Investment strategies in the value chain of the book publishing sector: how and where the R&D someway matter in creative industries?

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Benghozi Pierre-Jean, Salvador Elisa
Management Research Center (CRG),
Ecole Polytechnique - CNRS, Paris, France

Culture and creative industries : an ever increasing interest

- Academic literature
- Public policies
- Artists and stakeholders

For more than 30 years

…But

an important issue is neglected:

R&D in creative industries

Innovation and creation in creative industries : an important issue

- **Support to growth, competition, renewing…**
  - Innovation in culture and creative industries : a means to develop creative contents
- **Surprisingly neglected in the literature**
  - Merely considered from the content viewpoint
  - Despite a large amount of projects, initiative and papers
- **Yet important questions at stake**
  - Where technological development and R&D take place ?
  - How are innovations adopted and implemented in cultural industries ?

Various reasons to neglect R&D in Art and Culture

- Small size of cultural firms
- Lack of technological competencies
- Propensity to highlight creation v. managerial matters and technology
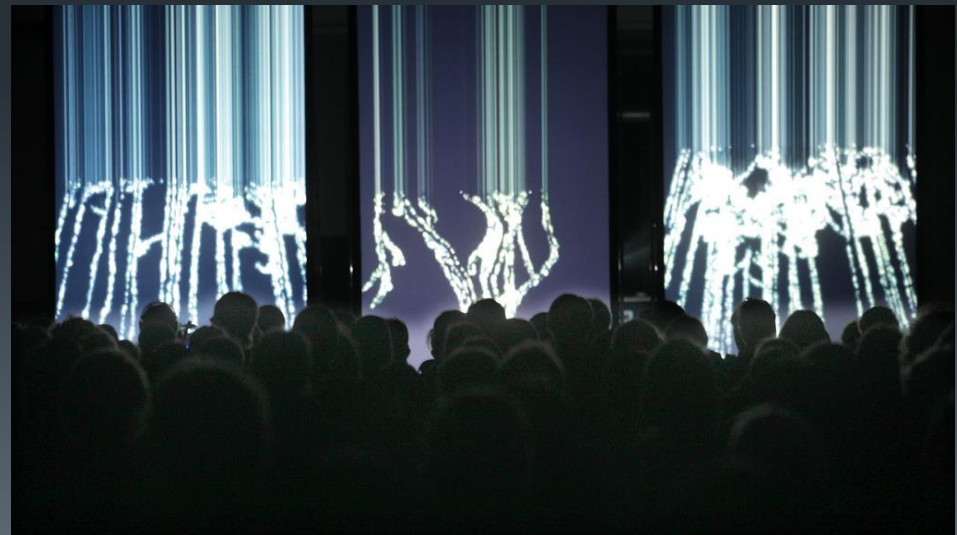
Disruptive changes come from technological innovations in cultural industries

- Historically
  - Sound movie
  - Music industries
  - TV
  - …

- Recently
  - Thanks to the Internet and digital technologies

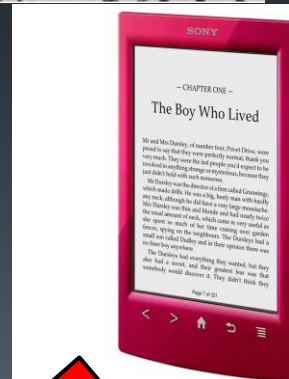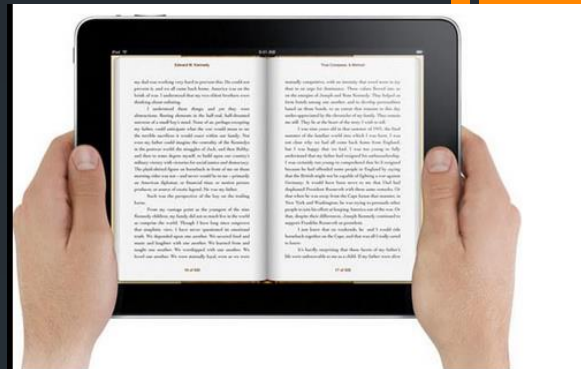- *But* always emerging outside the cultural industries

Where and how R&D takes place in the cultural sector ?

