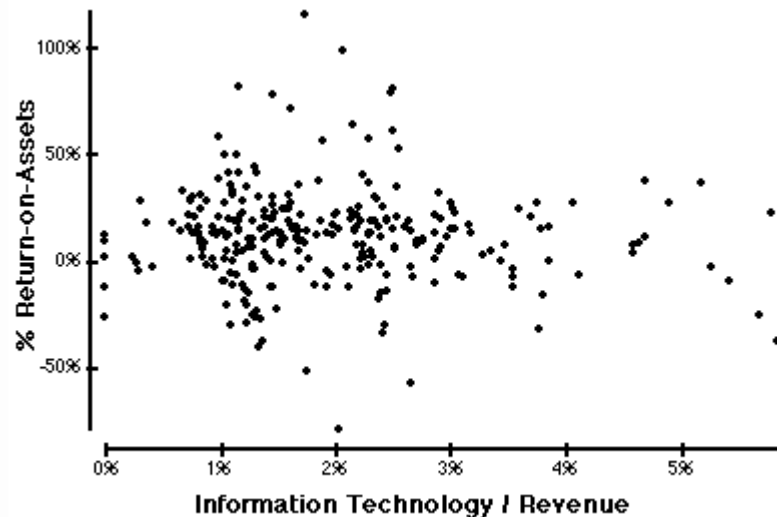


## HC 2 ICTSM

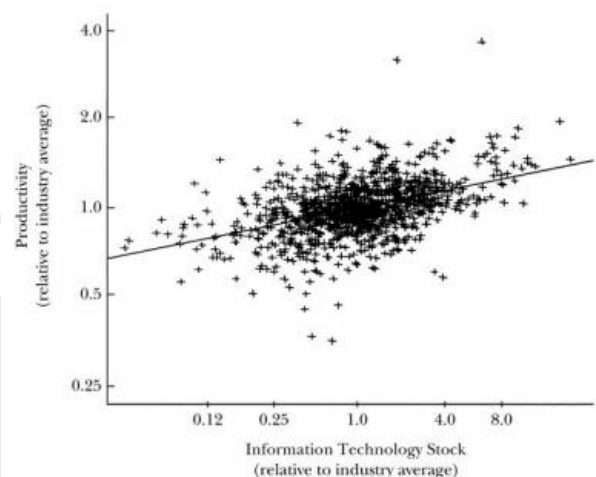
- Today's economy is drive by Information & Services (slide 5)
  - Services are taking an ever increasing place in the economy
  - 84% of economic activity is based on services
- **ICT/service paradox** (slide 6-8)
  - The effect of this growth isn't being proportionally translated into the productivity data. For ICT vendors for example this is reflected in the revenues associated with their services
  - There is a slowdown in productivity and there is some evidence that suggests that services industries play an important role in this slowdown (slowdown is greater in non-goods producing portions of the economy)
    - Due to mismeasurement? → it is very difficult to develop methods for measuring the output of different services. So an increasing portion of output is not captured in the statistics
    - There is no overall theme to measurement problems in services industries. Each appears to be a special case, with specific measurement problems unique to the unique characteristics of services industry output.
      - *Business Services* : who should receive credit for the productivity gains recorded by the users of business services? business services are intermediate products, they have no implication for the measurement of economy-wide productivity, only its distribution.
      - *Retail trade*
      - *E-commerce*: What does e-commerce do to the productivity of firms that adopt it? How does it affect internal business processes, and therefore productivity? We may not be measuring the decline in the costs of communication well.
      - *Insurance*: The output may still be mismeasured, the industry's true productivity growth may be stronger than the available current data shows. A major unresolved problem in measuring the output of insurance is the measurement and valuation of risk.
      - *Banking*: Current-price banking output is defined as the spread between borrowers' and depositors' interest rates, plus fees for services that are explicitly priced.
      - *Medical care*
- **The second economy** (slide 9)
  - After the industrial economy (revolution)
  - Digitization!
  - Physical jobs are disappearing
  - How big is this second economy?
    - Labour productivity (output per hours worked) in the US has grown at some 2.5% à 3% annually from which 65% à 100% is assigned to the digitization. → doubles every 30 years; so if things continue, in 2025 the second economy will be as large as the 1995 physical economy.
    - Productivity increase of 2.5% means two things: Or we produce 2.5% more goods, or the same goods can be produced by 2.5% less people. → **Less jobs** (maybe no problem for the future: shorter workweeks, no jobs needed anymore, everything is being done automatically,...)

