COM6655 Professional Issues
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The Social Context of Computing

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Overview

- Technological and Social Change
- IT and Employment Change
- Impact of IT on working conditions
- Information management and sociotechnical systems design
- Computers and social relationships

Technological and social change

Technological and social change

- Technological change and social change evolve together.

Supply and demand

- The course of technological development is determined by social factors on both the supply and demand sides, often called the *technology push* and the *demand pull*.
- **Q. What factors govern the supply of new technology?**
- **Q. What factors govern the demand for new technology?**

Is technology good or bad?

- IT can have good or bad social consequences, depending how it is used.
- **Instrumental conception of technology**
  - Technological artefacts are never intrinsically good nor bad
    - "Gun can be used for murder, but they can also protect against wild animals"
    - "Opiates can cause social problems, but they also relieve pain for terminally ill patients"
  - Technological innovations acquire positive or negative value through their use by humans.
- **An opposing view: Technological Determinism**
  - Changes in technology are the cause of changes in society
    - "technology is becoming globally available, so globalization is inevitable"
    - "machines can do more work than humans, so power is concentrated in the hands of those who own the machines ('means of production')"
  - In this view, technologies can be intrinsically good or bad, depending on how they drive social change

Utopia / Dystopia

- Utopian view: computing will make work easier, workers happier, and increase productivity
- Dystopian view: computing will deskill workers, replace workers with machines, and enable electronic monitoring of work.
- Sci-fi dystopia: The machines will also be unhappy.

Luddites

- A social movement of 19th-century English textile artisans who protested – often by destroying mechanised looms – against the changes produced by the Industrial Revolution
- They felt mechanisation was leaving them without work.
- The word "Luddite" is now used to describe those opposed to industrialisation, automation, computerisation or new technologies in general.

Why computerise?

- **Q. If technology has a potentially negative effect on society, why computerise in the first place?**

Why computerise?

- The economic argument for introducing IT into the workplace is that it will increase demand by creating new products, or by reducing costs while improving quality.
- As a result of increased demand:
  - Output increases;
  - Employment increases;
  - Profits increase prompting investment in research and product development, thus creating even more jobs.
- What about unemployment caused directly by the introduction of IT?
  - Job losses in one part of the economy resulting from an introduction of IT may be compensated by retraining, and by demands for engineers, programmers etc.
  - Some evidence in support of claims that automation does not create unemployment, e.g. Japan and Sweden have the largest number of industrial robots per employee, but very low levels of unemployment.

Does it pay?

- Evidence suggests that huge investments made in computer technology may not pay off.
  - US investment in computers grew at a rate of 24% per year during the 1980s, but there is no evidence of increased productivity in the economy over this period.
- Some critics argue that this productivity paradox actually results from:
  - Inappropriate ways of measuring productivity;
  - Steep learning curve of the new technology.
- Others argue that the problems are real:
  - Software is often poorly designed;
  - Benefits can be lost in an organisational context.