- Which economic actors are taking charge of R&D ?

- Where they are located in the value chain and the culture ecosystem ?

- How they are articulated with content production and producers ?
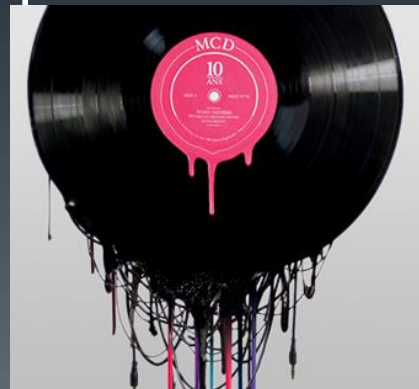
Focus on
the book publishing sector

The specific case of book publishing

- Innovation in the publishing industry used to be incremental rather than radical
  - A low growth business
  - Secular printing economic model

- The revolution of the Internet and ICT
  - Emergence of e-books, tablets…
  - New actors appear in the value chain

- New strategies and business models supported by e-readers and tablets
  - Zero marginal cost of producing additional books
  - New intermediaries and distribution processes
  - Unusual competitors
  - Management of digital rights and protection
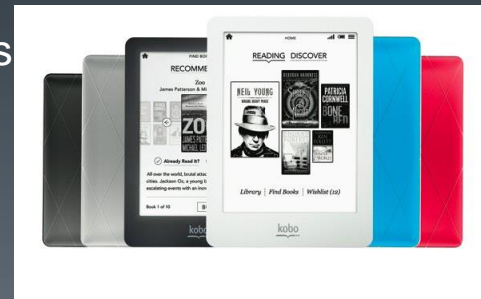
ICT publishing technologies milestones

- **Designing a new digital ecosystem**
  - Huge - and unused - investments for the publishing houses
  - e-book is an emerging and still undefined model
  - New technical skills and know-how
    - interoperability
    - specialized software expertise
    - management of new commercial relationships
    - new methods of digital marketing and distribution

- **Pervasiveness of ICT in publishing value chain**
  - Digitization of the editorial process
  - Self publishing
  - Printing on demand
  - On line distribution
  - E-commerce of traditional books
  - Content brokering
  - Retail efficiency

- **The focus and structural dimension of e-books**
  - Content (information)
  - Composer (software necessary to create an e-book)
  - Container (the distribution medium and/or file format)
  - Storage
  - Access (the technology and software used to provide access to the content)
  - Distribution platform (Apps) for Electronic books

E-book : a good illustration of R&D concerns in cultural industries

- Revolution in traditional markets and revenues
  - (A growing) 22,5% marketshare in the US
    - eq. paperback
    - Not including self-publishing (1/4 of Barnes and Noble sales !)
- Competition in the development of readers and tablets
- Interlapping of development and competition in the bookstore marketplace
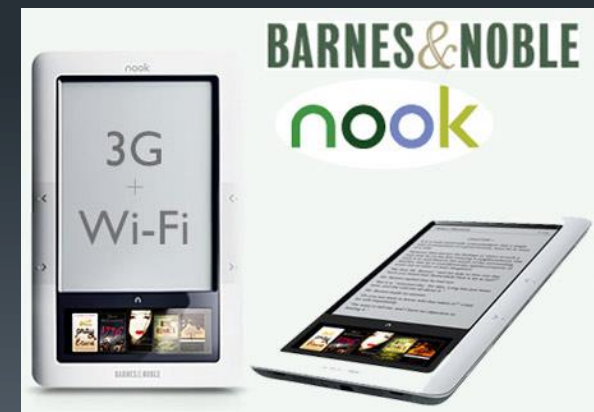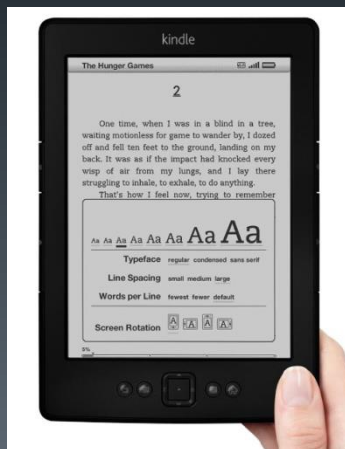
Methodology for empirical analysis