- Every 60 years or so, a body of technology comes along and over several decades, transforms the economy. What used to be done by humans is now executed as a series of conversations among remotely located servers. (RFID-tags, boarding of a plain,...) So we can say that another economy—a **second economy**—of all of these digitized business processes conversing, executing, and triggering further actions is silently forming alongside the physical economy. It isn't producing anything tangible. When steam engine appeared, the economy developed a muscular system in the form of machine power. Now it is developing a neural system → **metaphor**
- **ICT doesn't seem to pay back** (slide 10)
  - **Strassman**



- The lack of correlation between information technology spending and profitability is contrary to advertised claims. It defies the common belief that investing in electronic processing of information somehow leads to lower costs and results in competitive advantage.

- **Van Nieveldt – Van Eersel**
  - The more you invest in IT, the lower the return on investment (ROI)
- **Brynjolfsson**: there is a clear positive relationship, but also a great deal of individual variation in firms' success with information technology.

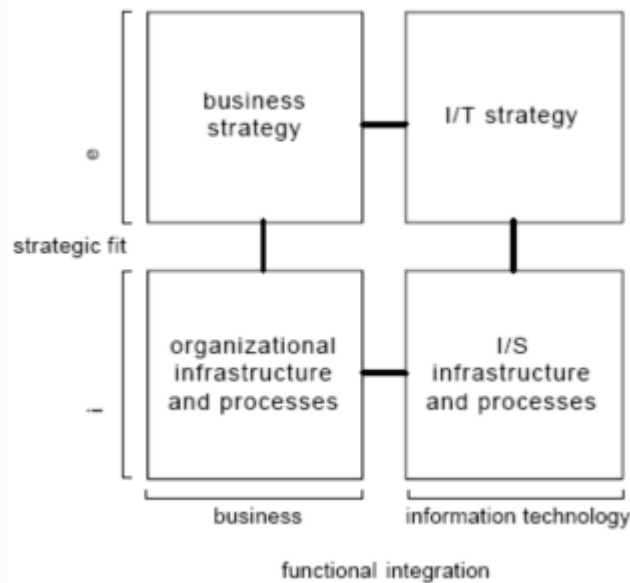


→ these 3 statements are of course wrong! Only 2 dimensional graphs, there are other important variables.

- **Standish chaos report results..** (slide 11)
  - Still a lot of projects fail (nightmare for the managers)
- **IT doesn't matter** (slide 12 - 15)

