

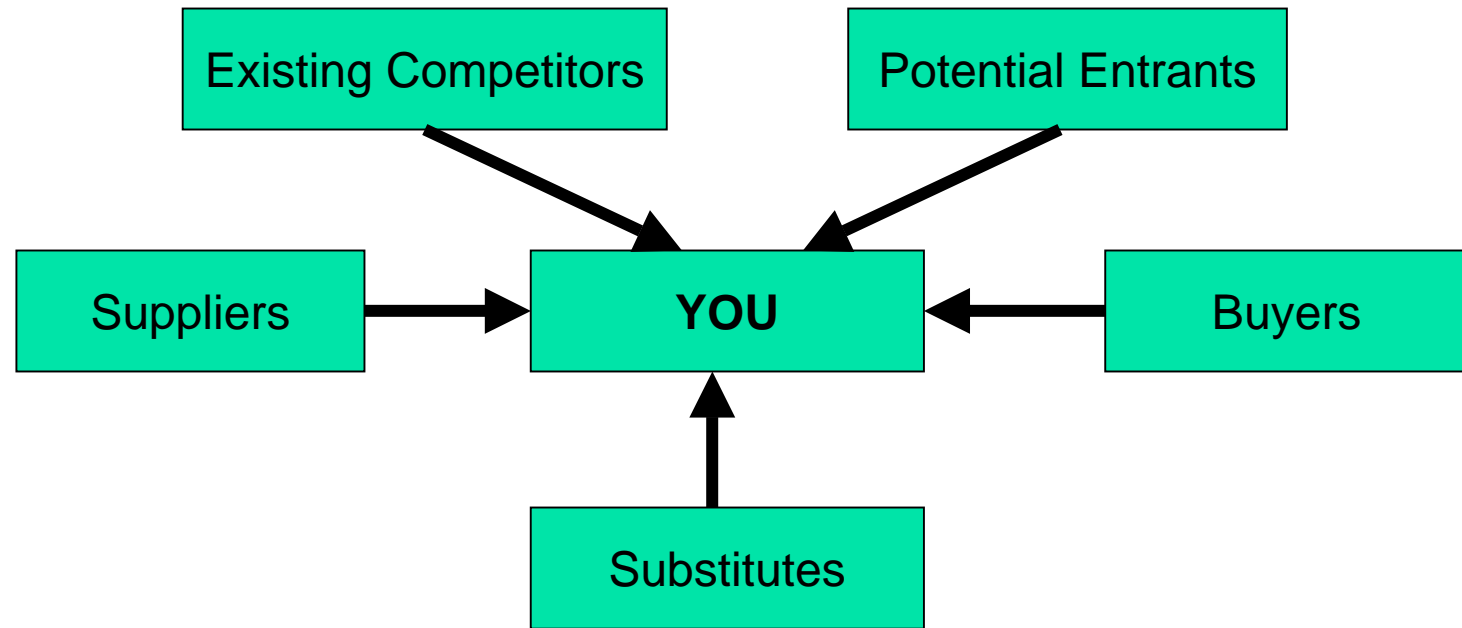
# ENGG4061

## Innovation & Entrepreneurship

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*Developing the Framework for an  
Innovation Strategy:  
Position, Paths and Processes*

# Porter's Strategic Framework. The Five Forces Driving Competition



# Generic Market/Technology Strategies

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- Cost leadership
- Product differentiation
- Cost focus
- Differentiation focus

# Dynamic Capabilities of Firms

- **Position** – current assets of markets, technology, IP, suppliers
- **Paths** – strategic alternatives and their attractiveness
- **Processes** – routines of practice and learning

# Position

## Local versus global?

### 'Place matters'

- Large firms perform 12% of R&D activities outside their home country eg Nokia, Nortel
- Most important factor is share of foreign production
- Most in US and Europe - not global
- Some European and Japanese firms locating R&D in US

# National Innovation Systems

- Components: research institutions, universities, companies, regulators, IP laws, venture capital
- Connections: networks, clusters
- Competences: comparative advantages, demanding customers, effective institutions of finance, management and governance, learning systems, capture of innovation benefits

# Paths

## Exploiting Technology Trajectories

Strategies are constrained or path dependent, because of:

- current position wrt technology life cycle
- knowledge capability
- future possible opportunities