- Systematic exploration of R&D concerns
  - technical documents and Internet websites

- Face-to-face interviews
  - publishing houses and technology professionals

- Cartography of the value chain and longitudinal study of the e-book publishing sector

  - analytical coding
  - main characteristics of all the versions of the most diffused e-readers and tablets:
    - Kindle, Kobo, Nook
  - Multiple layer mapping
    - Six main structural and technical layers
    - adapted from the classical Open Systems Interconnection (OSI) reference model, used in telecommunication and Internet economy
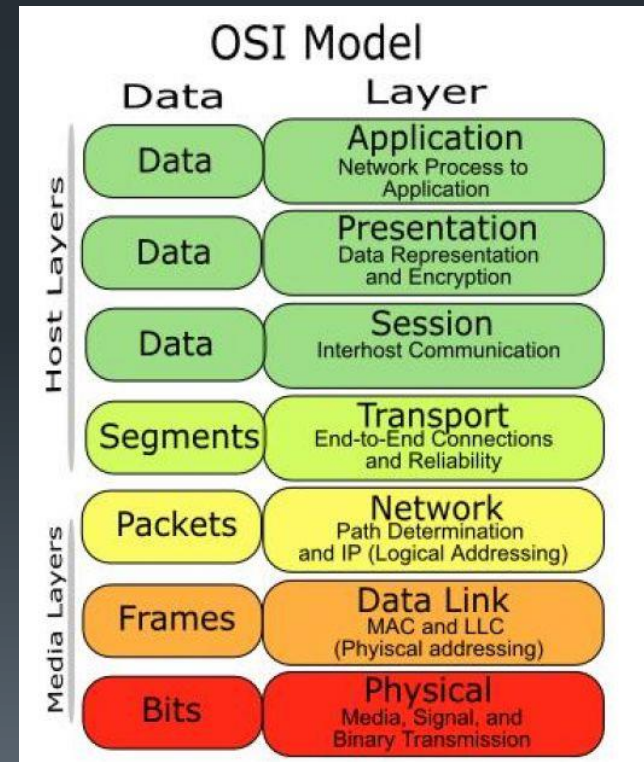
Significant outputs at every layer

Level 1: Operating systems standards
A key role of e-ink and Electronic Paper Display

