**Information Systems**

Created to capture, store, organize and display info

Used for businesses, governments or privately

**Helps with:**

* Place orders
* Pay taxes
* Detect criminals
* Socialize online

Could be as simple as retrieve and store data

Sophisticated math model to produce weather forecasts

Information Technology (IT)

**Information Systems in History**

Palaeolithic cave paintings

* Spain
* France

Dates to as early as 30 000 years ago

Potentially to record for future generations

* How to hunt
* What to hunt

**Sumerian cuneiform (3500 bce)**

* Accounts of commodities, grain
* Marks made of clay

**Ancient Egypt (2000 bce) and Rome**

* Rulers so they can tax subjects
* Citizens to keep track of wealth

IT = 19th century railway signalman, operates levers, signals and lamps

Largely automated nowadays

Royal Air Force (RAF) 1940, WW2

Used a complex system at Fighter Command headquarters

“The information systems that won the war” – Checkland and Holwell

Performed communication, filtering, processing and display in battle

At first, computing just a little branch of mathematics

Great impetus during WW2, emerging electronics

* Coding
* Code-breaking
* Naval gunnery calculations

The Colossus Computer allowed code-breakers to decode German military signals

More powerful hardware = more versatile

World’s first business computer, LEO 1

Built by J. Lyons and Co. at Cambridge University

Used for calculating production requirement for daily orders

Later extended to payroll and inventory, still used to this day

Grew more sophisticated = more complex tasks

Information systems emerged from questions made by computer scientists

* How do we establish business requirements for a new system?
* What effects will the new system have on the organization?
* How do we ensure that the systems we build meet its requirements?

Questions remain to this day

Object-oriented programming dates from 1970s

Object-orientation best way to carrying out the analysis, design and implementation of a computer-based information system

**Information systems today**

IS of old predates digital electronic computers

Things we do online are a bunch of IS working together

Not just shoppers using IS, everything that happens in the background too

What we’re experiencing is compared to the industrial revolution

Not entirely agreed upon

**What is a System?**

Anything complex that shows some kind of organization

* Legal system
* Tropical storm system
* Eco-system

IS scholars refer to a system to something specific

Traces to a model called General Systems Theory (GST)

GST defines system as: complex set of parts unified as one

* Information systems
* Living organisms

GST following characteristics

* Exists in an environment
* Separated from its environment
* Receives inputs and sends outputs to its environment
* Shared boundary between systems
* Transforms its input to a more complex output
* Has a control mechanism, how the system responds to conditions in the environment or within the system itself
* Relies on feedback, sample outputs and feeds them to a control unit to help with decisions
* It is more than just the operation of its parts
* May be made up of subsystems

**BRAIN**

* Boundary: human skull
* Inputs / outputs: signals to other organs, their response
* Interfaces: display emotions
* Transformation: activity to emotions
* Feedback / feed-forward: body response to tasks
* Subsystems: other parts of the body
* Properties: live and breathe

System thinking, understanding how the world works

Think things as systems

Transformation of inputs to outputs, important characteristic of a system

Gives meaning to a system

IS meant to serve a useful purpose

A human activity system to develop an information system

* Find a task for IS
* Develop said IS to perform that task
* IS supports the human activity system

Needs to be developed thoroughly to perform as intended (requirements)

**Information and Information System**

What information will be useful for the human users

Information is conveyed by messages that has a meaning depending on the perspective

Surrounded by vast amounts of information, not everything reaches our attention

Data = raw fact Information = data that has been selected and given meaning

Raw data doesn’t translate to information

Depending on the perspective, data transforms into information differently

IS only useful when they select the appropriate data for the context

FORTSÄTT FRÅN “What information systems do in organizations”

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