Ethical implications in workforce

<u>Disadvantages</u>

1. Computerisation of jobs impacts the employment of many occupations. In 2013, "The future of Employment: how susceptible are jobs to computerisation?", it was estimated that 47% of US jobs are at risk of computerisation. People with middle-income manufacturing and who carry out repetitive tasks have higher likelihood of losing their occupation to computerisation.
2. Labour is shifted from middle-income manufacturing jobs to low-income service (maintenance of systems) which are less susceptible to computerisation.
3. Large amounts of computer systems are expensive to install.
4. There is power consumption associated with implementing computers. This has issues with the cost of electricity and environmental problems.
5. Failure of computer systems can be devastating to the finance of a company who rely on systems to function.
6. Failure of computer systems can cause data loss, reducing productivity.
7. Health and safety issues (RSI – repetitive strain injury).
8. Security issues with computers storing data
9. Disposal issues with computers (recycling/hazardous components).

<u>Advantages</u>

1. Computers are cheaper in the long-term – providing cheap `labour' with no need for wages.
2. Reliable systems are capable of working longer hours (24/7) without the need for shifts/holidays/weekends/sleep e.t.c.
3. Computers can be more efficient than a manual workforce for certain tasks.
4. Computer automated manufacture can produce higher quality goods and increase accuracies in design manufacture. Computers provide consistency.
5. Computers can function in conditions that may be inhospitable to humans.
6. They allow for easy transfer of data information (sharing files in office) to increase productivity.

Ethical implications of automartificial intelligence (AI)

Advantages

1. Can be convenient in everyday life.
2. It can learn/adapt to replace tasks that usually require human thought (increasing efficiency and saving time).
3. Less human error (computers are consistent once taught).
4. Can be a good solution to elderly/people in need.

Disadvantages

1. If automated intelligence gets to advance, then there may be conflicts with humans.
2. Ethics of whether automated intelligence should have rights to protect it. Philosophy of whether computers have conscious thoughts/feelings.
3. Automated intelligence may learn bad/rude material and repeat this or become malicious.
4. It is difficult to code, implement and maintain.

Automated decision-making

1. Automatic trading on stock exchange could result in crashes (high waves of selling) - programmed incorrectly results in negative effects.
2. Cannot be used for more complicated decisions – algorithms struggle with ethics/moral choices.

Environmental effects

Using up earth's non-renewable materials to build circuits and computer devices.

Mining for precious metals – releases greenhouse gases (CO_2 from burning fossil fuels), destruction of habitats, use of hazardous chemicals for extraction.

When disposing of computer systems, such metals contained within the systems: Cadmium, chromium, mercury and radioactive isotopes are hazardous to environment and humans.

Monitoring behaviour

Advantages

Can reduce crimes such as terrorism

Useful in manufacture (saving money) before products are produced incorrectly.

Monitoring children/babies for their personal safety and to ensure they are behaving.

Tracking malicious activity on networks and preventing hackers.

Disadvantages

Hackers may spy on people's lives or steal precious information.

Privacy information as data may be passed on to third parties.