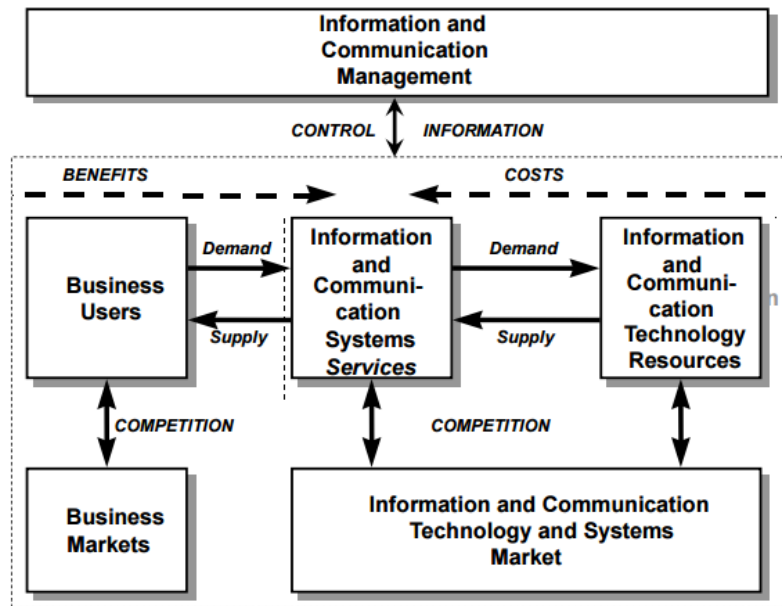
- Today, no one would dispute that information technology has become the backbone of the commerce. As IT's power and presence have expanded, companies have come to view it as a resource even more, critical to their success. Today, CEO's talk often about the strategic value of IT and on how they can use it as a competitive edge (e.g. digitization of their business models).
- But, **Carr** says that all core functions of IT have become available and affordable to everyone; and therefore, they are becoming costs of doing business that must be paid by all but provide distinction to no one. They became commodity inputs because their availability increased and their cost decreased.
- What **Carr** says is that organizations should treat information technology (IT) as a commodity in which it should attempt to keep costs to a minimum, minimize vulnerabilities, and avoid risk-taking. By comparing information technology to other commoditized industries like the railroads and electricity, Carr attempts to convince his audience of executive management and IT leaders that IT's role within an organization should not be treated much differently than any other cost it seeks to minimize. Carr believes that organizations should not attempt to build competitive advantage through IT investment because advantages built with it are short-lived as the innovation spreads through the industry and becomes commoditized.
- The only **advantage** most companies can hope to gain from an infrastructural technology after its buildout is a cost advantage - and even that tends to be very hard to sustain.
- A resource becomes essential to competition but inconsequential to strategy, the risks it creates becomes more important than the advantages it provides.
- For example slide 13: you only notice these costs when it doesn't work.
- It was long thought that ICT has no effect on productivity. It also still is true that investing in innovative ICT is risky. **Carr** recommends under those circumstances to play it safe
- Tips from **Carr**:
  - SPEND LESS ON INFORMATION TECHNOLOGY
    - CUT THE IT BUDGETS
    - DO NOT INVEST IN ICT INNOVATIONS
  - FOLLOW, DON'T LEAD
    - INVEST ONLY IF OTHER HAVE SUCCEEDED
    - DELAY ICT INVESTMENTS, prices drop anyway
  - FOCUS ON VULNERABILITIES, NOT OPPORTUNITIES
    - REFOCUS ICT
    - DISREGARD VENDOR's INNOVATIVE OFFERINGS
- **Information/communication versus technology** (slide 16)
  - Information is data that gets a meaning in a particular context
  - The value is to add the correct semantics
- **Classical Information Management Frameworks** (slide 17)

- Business and IT don't 'know' each other but they should be aligned



- **Strategic Alignment Model**
  - Strategic alignment between IT and business occurs when IT is used to dynamically create and exploit business opportunities. It can be used to transform business processes and also to create business dislocations in the market place. Proper alignment will allow an organization to use information technology efficiently to achieve its business objectives.
  - Strategic fit between external (business strategy & I/T strategy) and internal (Organizational Processes & IT Infrastructure & Processes)
  - Functional Integration between business and information technology
- **4 alignment perspectives:**
  - Strategic Execution : Business Strategy → Organizational I & P → I/S infrastructure
  - Technology potential: Business Strategy → I/T strategy → I/S infrastructure
  - Competitive potential: I/T strategy → Business Strategy → Organizational I & P
  - Service level: I/T strategy → I/S infrastructure → Organizational infrastructure
- The need for information/ communication (slide 18 - 19)

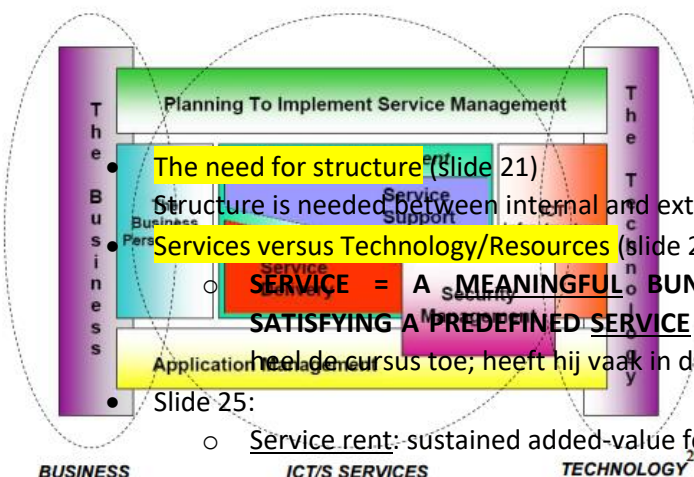
- Data analysis = more data will not result into more knowledge. Having lots of information technology does not mean we have lots of information



