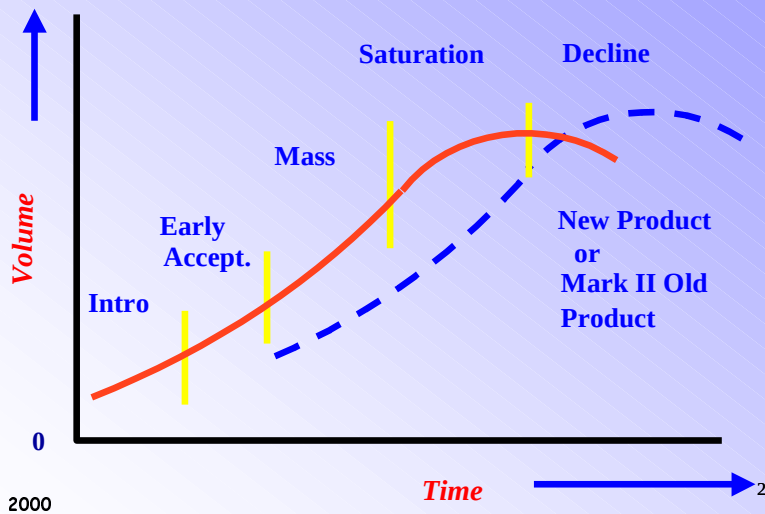
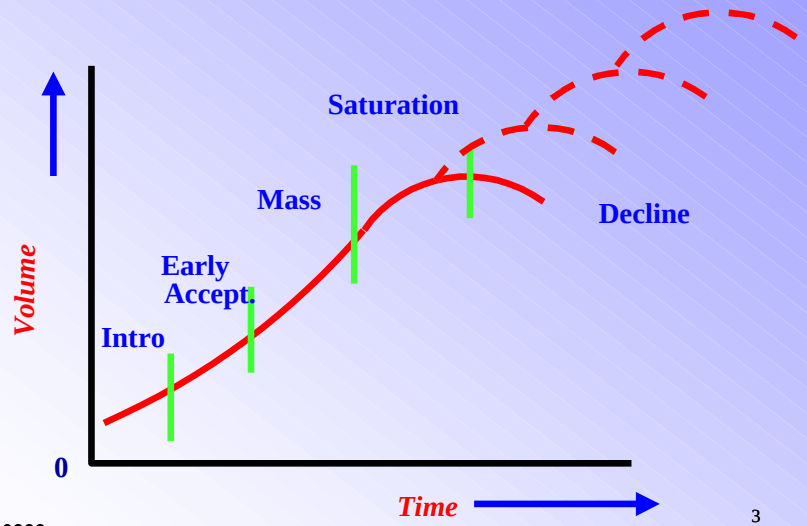
IBS