Operating Systems Standards	E-ink (1997)	Electronic paper displays (EPD) 2005		Chips	Screen	Web-Connection
		Developer of E-ink and EPD				
		E Ink Corporation (US), Polymer Vision (the Netherlands), Plastic Logic (UK), PVI (Taiwan), SiPix (US), Bridgestone (Japan)	World's First Tablet Sized Flexible EPD (2005)			
Level 1						
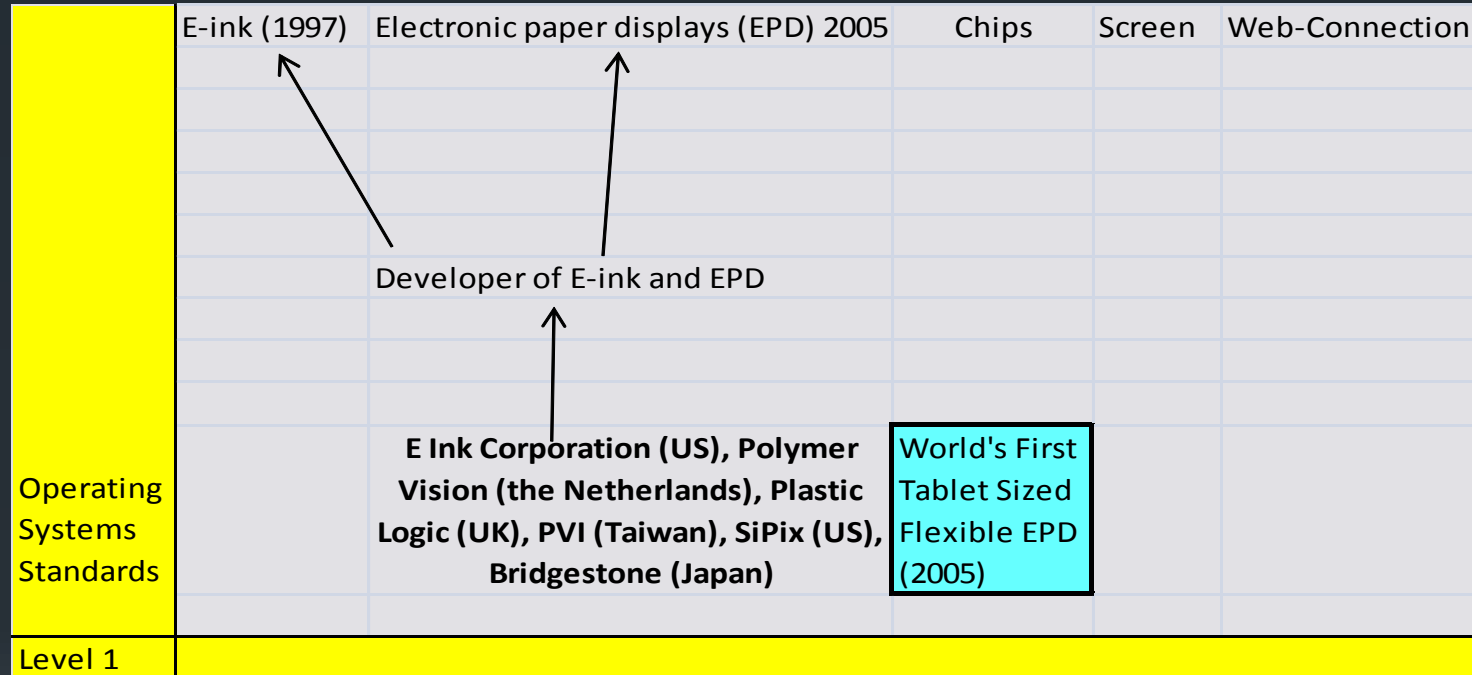
- Aiming at imitating the look of physical print on paper
- Reducing energy requirements and autonomy
- Flexible technology adapted to various surfaces

Level 2: Terminals and hardware
Competition between e-book readers and tablets

Terminals and Hardware

Digital printing ⟷ Device ⟷ Tablets

Digital publishers
Electronic Schoolbag
E-book reader, tablets, PDAs

Product
Rocket eBook of Gemstar (1998) *project failed in 2003*
Softbook (1998)
Franklin eBookMan (1999)
Cytale Cybook (2001) *project failed in 2002*
Sony Librié (2004) *project failed*
Sony Reader Portable Reader System (2006)
iRex iLiad (2006) *project failed in 2010*
Apple's iPhone (2006), Apple's iPad (2010)
Amazon Kindle (2007), Kindle2 (2009), KindleDX (2009), Kindle3 (2010), Kindle4 (2011), Kindle Touch (2011), Kindle Fire (2011), Kindle Paperwhite (2012), Kindle FireHD (2012)
Sony PRS-700 (2008)
Polymer Vision Readius cell phone/e-reader (2008) *project failed*
Barnes&Noble Nook (2009), Nook Wifi (2010), Nook Color (2010), Nook Simple Touch (2011, 2012), Nook HD (2011), Nook HD+ (2012)
Kobo (2010), Kobo Wifi (2010), Kobo Touch (2011), Kobo Mini, Kobo Glo, Kobo Vox (2011), Kobo Arc (2012)
Barnes&Noble Plastic Logic Que eReader (2010)

...ett-Packard,
...dded Pen with
...up Language
...cation Structure

- Emerging price concerns
- Versionning
- Memory size
- Interoperable formats
- Sound
- Enhanced books and book-apps

