Technology Convergence

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Presentation

- The Nature of Innovation
- What is Technology Convergence?
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- Pioneers and Leaders of Converging Technology
- The Benefits of Convergent Technology
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The Nature of Innovation

- Technology innovation is not linear
- Technology is accelerating at an exponential pace because of the intersection of all of the different disciplines

What is Technology Convergence?

- Cohabitation of technologies in a single device, sharing resources and interacting, creating new technology and convenience
- Integration of a number of disparate technologies or functions into a single integrated system
- Technology convergence pushes alliances between once isolated industries such as broadcasting, computing, and electronics

Convergent Technology

Shopping · Internet · Camera · Video Games · Guided Exercise · Movies, TV · Music Player · Telephone · News · Print Books · Courses · Maps · Texting · Email · Calculator

Drivers of Technology Convergence

- Information technology and digitization
- Globalization
- Sophistication of services
- Pressures for increased functionality
- Drive to find solutions to the complexity to our industrial systems
- Increased process orientation
- Sustainability

Examples of Technology Convergence

- Big technologies that now underlie the next big crop of convergent breakthroughs
    - Artificial Intelligence (AI)
    - Blockchain
    - Internet of Things (IoT)
    - Nanotechnology
- Services coming out of convergence
    - Video on demand: Think streaming services.
    - Mobile-to-mobile: This has no need for fixed location capabilities.
    - Location-based services: Being able to determine where the nearest ATM is located.
    - Fixed-mobile convergence: Services that are irrespective of their location.
    - Integrated products and bundles: These "super solutions" keep your services for multiple solutions with just one provider.
    - IP Multimedia Subsystem: This integrated telecommunications network enables the use of Internet Protocols to communicate.
    - Session Initiation Protocol (SIP): This is a call setup protocol that can be operated over the Internet.
    - Internet Protocol Television (IPTV): The delivery of television over the Internet.
    - Voice over IP (VoIP): Phone service over the Internet, made possible by SIP.
    - Voice call continuity (VCC): This service determine how a voice call is delivered, enabling it to be delivered over both IP and CS networks.
    - Digital video broadcasting: The standards developed for transmitting digital television

Pioneers and Leaders of Converging Technology

- Apple
- Adobe
- Netflix
- Amazon Prime
- IBM
- Microsoft
- Google

The Benefits of Convergent Technology

- Time-saving and cost-saving devices
- Improving human performance
- Allowing and encouraging new ways to communicate
- Moving away from being passive consumer to active user (e.g. in media, the audience can become more active than passive)
- Encouragement of new product acceptance, as some of the functions are already well-known
- Less siloed information with digital data
- Bigger effectiveness of a single piece of technology
- One set of infrastructure which is cheaper to operate
- Ability to address different price points with essentially the same technology
- Watching media on a wide range of devices
- Broader availability (e.g. in certain fields like film production, what was once all professional-level equipment is now in the hands of everyone)

The Challenges of Convergent Technology

- Some converged devices are less reliable than the devices that perform a single task; they have lower quality

- With each added capability, the original device function is decreased

- Potential data security issues arise

- Possible waste of investments in separate technologies that was already made

- Increased expense in the combination of services and products and the need for a faster network

- Unknown regulatory issues

- Antitrust issues

What Is the Future of Converging Technology?

- Quantum Computing

- Truly Integrated health research/care

- Whatever you can imagine