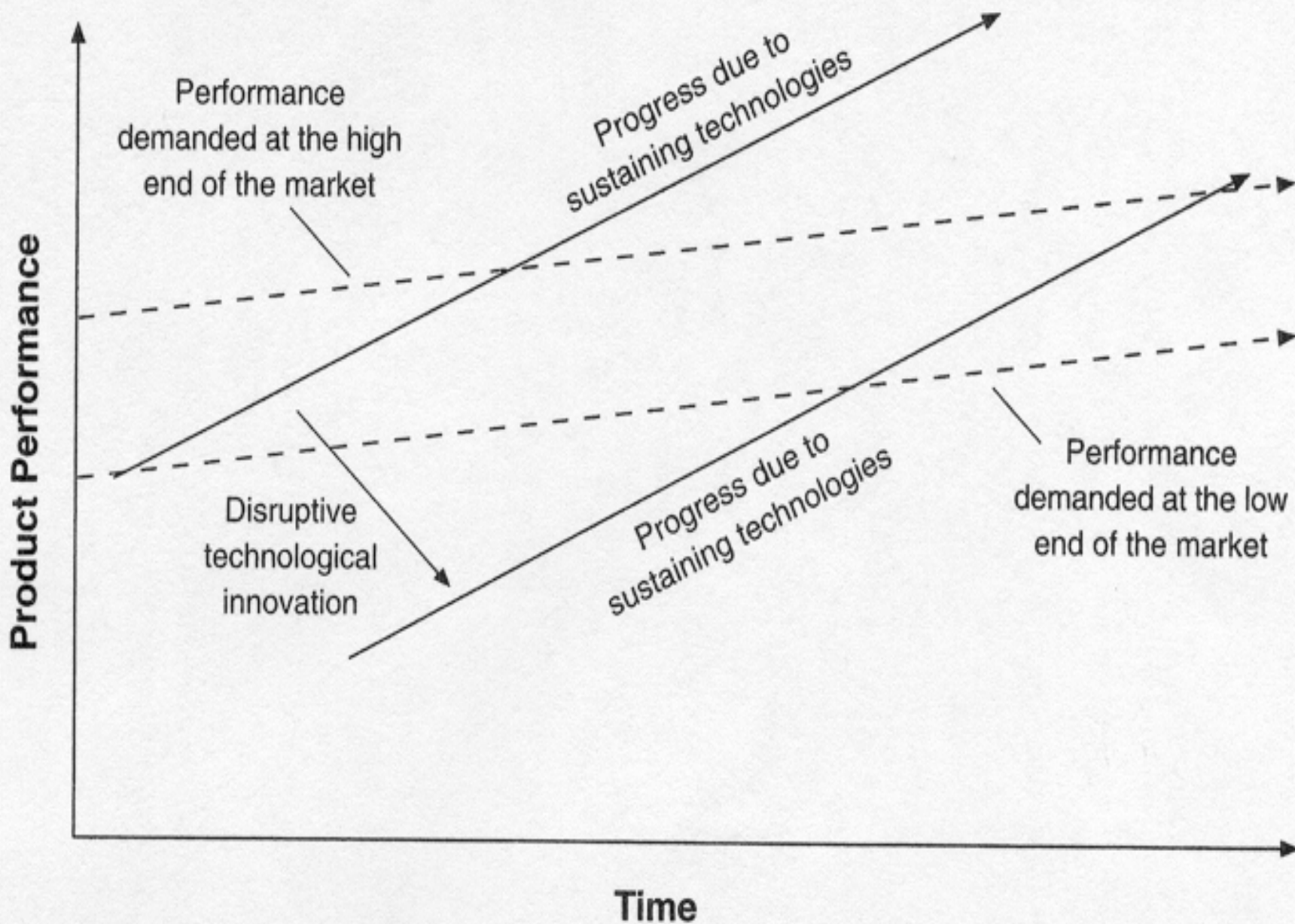
# Five Major Technology Trajectories

- Supplier-dominated
- Scale-intensive
- Science-based
- Information-intensive
- Specialised suppliers

# Technology Trajectory Evolution

- Development of specific infrastructures
- System-scale economies
- Complementary technologies
- Technical standards

Figure 1.1 The Impact of Sustaining and Disruptive Technological Change



# Processes

## Location of R&D/ knowledge acquisition

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Shaped by:

- Firm's main technology trajectory
- Maturity of the technology
- Corporate strategic style
- Links to new science-based technologies

# Resource Allocation to Innovation

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Depends less on robustness of decision-making techniques than on the organisational processes in which they are embedded

# How practising managers determine resource investment

- Encourage incrementalism
- Use simple rules
- Make explicit from the outset criteria for stopping a project/program
- Use sensitivity analysis
- Seek to reduce key uncertainties
- Recognise that different types of R&D should be evaluated by different criteria