SECTION 2 (10.00 - 10.45):
Product Development in an Organisation
How does an organisation develop products?

Why should you care about this?

2nd Section - Learning objectives
To be able to:
1. Explain the difference between organisational structure types.
2. Explain the benefits and problems of the different types of organisational structure.
3. List the ways in which an organisational may be structured or change.
4. Identify organisational structures and consider the important aspects.

How do organisation structures affect product development?

What is an organisation?
Organisation
- Formed by ‘links’ between individuals

Breakdown Structure
- Reporting relationships: Managerial roles and subordinates - formal links
- Financial arrangements: Same budget
- Physical layout: share building/office - informal links

Common links - organisational links may be aligned with:
- Function, i.e. marketing, stress analysis, etc.
- Project, i.e. integrated project teams, work on same project
- Both

Organisation types
Choosing an Organisational Structure

- How important is cross-functional integration? : do decisions span across functional areas
- How critical is cutting edge functional expertise? : If disciplinary expertise needs to be retained functional links are important, e.g. CFD (Computational Fluid Dynamic) in aircraft designs
- Is there enough work for individuals from a function to be fully utilised? : If only needed for a small duration, functional organisation preferred as many projects can draw on expertise on a part-time basis
- How important is the product development speed? : Project organisations tend to be faster: quicker to resolve conflict and faster transfer of information, e.g. pc manufactures

Functional Organisation

- Heavyweight organisational structure
  - Project manager more responsibility
  - Integration of functional resources
  - Heavyweight - project manager more responsibility
  - Most direct access and responsibility of work
- Weaknesses
  - Integration of project & functional resources
  - Heavyweight - project manager more responsibility
  - Most direct access and responsibility of work
- Major issues
  - How to balance function and projects
  - How to simultaneously evaluate project and functional performance

Project-Based Organisation

- How to share functional technical learning from one project to another
- How to maintain functional expertise over time
- How to evaluate projects and functional performance

Matrix Lightweight Organisation

- Business functions carried out within projects & along functional lines
- Two-dimensional supervision - project and functional manager
- Lightweight-functional manager greater authority
- Stronger project focus
- How to maintain functional expertise over time
- Key resources allocated by functional manager
- How to evaluate projects and functional performance

Matrix Heavyweight Organisation

- Business functions carried out within projects & along functional lines
- Two-dimensional supervision - project and functional manager
- Heavyweight-project manager more responsibility
- How to balance function and projects
- How to simultaneously evaluate project and functional performance

What type of organisation is DTU?

Why is it structured like this?
Case Study. AMF Bowling

Product
- Bowling equipment, includes pin spotters, ball returns, scoring equipment
- Market-pull enterprise: seeks out technology required

Competitive advantage
- Strong marketing
- Brand recognition
- Large installed base of equipment: no single technology

AMF Products
- Assembled use traditional manufacturing methods: moulding, casting, machining, manufacturing
- Non-customised products,
- Development work: create new models rather than customise existing products

Light-weight matrix

Main functions: Engineering, manufacturing, marketing, sales, purchasing and quality assurance
Product development projects has function areas
Light-weight matrix: Strengthens functions at expense of project efficiency
Small product development projects with 1 or 2 larger projects
Many members of smaller projects part-time
Strong functional links: easier assignment of staff to many projects and balancing workload
Lean company: not many staff < 100 people, financial incentives (shares), co-located, members of project look beyond function

Other ways to structure an organisation

- By customer: where different customer groups have different needs
- By process: where products have to go through stages as they are made
- By area: geographical or regional structure

Structures change

- As a company grows, organisational structures must change with it. The process of change goes through the following stages:
  
  Stage 1: through creativity
  - Entrepreneurs create products/services, for which there is a market
  - Small business structures, no formal policies, objectives
  - Founder involved in all stages
  
  Stage 2: through direction
  - Company grows in size
  - Founder no longer solely responsible for decision-making
  - Policies, procedures and plans created
  - Rules, systems for recruitment/firing

- Stage 3: through delegation, coordination and collaboration
  - Problems occur e.g.
    - Structure too rigid, decision-making too centralised
    - Delegations of duties,
    - Systems for employees to communicate
    - Senior management focus on long-term issues

  Distributed teams and external collaboration is becoming more and more important.
The Rise of Open Innovation in the Pharma Industry

Introduction to Project Management

Open Innovation in Medicon Valley

Preliminary Survey Results

General - Drivers

General - Barriers

Summary

- Create or adapt organisational structures and processes around the market in which the product resides
- It is important to understand organisational structures before:
  - Selecting projects (next section)
  - Assessing your innovation management strategy (section 4)
  - Outlining your product development process (section 5)

Meeting the learning objectives?

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Next exercise!

Exercises (in pairs)

1) ANSWER EITHER:
A. What is the likely organisational structure of the company you are conducting your project with?
OR:
B. What was the organisational structure of a previous company you have worked with?

2) Write 3 questions that you will ask of your project company in order to appreciate the structure of the company.

Hint: Try to elicit elements of the company that you think may be important to know for developing your product.