- Communication is needed between business and IT
- **IT service Management Forum** → ITIL (slide 20)
  - Service Management : management of the agreed service to meet the customers requirements
  - ITIL : information technology infrastructure library (open source)
    - Ensure that IT services are aligned to the needs of customers and users (measurable)
    - Improve availability and stability of services
    - Improve communication within IT and with users
    - Improve efficiency of internal processes
  - Service Support: processes that provide support for day-to-day operation of IT services
  - Service Delivery: processes that focus on long-term planning and improvement of IT services
  - → these 2 are linked together through the Service Desk
  - ICT/S services are in the middle between business and technology

**ITIL**

**UK Office of Government Commerce (OGC)**  
**itSMF: IT Service Management Forum**



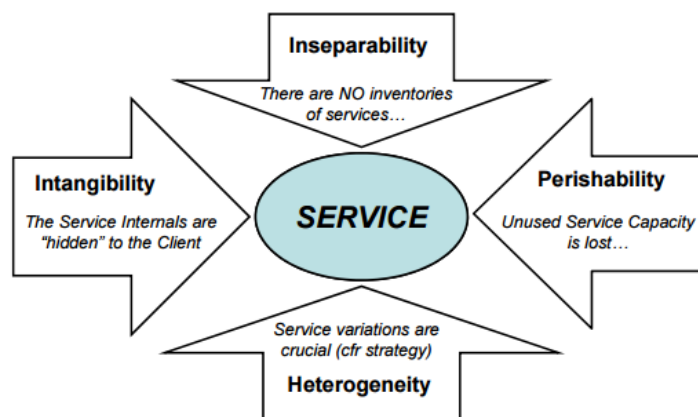
**SERVICE = A MEANINGFUL BUNDLE OF ASSETS/TECHNOLOGY/RESOURCES SATISFYING A PREDEFINED SERVICE CONTRACT !!** (deze definitie past hij doorheen heel de cursus toe; heeft hij vaak in de les benadrukt! ;))

Slide 25:

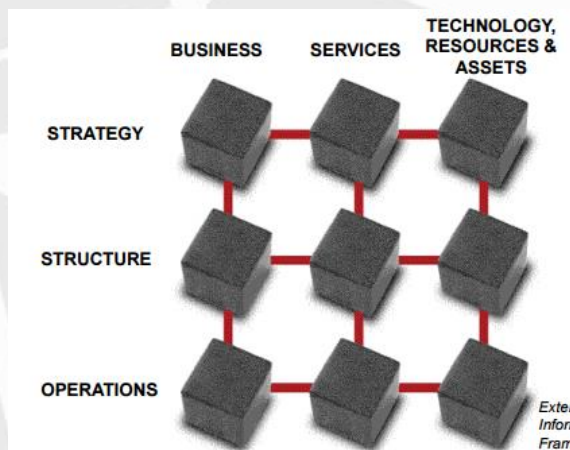
- Service rent: sustained added-value for services

- Service Level Agreements: (SLA) is a part of a standardized service contract where a service is formally defined. Particular aspects of the service – scope, quality, responsibilities – are agreed between the service provider and the service user. A common feature of an SLA is a contracted delivery time
- **Constraint Degrees in Contracts** (slide 27)
  - {INV and PRE}SERVICE{POST and INV} → A service needs precondition as input + generates a post condition as output (+ Invariants)
- **Services vs processes** (slide 28 – 29)
  - E.g. Ordering process consists out of 4 business services. Preconditions are specified.
  - Services cannot be decomposed in subservices
- **Characteristics of Services** (slide 32)

### Characteristics of Services



- Intangibility: Services cannot be seen, tasted, felt, heard, or smelled before purchase
  - Heterogeneity: Quality of services depends on who provides them and when, where and how
  - Inseparability: Services cannot be separated from their providers
  - Perishability: Services cannot be stored for later sale or use
- **A Service Management Framework** (slide 33 - 43)



- **Motivation:** Most focus has been put on Business-ICT Alignment on the Strategy level. This paper focuses on the Operational layer of the framework.
- **Goal:** Introduction of an analytical methodology for Operational Alignment based on **Activity-Based Costing (ABC)**. Activity-based costing (ABC) is a costing methodology that identifies activities in an organization and assigns the cost of each activity with resources to all products and services according to the actual consumption by each. This model assigns more indirect costs (overhead) into direct costs compared to conventional costing.
- **SLA's** are fundamental to ensure proper alignment between dimensions of Maes' framework.

### Service Management Capability Maturity Model

New Service Related Process Areas added to CMMI

<https://bscw.sei.cmu.edu/pub/bscw.cgi/0424939>

A very important new development in CMMI 1.2

