



E-Business management and strategy

Lecture 4 *University of Anbar*

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Technology
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Stage 2.

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Key people

➤ The development of the internet has evolved through various stages. Here's a numbered brief overview:

1. 1960s - ARPANET Inception:

ARPANET, the precursor to the internet, was created by the U.S. Department of Defense's Advanced Research Projects Agency (ARPA) with the goal of developing a robust, decentralized communication network.

2. 1970s - TCP/IP and Packet Switching:

The development of the Transmission Control Protocol (TCP) and Internet Protocol (IP) laid the foundation for modern internet communication.

The introduction of packet switching enabled efficient data transmission.

3. 1983 - Transition to TCP/IP:

ARPANET transitioned to using TCP/IP as its standard communication protocol, marking the shift towards the modern internet.

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4. 1990s - World Wide Web Emerges:

Tim Berners-Lee introduced the World Wide Web, which used HTML and HTTP to make information easily accessible and shareable.

5. 1990s - Commercialization and Dot-Com Boom:

The internet shifted from a government and academic network to a global commercial platform, leading to the dot-com boom and bust.

6. 1995 - Introduction of Web Browsers:

The release of web browsers like Netscape Navigator made the internet more accessible and user-friendly.

7. 2000s - Broadband and High-Speed Internet:

The widespread adoption of broadband connections revolutionized internet access with faster and more reliable connections.

8. 2004 - Rise of Social Media: Facebook's launch marked the beginning of the social media era, followed by platforms like Twitter and Instagram.

Key people

9. 2007 - Smartphones and Mobile Internet:

The introduction of the iPhone and Android smartphones made the internet ubiquitous, transforming how people access it.

10. 2010s - Cloud Computing and Big Data:

The shift to cloud computing and the growth of big data transformed how data and applications are managed and accessed.

11. 2010s - Internet of Things (IoT):

The proliferation of connected devices, from smart thermostats to wearable tech, expanded the internet's reach into everyday life.

12. 2020s - 5G and Future Developments: The deployment of 5G networks promises even faster internet speeds, enabling innovations like autonomous vehicles and augmented reality.

- ▶ The internet's development has seen a remarkable transformation from a military and academic communication network into the global, interconnected platform it is today, enabling a wide range of communication, information sharing, and technological advancements.

World Wide Web (WWW)

- ▶ The World Wide Web (WWW or simply the web) is a vast information system on the internet that allows people to access and share documents, media, and resources using a web browser. It was invented by British computer scientist Tim Berners-Lee in 1989 while he was working at CERN, the European Organization for Nuclear Research.
- ▶ Key features of the World Wide Web include:
 1. **Hyperlinks:** It uses hyperlinks, often referred to as links, to connect web pages and resources. These links allow users to navigate between different web pages and websites.
 2. **Web Pages:** Web pages are documents or content displayed in a web browser. They can contain text, images, videos, and interactive elements.
 3. **Uniform Resource Locator (URL):** Every web page and resource on the web has a unique URL, which is a web address that allows users to access it directly.
 4. **Hypertext Markup Language (HTML):** Web pages are typically created using HTML, a markup language that structures and formats content on the web.

World Wide Web (WWW)

5. **Web Browsers:** Users access the World Wide Web using web browsers like Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari, which render and display web content.
 6. **HTTP and HTTPS:** The web relies on the Hypertext Transfer Protocol (HTTP) to transmit data between a web server and a client's browser. HTTPS (HTTP Secure) adds encryption for secure data transmission.
 7. **Web Servers:** Web servers host and deliver web content to users' browsers in response to requests made via URLs.
 8. **Search Engines:** Search engines like Google and Bing index web pages and provide a way for users to search for specific content on the web.
- The World Wide Web has become an essential part of modern life, facilitating information sharing, e-commerce, communication, entertainment, and much more. It has revolutionized the way people access and interact with digital content and has greatly impacted various fields, from education and research to business and social communication.

Information infrastructure

► Information infrastructure refers to the underlying framework and components that enable the creation, storage, transmission, and access to data and information. It encompasses various technologies, networks, and systems that support the seamless flow of information within organizations, across regions, and on a global scale. Information infrastructure is critical for modern society, business, and communication. Key elements of information infrastructure include:

- 1. Telecommunications Networks:**
- 2. Data Centers:**
- 3. Internet Backbone:**
- 4. Cloud Computing**
- 5. Software and Applications:**
- 6. Internet of Things (IoT) Devices:**
- 7. Cabling and Transmission Media:**
- 8. Cybersecurity Systems:**

World Wide Web (WWW)

9. Content Delivery Networks (CDNs):
10. Databases and Data Management Systems:
11. Geographical Information Systems (GIS)

Information infrastructure is the foundation upon which modern information technology and communication systems are built. It plays a critical role in the functioning of businesses, government, education, healthcare, research, and many other sectors. As technology continues to advance, the development and maintenance of a robust information infrastructure remain essential for the growth and stability of societies and economies.

KEY CHARACTERISTICS OF broadband

- ▶ Refers to high-speed data transmission or communication that is capable of carrying a wide range of frequencies. Broadband technology allows for the simultaneous transmission of multiple signals or data streams, enabling the fast and efficient exchange of digital information. It is often used for internet connections, audio and video streaming, and telecommunications.
- ▶ **KEY CHARACTERISTICS OF BROADBAND:**
 1. **High Data Transfer Rates:** Broadband connections offer significantly higher data transfer speeds compared to traditional narrowband connections, making them suitable for demanding applications.
 2. **Wide Frequency Range:** Broadband signals use a broad range of frequencies for data transmission, allowing for the simultaneous transmission of multiple types of data.
 3. **Always-On Connection:** Broadband connections are typically "always on," meaning users do not need to establish a connection every time they want to access the internet or other services.
 4. **Multimedia Support:** Broadband is well-suited for multimedia applications, including video conferencing, online gaming, and streaming high-definition video and audio content.

broadband

5. High Capacity: Broadband connections can handle a higher volume of data traffic, making them suitable for heavy internet use and data-intensive tasks.

BROADBAND CONNECTIONS

- ▶ There are several types of **BROADBAND CONNECTIONS**, including:
 1. **DSL (Digital Subscriber Line):** DSL uses telephone lines to provide high-speed internet access. It's a popular form of broadband in areas where cable or fiber-optic connections may not be available.
 2. **Cable Internet:** Delivered through cable TV lines, cable internet offers high-speed connections and is widely available in urban and suburban areas.
 3. **Fiber-Optic Internet:** Fiber-optic cables use light signals to transmit data and offer the fastest broadband speeds available. They are commonly used for high-speed internet connections and are gradually expanding into more areas.
 4. **Wireless Broadband:** Wireless broadband, often delivered through Wi-Fi or cellular networks, provides internet access without the need for physical connections. It is prevalent in mobile devices and remote or rural areas.
 5. **Satellite Internet:** This type of broadband uses satellite signals to deliver internet access to areas with limited terrestrial infrastructure.

Broadband connections

Broadband plays a crucial role in modern computing and communication. It enables faster internet access, allowing for seamless browsing, video streaming, online gaming, and cloud-based services. It also facilitates remote work, telemedicine, and a wide range of online activities that require high-speed and reliable data transmission.