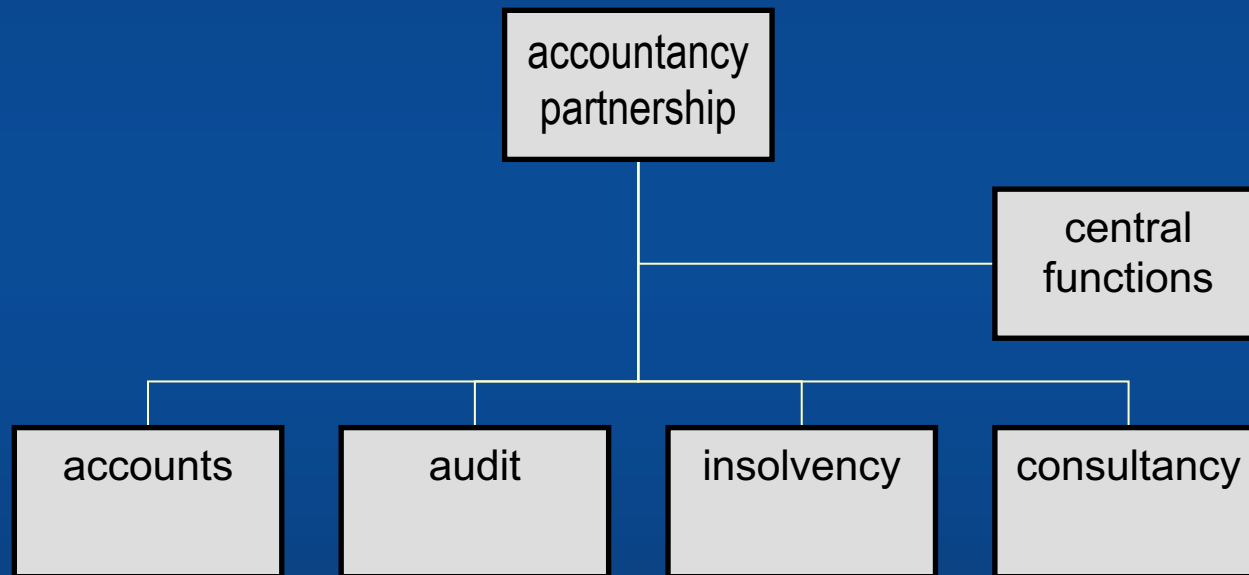
* Advantages:

- * National identities can be created.
- * Encourages entrepreneurship.

* Disadvantages:

- * Transfer pricing.
- * Unclear accounting for success of each region
- * Duplication of effort / infrastructure.
- * Different market conditions.

Functional Organisation



Functional Organisation

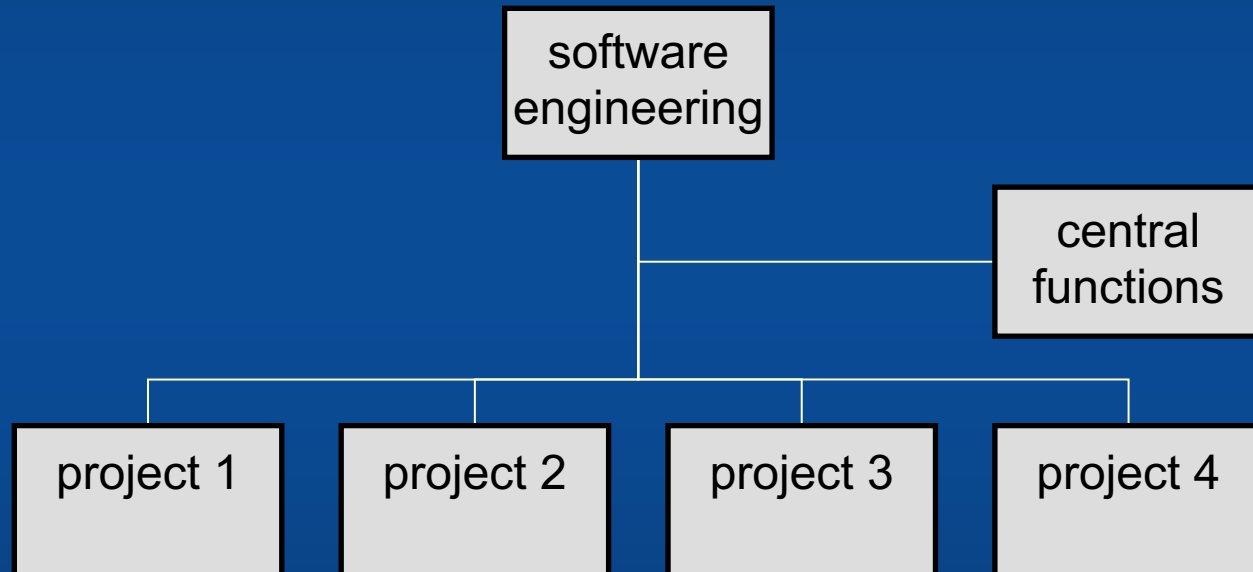
- * Advantages:

