LECTURE OUTLINE
Engineering & its Context

Technology [IASA]

technology: knowledge, something "unnatural"
technological system: people & artefacts & admin structures

Knowledge incomplete & increases, so technology in cont's change. → *innovation*

Innovations typically follow an *S-curve*.

Also knowledge is imprecise & wrong!

Engineers are causal agents of change. → *responsibility*

Context [Beder, Schilling]

Context sets value of innovation.

context: complex network of **inter-acting** 'organisations'

infrastructure: hard to change part of context

institution: long-term social structure, e.g.

Organisations [Schilling, Northouse, Perrow]

organisation: people, (distinct) goal/purpose, structure
                                autonomous, self-protective, can learn, have culture & abilities

The ideal org'n matches the relevant technology's artefacts.
                                        artefact interactions fast/slow, predictable/chaotic, . . .
* *centralised* org'n: rapid, pre-determined responses to 'incidents'
* *decentralised* org'n: local innovations 'slowly' evolve in response to 'incidents'

But some technological systems are incompatible with **any** organisational structure!

Organisations interact with each other. Organisations need leadership.

Each organisation, in its context, needs engineers to assess innovation & review goals.