HNDIT1042 Information Management and Information Systems

Advanced Technological Institute
Galle

INFORMATION SYSTEMS IN GLOBAL BUSINESS TODAY

How are information systems transforming business?

- There are three interrelated changes in the technology area:

(1) the emerging mobile digital platform

(2) the growing business use of "big data,"

(3) the growth in “cloud computing,”

The emerging mobile digital platform

- More and more business computing is moving from PCs and desktop machines to these mobile devices.
- Managers are increasingly using these devices to coordinate work, communicate with employees, and provide information for decision making.
- emerging mobile platform greatly enhances the accuracy, speed, and richness of decision making

New in mobile platform

- The small, lightweight netbooks optimized for wireless communication and Internet access.
- tablet computers such as the iPad, and digital e-book readers such as Amazon's Kindle with some web access capabilities.
- Smartphones and tablet computers are increasingly used for business computing as well as for consumer applications.
- Wearable computing devices are a recent addition to the mobile digital platform. These include smartwatches, smart glasses, smart ID badges, and activity trackers.

- **<u>Examples of wearable computer</u>**
- Smart Watch
- Head-Mounted Displays (HMDs)
- Smart Clothing
- Smart Jewelry e.g. smart ring
- Google Glass
- Apple Glass
- Microsoft HoloLens
- Bar Code Reader
- Eye Trackers
- Face Detection
- Detecting Six Sense Gestures
- Measuring of body temperature

Wearable devices in business

1. Businesses can use smart wearables to connect technicians to vital information about the equipment they are servicing;

Wearable devices in business

1. allow field workers remote access to inspections information;

Wearable devices in business

1. track employees in challenging environments:

they can make sure a firefighter is healthy enough to enter a burning building.

Opportunities

- Both time shifting and space shifting are the norm.
  - Time shifting refers to business being conducted continuously 24/7 rather than in narrow “work day” time bands of 9 a.m. to 5 p.m.
  - Space shifting means that work takes place in a global workshop, as well as within national boundaries.

Securing Mobile Platforms

- Devices need to be secured like desktops and laptops against malware, theft, accidental loss, unauthorized access, and hacking attempts.

Securing Mobile Platforms ..

- Companies should make sure that their corporate security policy includes mobile devices.
- They will need mobile device management tools to authorize all devices in use;
- to maintain accurate inventory records on all mobile devices, users, and applications;
- To control updates to applications;
- lock down or erase lost or stolen devices so they can’t be compromised.

Securing Mobile Platforms ..

- Firms should develop guidelines stipulating approved mobile platforms and software applications as well as the required software and procedures for remote access of corporate systems.
- All mobile device users should be required to use the password feature found in every smartphone.
- Mobile security products are available from Kaspersky, Symantec, Trend Micro, and McAfee.

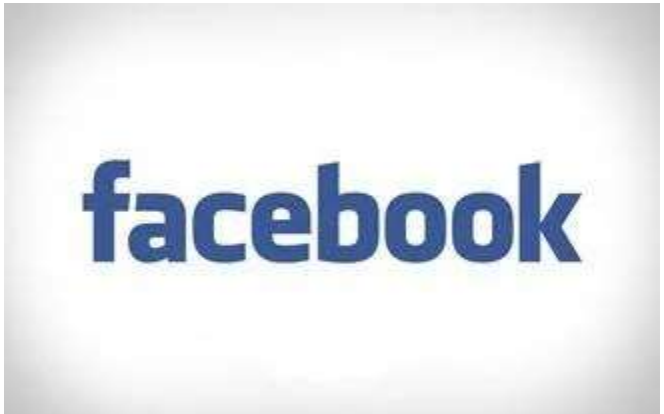
(2) the growing business use of "big data”

- **Big Data** is a collection of data that is huge in volume, yet growing exponentially with time. It is a data with so large size and complexity that none of traditional data management tools can store it or process it efficiently.
- Big data is also a data but with huge size.

What is an Example of Big Data?

- The **New York Stock Exchange** is an example of Big Data that generates about ***one terabyte*** of new trade data per day.