- * Reinforces professionalism.
- * Makes good use of skills.

- * Disadvantages:

- * Conflicting departmental objectives.
- * Lack of customer focus.
- * No one department with overall responsibility for the product or service.

Project Organisation



Project Organisation

* Advantages:

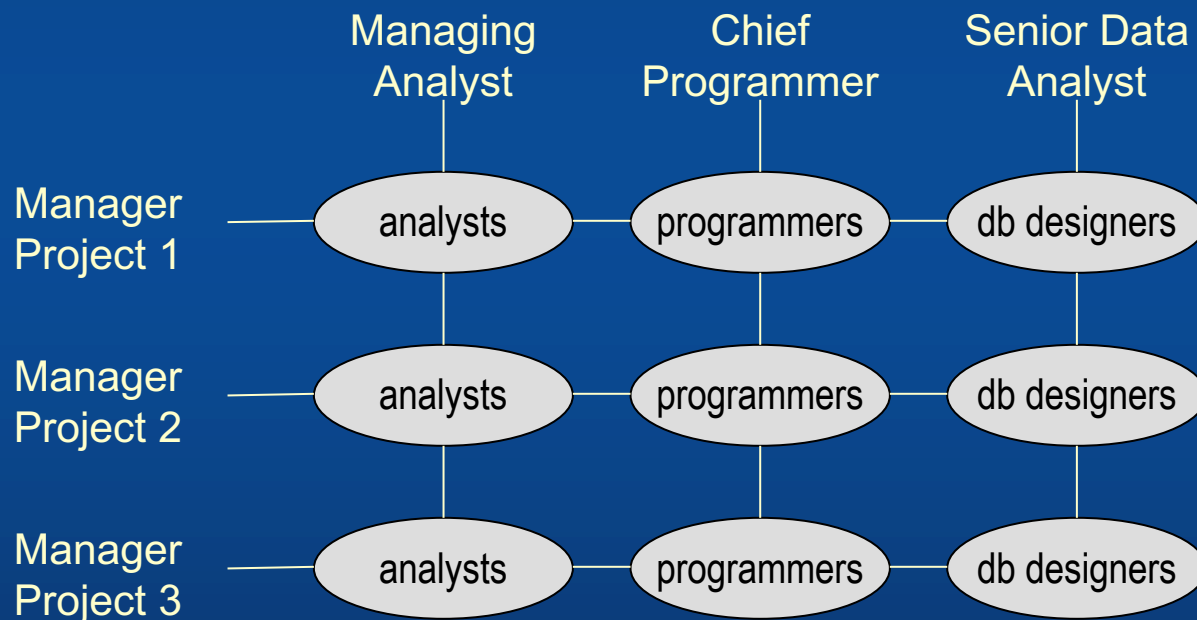
- * Focuses on a one off task – delivery on time, to budget and of required quality.

* Disadvantages:

- * Jobs are transitory.
- * There is no functional home for team members.
- * Specialist staff may not be fully utilised.
- * There is a disincentive to standardisation.