Level 2

Level 3: Standards and software
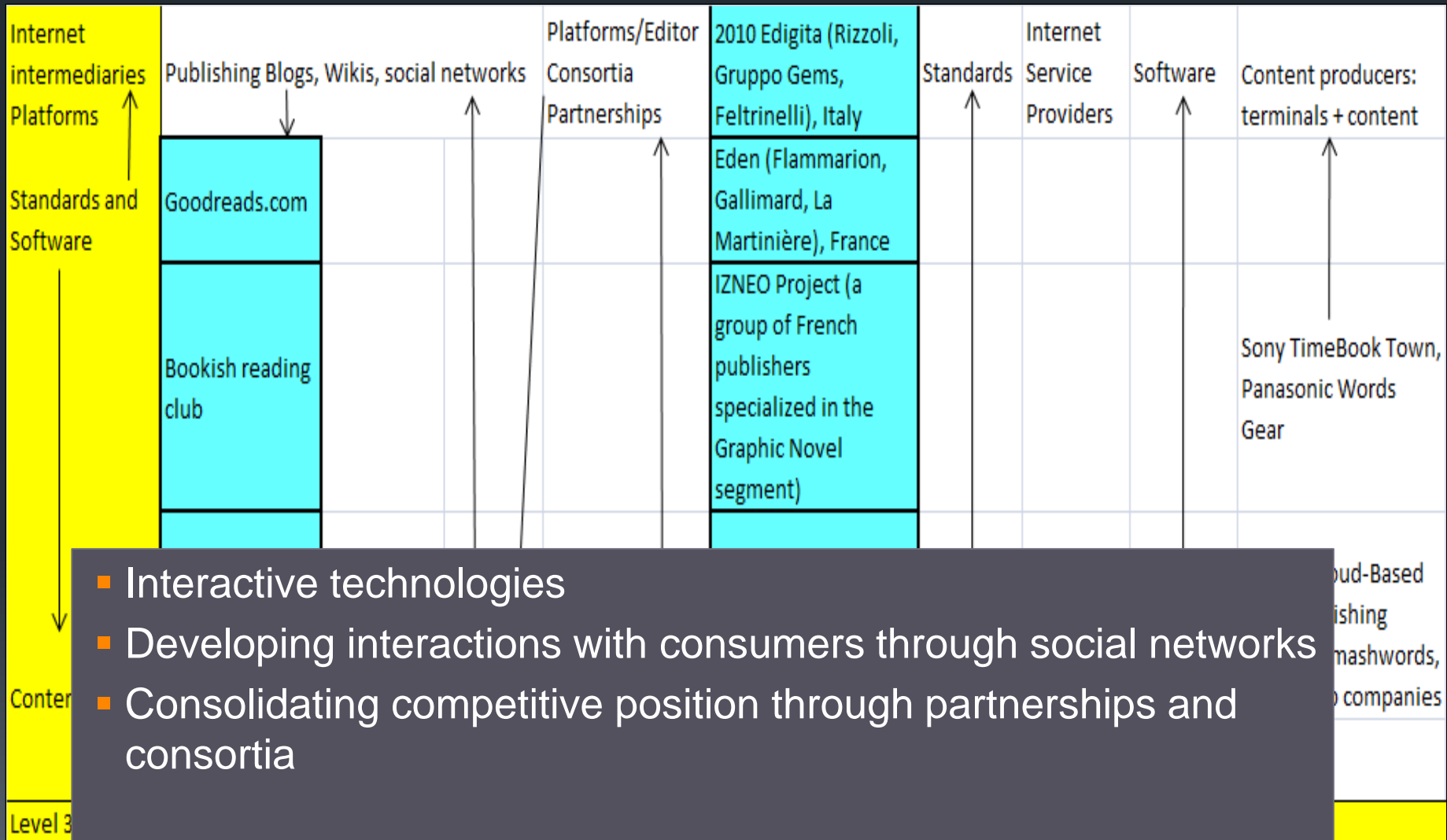the intermediary role of blogs, social networks, platforms, consortia and partnerships

