#### Business models in Information Industry

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### **Business models**

- Pre-electronic era
- First electronic services
- Today's trends
- Tangible versus intangible
- What about tomorrow



## Pre-electronic era

 The world was simple
 Authors → (Primary) Publishers
 ↓

Readers ← Libraries

- With simple documents
  - Books, Journals, Patents
- Known Publishers
  - ACS, Elsevier, PTOs
- And simple charging mechanisms
  - Single fee (books, patents)
  - Subscription (journals)



### First electronic services

New comers appear or evolve:

- Secondary Publisher for Abstracting & Indexing
- Online Host & Vendor for Distribution
- Telecom companies for data transfer
- Software provider for Post processing

specialized by metier



#### Secondary Publisher: 1<sup>st</sup> metier

- To cope with vast amount of information
- Synthetic view
- Mainly for Journal articles & Patents
- Charging mechanism:
  - Subscription to bulletins or Alerts (SDIs)
  - Still "traditional"



#### Online Host & Vendor: 2<sup>nd</sup> metier

- To improve access to & dissemination of
  - secondary information,
  - Primary information
- Charging mechanism:
  - Pay-as-you-go
  - Influenced by:
    - Computer service providers: CPU
    - Telecoms: connect time
    - Copy services: per document or per page

becoming more complex as time goes



#### Software provider: 3<sup>rd</sup> metier

- Initially, players specialized.
- E.g.: Aurigin, BizInt, MDL, Verity
- Charging mechanism:
  - Software company standards



# Today's trends

Back to more integration of functions

- Catalyst: technological evolution
- Public organisations are in the game
- Companies are part of the process
- Software & service providers join the club



#### Catalyst: Technological evolution

- Cost of producing electronic data decreases
  - more full text & multimedia information available
- Cost of producing services decreases
  - more facilities to handle information (linguistic tools, indexing, visualization)
- Cost of disseminating information decreases
   more networks, more bandwidth
- Cost of PC hardware and software decreases



#### Public organisations are in the game

- Often as free services
  - NLM and beyond NIH
  - PTOs
- "Business model" (public mission) conflicts with the one of private players



# Companies are part of the process

- Integration of services crosses the various borders
- Internal info department and external players
  - have similar activities and issues to solve
  - work more and more closely together
  - or become competitors



# Software & service providers join the club

- CAS buys HDS
- Elsevier buys MDL
- IHI buys Aurigin, Liquent and Master Data Center
- Questel•Orbit takes shares in Lingway

Information and software are combined.



# Comparing tangible and intangible – Why?

Mass distribution and Information distribution share similarities:

- Possibility for each to expand to the other activity (vertical integration)
- Dominating-dominated relationship between producer and distributor
  - C&A, Carrefour, Wal-Mart,
  - CAS, Elsevier, Thomson Corp.



# Who leads the game – Why?

- Tangible:
  - Real shops remain socially important
    - to see or manipulate the goods
    - to socially exchange with sales people
  - Logistics is important

 $\rightarrow$  Distributor leads

- Intangible:
  - Production is automated
  - Distribution is automated
  - Integration of production & distribution is simpler
    - → Producer leads



# **Preliminary conclusion**

- Vertical integration is the trend on intangible
  - CAS, Elsevier, Thomson Corp., ...
- It corresponds to the worldwide evolution of economy increasingly specialized per market
- Consequence on pricing:
  - Pay-as-you-go is unmanageable & obsolete
  - Package deal based on new parameters
    - Size of the user population
    - Data & functions offered



### What about tomorrow

- The internet offers new opportunities
- End users enter the game
  - Intangible is affordable
  - the loop author-reader could be revisited...
- Information and communication become more intricated
- Will Google lead the whole system?



#### This is another story...



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