Global Management of Technology

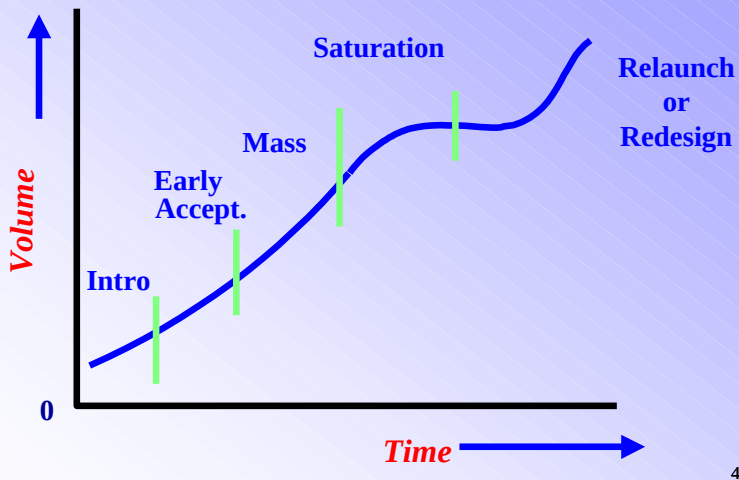
Product Life Cycle



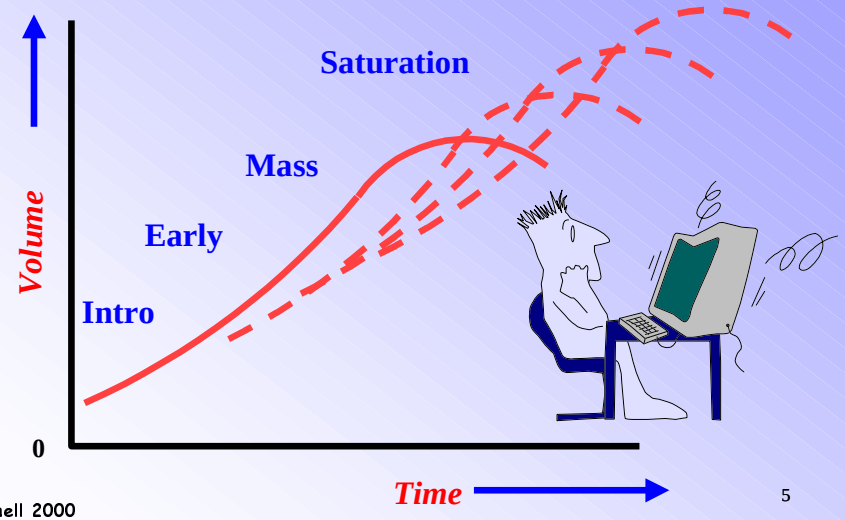
'Modified' product cycles



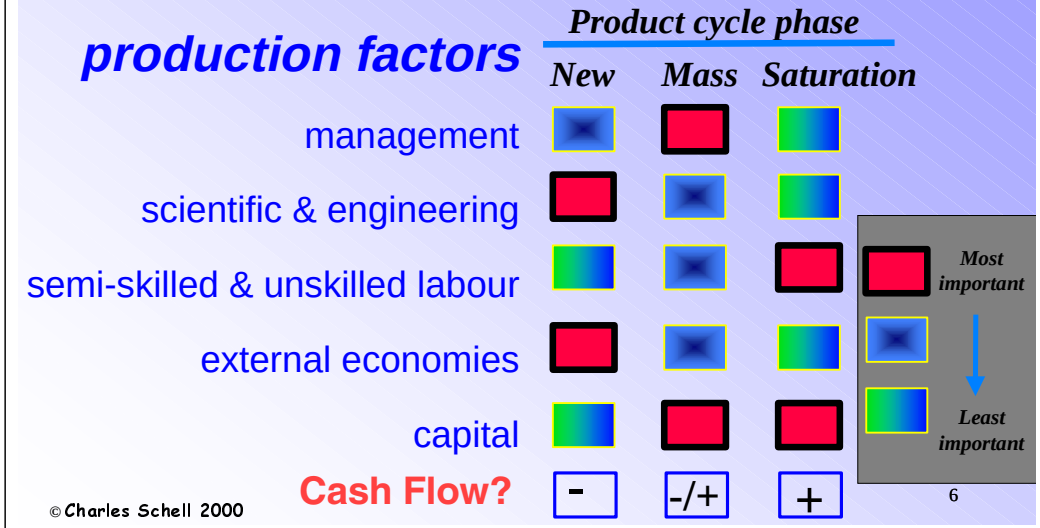
Change in technology



Accelerated product cycles



Relative importance of production factors



New technology systems

- information technology
- biotechnology
- materials technology
- energy technology
- space technology
- waste technology

Technology development

- technology gap
  - Japan, CIS, US have received half the worlds patents
  - US, CIS, Japan, France, UK, Germany accounted for 90% of R&D
- technology policies in developed countries

Global R & D

- The role of R&D
  - in developed countries
  - in developing countries
- alliances
- motivators

Technology Transfer - Intentional

- licensing
  - process, right to make / sell
  - trademark
  - technical information & designs
  - technical assistance & training
  - plant engineering & construction
  - access to future innovation

Technology Transfer - Intentional

- turnkey plants
- sale of machinery
- foreign direct investment - including JV's
- strategic alliances
  - equity JV's
  - complex cross-licensing
  - shared market channels
- franchising

Managing technology transfer

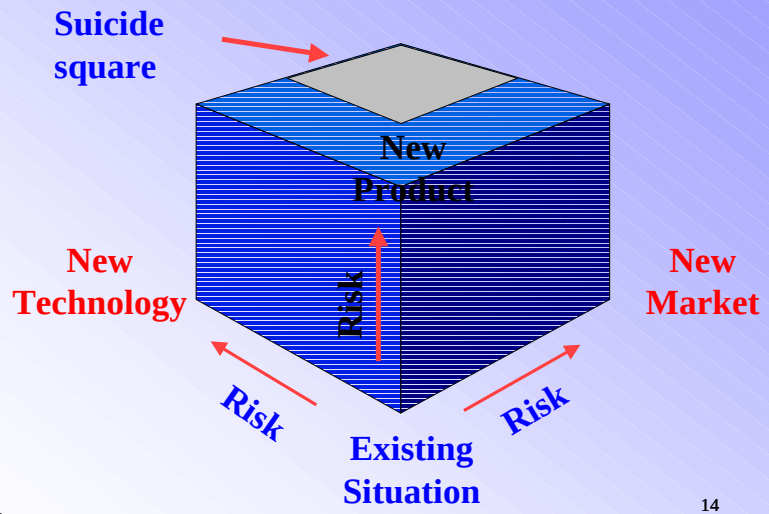
- protection
  - patents
  - copyrights
  - trade secrets
- forms:
  - joint ventures
  - licensing
  - franchises
- methods of controlling technology

Techniques for protecting technology

Strategic importance

Threat of loss	Core	Peripheral
high	→employee rewards →technology audit →threat of retaliation →cooperative alliances	→technology audit →majority JV's →build dependence
low	→hide portions of technology →sell maturetechnology →employee rewards →majority JV's	→license technology →minority JV's →Build dependence

Technology risk



Appropriate technology

The best technology suitable to a particular location at a given time, in a particular environment

appropriate to:

- goals and priorities of recipient country?
- efficient use of local resources?
- do products or service improve social conditions of recipient?
- compatible with sociocultural environment?
- Contribute to long-range progress of local society?