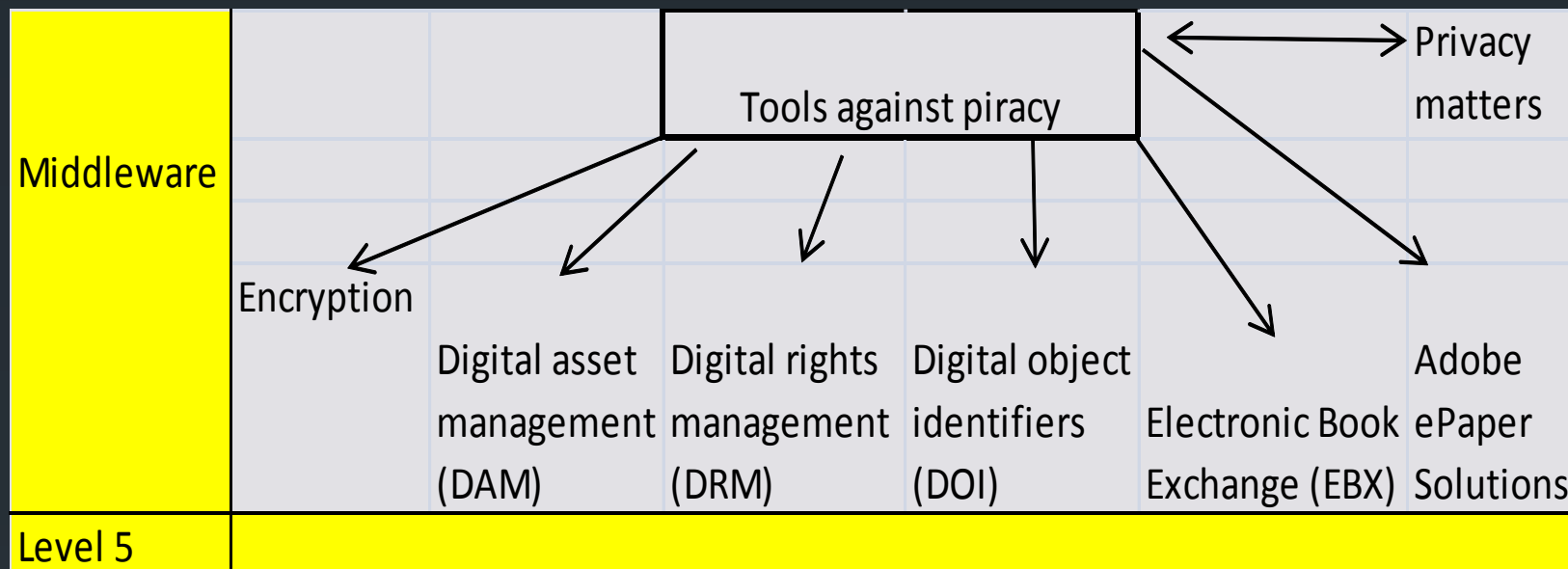| Internet intermediaries Platforms	Publishing Blogs, Wikis, social networks	Platforms/Editor Consortia Partnerships	2010 Edigita (Rizzoli, Gruppo Gems, Feltrinelli), Italy	Standards	Internet Service Providers	Software	Content producers: terminals + content
Standards and Software	Goodreads.com		Eden (Flammarion, Gallimard, La Martinière), France				
	Bookish reading club		IZNEO Project (a group of French publishers specialized in the Graphic Novel segment)				Sony TimeBook Town, Panasonic Words Gear
Conten							ud-Based ishing nashwords, companies
Level 3							

- Interactive technologies
- Developing interactions with consumers through social networks
- Consolidating competitive position through partnerships and consortia