Matrix Organisation

* functional specialism combined with project teams



Matrix Management

- * Advantages:

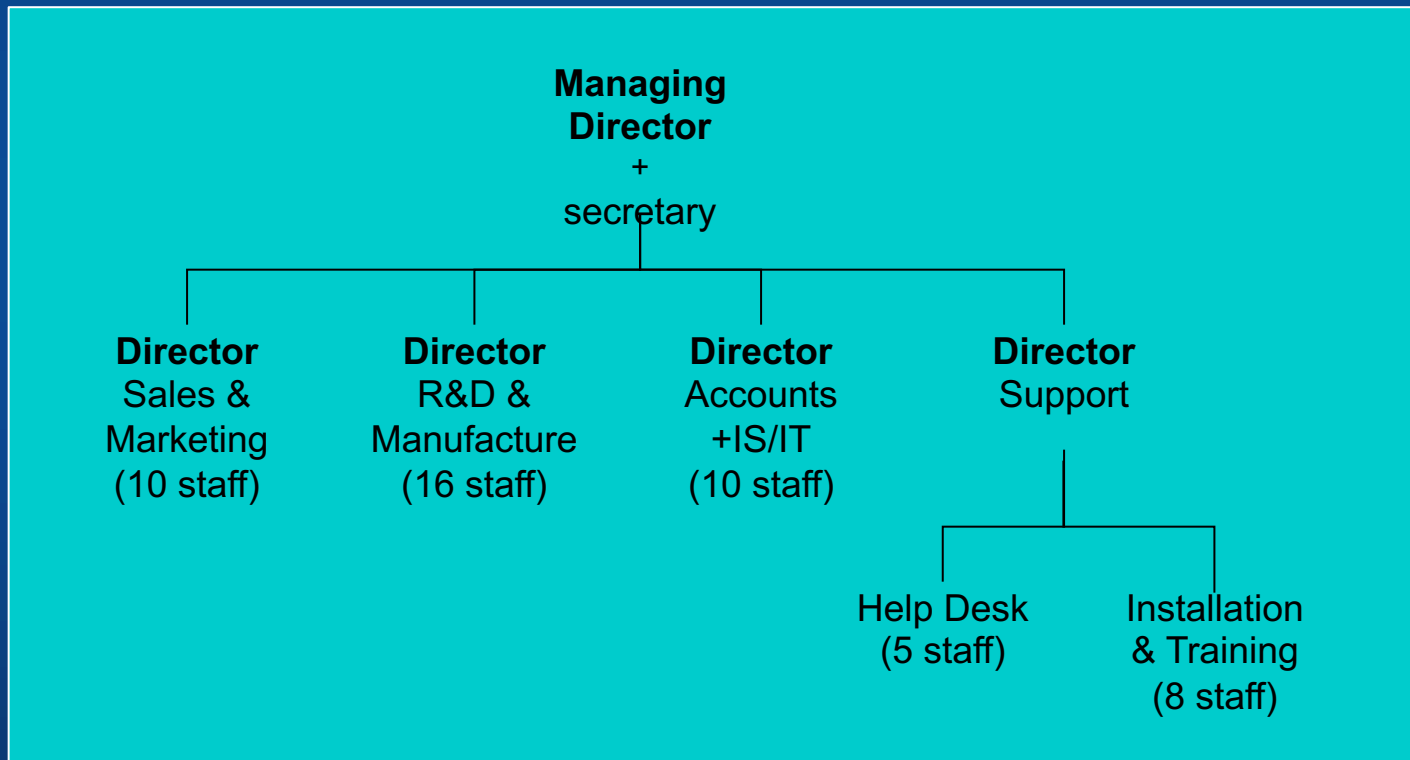
- * Get the best of all structures (one hopes!)

- * Disadvantages:

- * Endless meetings and possibly arguments.

