

## 14.6: Study Questions

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### ? Study Question 14.6.1

What are some key global Internet usage trends?

#### **Answer**

Internet usage continues growing worldwide, with Asia forecast to see the highest growth at over 2000%. Social media usage is also rising globally, with over 60% of the world using social platforms.

### ? Study Question 14.6.2

How has mobile technology impacted society?

#### **Answer**

Mobile technologies like smartphones and tablets have deeply transformed how we communicate, access information, work, and live. The mobile industry has exploded into a trillion-dollar space.

### ? Exercise 14.6.3

What are some examples of wearable technologies?

#### **Answer**

Wearables include devices like fitness trackers, smartwatches, smart clothing, hearing aids, and exoskeletons to assist workers. These are converging with mobile tech and becoming more versatile.

### ? Study Question 14.6.4

What are some differences between virtual reality and telework?

#### **Answer**

Telework allows remote interaction but users remain in the physical world. Virtual reality aims to give an immersive simulated experience and perception of being in another environment.

### ? Study Question 14.6.5

What are some examples of virtual reality technologies?

#### **Answer**

Virtual reality aims to create an immersive simulated experience and perception of being in another environment. Examples include multi-screen CAVE simulations and VR goggles/headsets.

### ? Study Question 14.6.6

What are some examples of collaborative technologies?

#### Answer

Examples include crowdsourced review sites, ridesharing platforms like Uber that tap into the shared economy, and video conferencing tools used for remote work.

### ? Exercise 14.6.7

How does a blockchain record transactions?

#### Answer

Transactions are recorded in permanent, transparent blocks that link cryptographically to create an immutable ledger replicated across many nodes.

### ? Study Question 14.6.8

What is quantum superposition?

#### Answer

Superposition is the quantum effect of a qubit representing both 1 and 0 simultaneously. This exponentially scales a quantum computer's computational power.

### ? Study Question 14.6.9

What are some AI innovations?

#### Answer

Key innovations include computer vision, conversational agents, algorithmic trading, robots, neural networks leveraging big data, and generated art/content.

### ? Study Question 14.6.10

What ethical concerns exist around AI?

#### Answer

AI raises issues like bias, accountability, privacy, job loss, manipulation, and more. Responsible governance is needed to address risks.

### ? Exercise 14.6.11

What factors are driving rapid technological change?

#### Answer

Ubiquitous connectivity, vast new data, improved infrastructure, new analytics algorithms, and cross-disciplinary research are accelerating progress.

### 14.6.1: Exercises

1. If you were going to start a new technology business, which of the emerging trends would be the biggest opportunity? Do some original research to estimate the market size.
2. What could privacy concerns be raised by collaborative technologies such as Zoom?
3. Do some research about the first handgun printed using a 3-D printer and report some of the concerns raised.
4. Write up an example of how the Internet of Things might provide a business with a competitive advantage.
5. How do you think wearable technologies could improve overall healthcare?
6. What potential problems do you see with a rise in driverless cars? Do independent research and write a two-page paper describing where driverless cars are legal and what problems may occur.
7. Review the [2022 Kleiner Perkins Internet Trends Report](#) . Write a one-page paper describing the top three trends, in your opinion.
8. Visit [ghsa.org](https://ghsa.org) to find what level of support California or your state has given to autonomous vehicles. Write a summary of the different levels of support for your state.
9. Compare the privacy policies of three major technology companies. What are their key similarities and differences?
10. Interview two people of different generations on what emerging technology excites or concerns them. How do their views differ?
11. Find a recent news article discussing 5G networks. Summarize what potential changes faster mobile internet could bring.

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