Level 4: Infrastructures and networks:
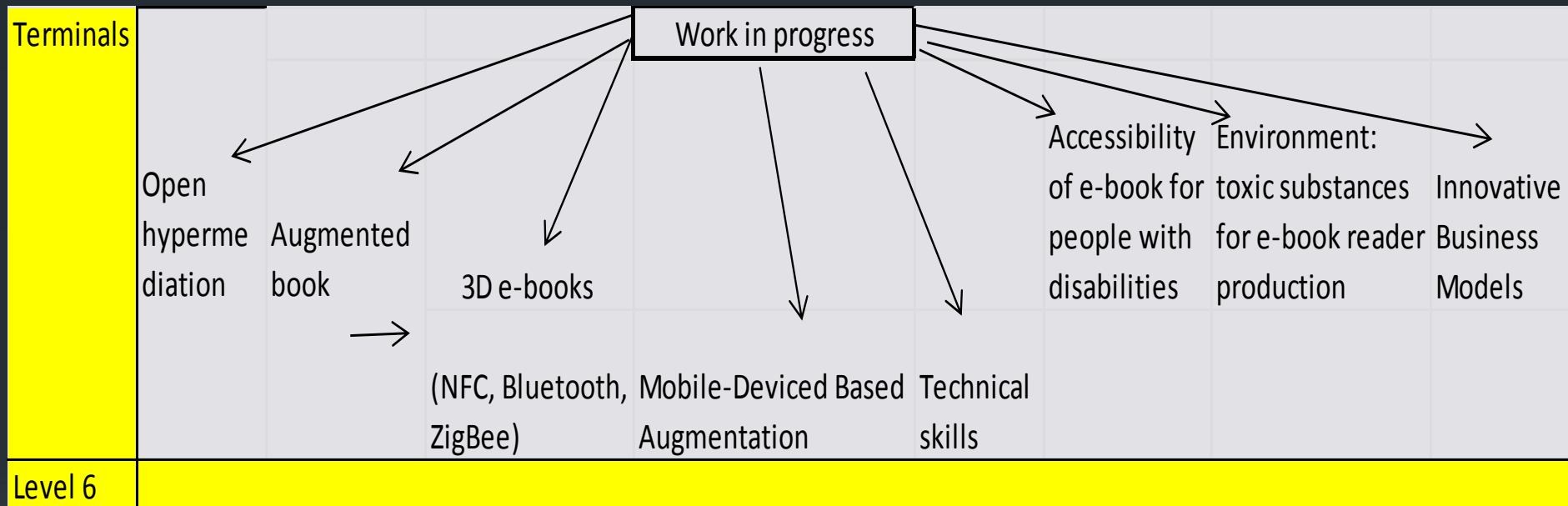## the role played by connection to consumers