- **Social Media** The statistic shows that ***500+terabytes*** of new data get ingested into the databases of social media site **Facebook**, every day. This data is mainly generated in terms of photo and video uploads, message exchanges, putting comments etc.



- A single **Jet engine** can generate ***10+terabytes*** of data in ***30 minutes*** of flight time. With many thousand flights per day, generation of data reaches up to many ***Petabytes.***

Advantages Of Big Data Processing

- Businesses can utilize outside intelligence while taking decisions

Access to social data from search engines and sites like facebook, twitter are enabling organizations to fine tune their business strategies.

- Improved customer service

Traditional customer feedback systems are getting replaced by new systems designed with Big Data technologies. In these new systems, Big Data and natural language processing technologies are being used to read and evaluate consumer responses.

- Early identification of risk to the product/services, if any
- Better operational efficiency

(3) the growth in “cloud computing,”

- Cloud computing refers to a model of computing that provides access to a shared pool of computing resources (computers, storage, applications, and services) over the network, often the Internet.

Advantages

- **Cost**

Cloud computing eliminates the capital expense of buying hardware and software and setting up and running on-site datacenters—the racks of servers, the round-the-clock electricity for power and cooling, and the IT experts for managing the infrastructure. It adds up fast.

- **Speed**
- Most cloud computing services are provided self service and on demand, so even vast amounts of computing resources can be provisioned in minutes, typically with just a few mouse clicks, giving businesses a lot of flexibility and taking the pressure off capacity planning.

- **Global scale**
- The benefits of cloud computing services include the ability to scale elastically. In cloud speak, that means delivering the right amount of IT resources—for example, more or less computing power, storage, bandwidth—right when they're needed, and from the right geographic location.

- **Productivity**
- On-site datacenters typically require a lot of “racking and stacking”—hardware setup, software patching, and other time-consuming IT management chores. Cloud computing removes the need for many of these tasks, so IT teams can spend time on achieving more important business goals.

- **Performance**
- The biggest cloud computing services run on a worldwide network of secure datacenters, which are regularly upgraded to the latest generation of fast and efficient computing hardware. This offers several benefits over a single corporate datacenter, including reduced network latency for applications and greater economies of scale.

- **Reliability**
- Cloud computing makes data backup, disaster recovery, and business continuity easier and less expensive because data can be mirrored at multiple redundant sites on the cloud provider’s network.

- **Security**
- Many cloud providers offer a broad set of policies, technologies, and controls that strengthen your security posture overall, helping protect your data, apps, and infrastructure from potential threats.

Types of cloud services: IaaS, PaaS, serverless, and SaaS

- **Infrastructure as a service (IaaS)**
- The most basic category of cloud computing services. With IaaS, you rent IT infrastructure—servers and virtual machines (VMs), storage, networks, operating systems—from a cloud provider on a pay-as-you-go basis.

- **Platform as a service (PaaS)**
- Platform as a service refers to cloud computing services that supply an on-demand environment for developing, testing, delivering, and managing software applications. PaaS is designed to make it easier for developers to quickly create web or mobile apps, without worrying about setting up or managing the underlying infrastructure of servers, storage, network, and databases needed for development.

Types of cloud services..

- **Serverless computing**
- Overlapping with PaaS, serverless computing focuses on building app functionality without spending time continually managing the servers and infrastructure required to do so. The cloud provider handles the setup, capacity planning, and server management for you. Serverless architectures are highly scalable and event-driven, only using resources when a specific function or trigger occurs.

- **Software as a service (SaaS)**
- Software as a service is a method for delivering software applications over the Internet, on demand and typically on a subscription basis. With SaaS, cloud providers host and manage the software application and underlying infrastructure, and handle any maintenance, like software upgrades and security patching. Users connect to the application over the Internet, usually with a web browser on their phone, tablet, or PC.

Different types of cloud computing deployment models are:

- Public cloud
- Private cloud
- Hybrid cloud
- Community cloud
- Multi-cloud

https://www.geeksforgeeks.org/cloud-deployment-models/

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