Typical Structure Chart

* Kinda-Soft Ltd



Structures

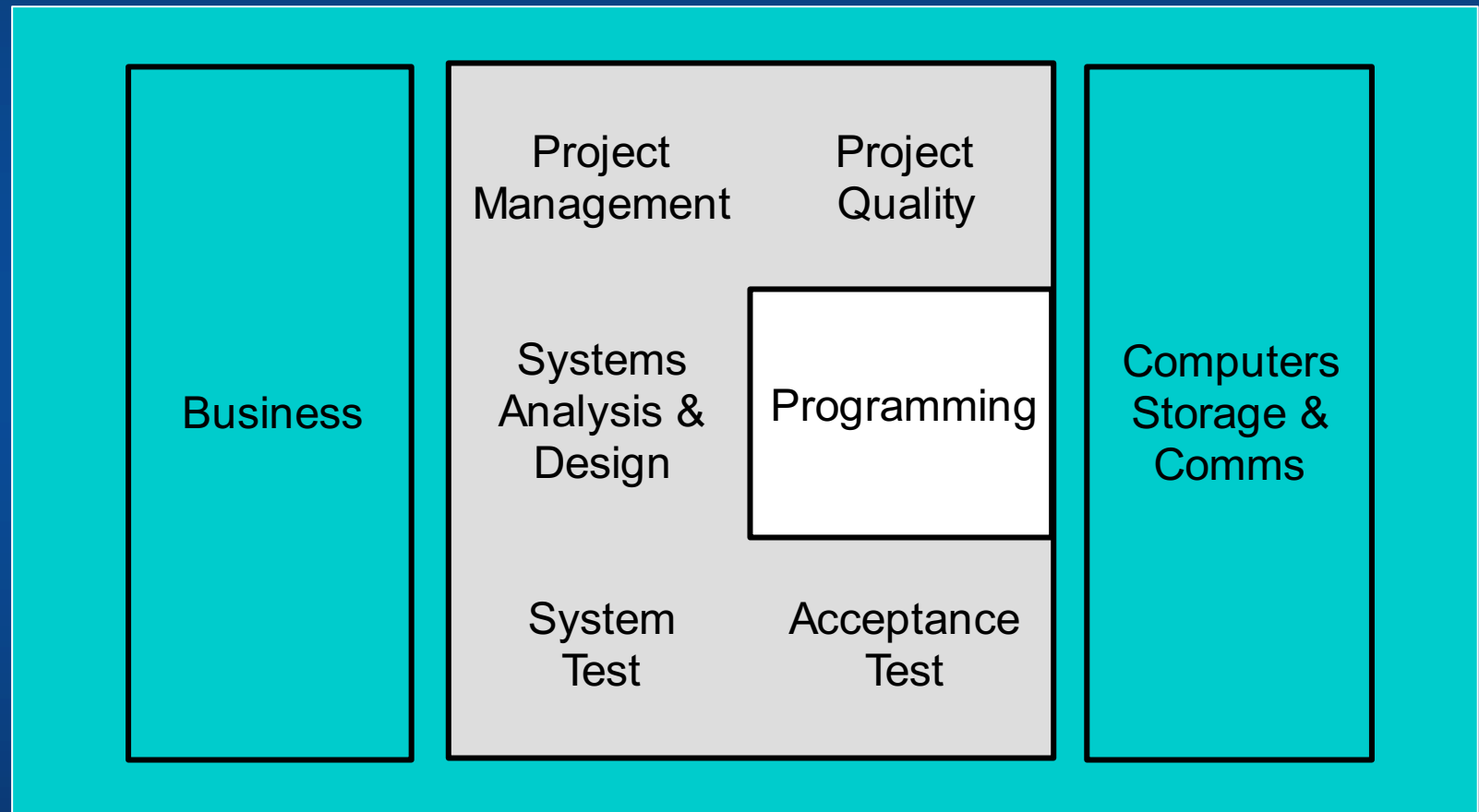
* You can have a “Hierarchical Structure”, which features:

- ❖ Many management layers
- ❖ Strict reporting channels

* Or a “Flat” structure:

- ❖ Few layers
- ❖ “Open door” approach

IS&IT in Organisations



The IS/IT Function in an Organisation

Further Study

- * Chapters 3-5 of Bott, F. 2014. “Professional Issues in Information Technology”, Second Edition (e-book in library)
 - * Includes info on financing a start-up company
- * Quiz on Organisations on Moodle
- * Next Lecture: Ethics – “Would you tell your mother”

Bibliography & References

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