Infrastructures and Networks
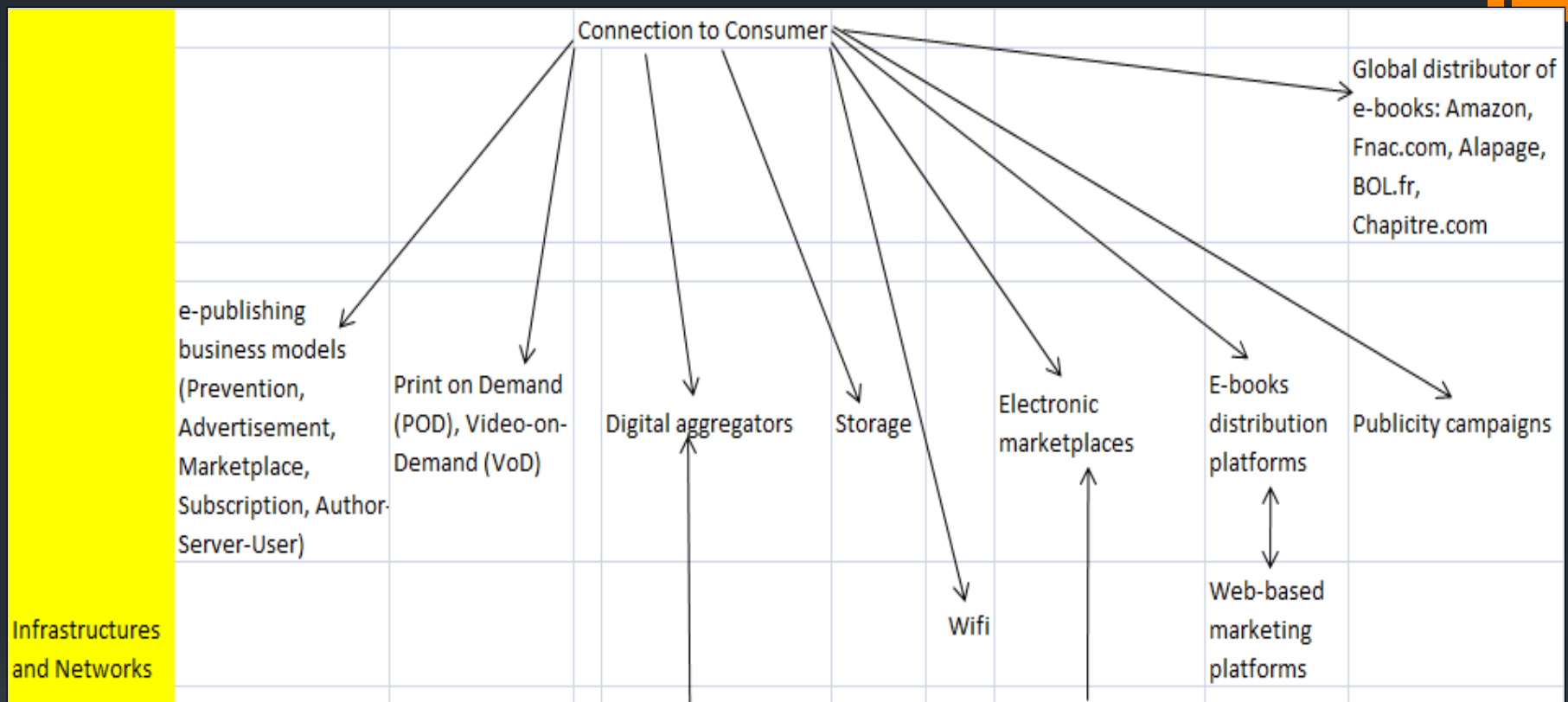
- Aggregating and distributing contents with collective platforms
- Promotion and marketing initiatives
- Print on Demand

Level

Level 5: Middleware :
economic structuring and piracy concerns

Middleware						Privacy matters
			Tools against piracy			
	Encryption					
		Digital asset management (DAM)	Digital rights management (DRM)	Digital object identifiers (DOI)	Electronic Book Exchange (EBX)	Adobe ePaper Solutions
Level 5						

- Encryption, DRM, digital object identifiers

Level 6: terminals and users: technical interface and ergonomy

Terminals								
					Work in progress	Accessibility of e-book for people with disabilities	Environment: toxic substances for e-book reader production	Innovative Business Models
	Open hypermediation	Augmented book	3D e-books		Mobile-Deviced Based Augmentation	Technical skills		
			(NFC, Bluetooth, ZigBee)					
Level 6								

- Accessibility for disabled
- Green technologies
- Innovative business models

Conclusion :
the publishers' strategies
v. hidden innovations

- Each layer is supporting specific strategic perspectives
  - Positioning, price, interaction with consumers…

- R&D and innovation are leading this evolutionary process
  - But **publishers are not well aware of this**
  - No willingness to build a model for using efficiently these innovations

- Publishers' strategy is focused more on maintaining their secular place in the book value chain
  - An **adaptation-imitation process**
  - Follow the market needs without playing an effective role of leaders
  - New commercial strategies depending on the new technologies demand rather than updating their role to the new environment and changing cultural habits
  - No leading role nor a global reactive strategy against competitors and incomers
  - **Global editorial projects and effective business models are still missing**

Thank you for your attention !

Benghozi Pierre-Jean, Salvador Elisa
pierre-jean.benghozi@polytechnique.edu
elisa.salvador@polytechnique.edu