

# **From Information to Innovation**

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*Rome, 31th November – 2nd December 2011*

# STARTING POINT: THE CHALLENGES TO THE ITALIAN BUSINESS SYSTEM

- The budget cuts decided by the Italian Government to address the international financial crisis had a negative impact on the public research system
- The public research system and the “intermediary” ecosystem (innovation centers, scientific parks, Chambers of Commerce) are facing clear difficulties in reaching enterprises to help them develop a greater degree of innovation
- Widespread signs of the gradual and increasing loss of competitiveness of Italian companies in domestic (European) and international markets
- The communication between companies and research centers is difficult mainly because of asymmetric languages and focuses: while the world of public research is generally aimed at the pursuit of technological opportunities, businesses are interested solely in business opportunities; diversity of languages creates little mutual understanding and lack of communication
- One more trouble comes from the number and average size of Italian companies: each and every action meant to stimulate growth and innovation – carried out by intermediaries – is capable of reaching just a modest number of businesses

# COMMUNICATE INNOVATION

Already in 2005, a study by IPI, promoted by the Chambers of Commerce, made clear the priorities needed to improve and extend the innovation transfer toward businesses:

- Creation of permanent infomediary services, aimed to SMEs, in order to strengthen the role of the Chambers of Commerce on innovation
- Design, development and implementation of standards for the dissemination of innovation opportunities to the widest corporate audience possible
- Exploration and experimentation of low cost (economically and organizationally) methods to carry on the dissemination of innovation, as opposed to a one-to-one approach, while extending its reach

# AN INFOMEDIARY FOR INNOVATION – THE OPPORTUNITY DEVELOPMENT CENTER (ODC/CSO)

- A new infomediary system meant to highlight and follow-up business opportunities enabled by technology advances, which are:
  - collected and selected from a set of sources, monitored continuously
  - sent to different SMEs from different markets, via different channels/tools
  - enhanced through a valorization process –both language-wise (understandable by the chosen audience)....
  - ...and content-wise (business opportunities extracted from the input information, relating to technological and scientific advances, with potential operational impacts)

## **Selection and aggregation of relevant information sources**

- Market trends
- New technologies
- Business models
- Case Studies
- Relevant events

## **Valorization of information, language-wise and content-wise**

- Stores relevant basic information in a “product-oriented repository”
- Converts stored basic information in “informative atoms” through a process of valorization (content- and language-wise)
- Archives the packaged information in an easily accessed database

## **Packaging of information in different formats**

- Slide show
- Newsletter
- Alert
- Workshop
- Portal
- Online Q&A
- Contact center
- Face to face meetings
- Contatti con esperti

# INFOMEDIARY SYSTEM – BUILDING BLOCKS

## Sources

- Market researches & Reports
- Internet
- Press
- Corporate communication
- Subject Matter Experts
- Self-produced information
- ....

## Knowledge structure

### Database

- Basic Information
- Informative Atoms
- Published products

## Finished products

### Periodic

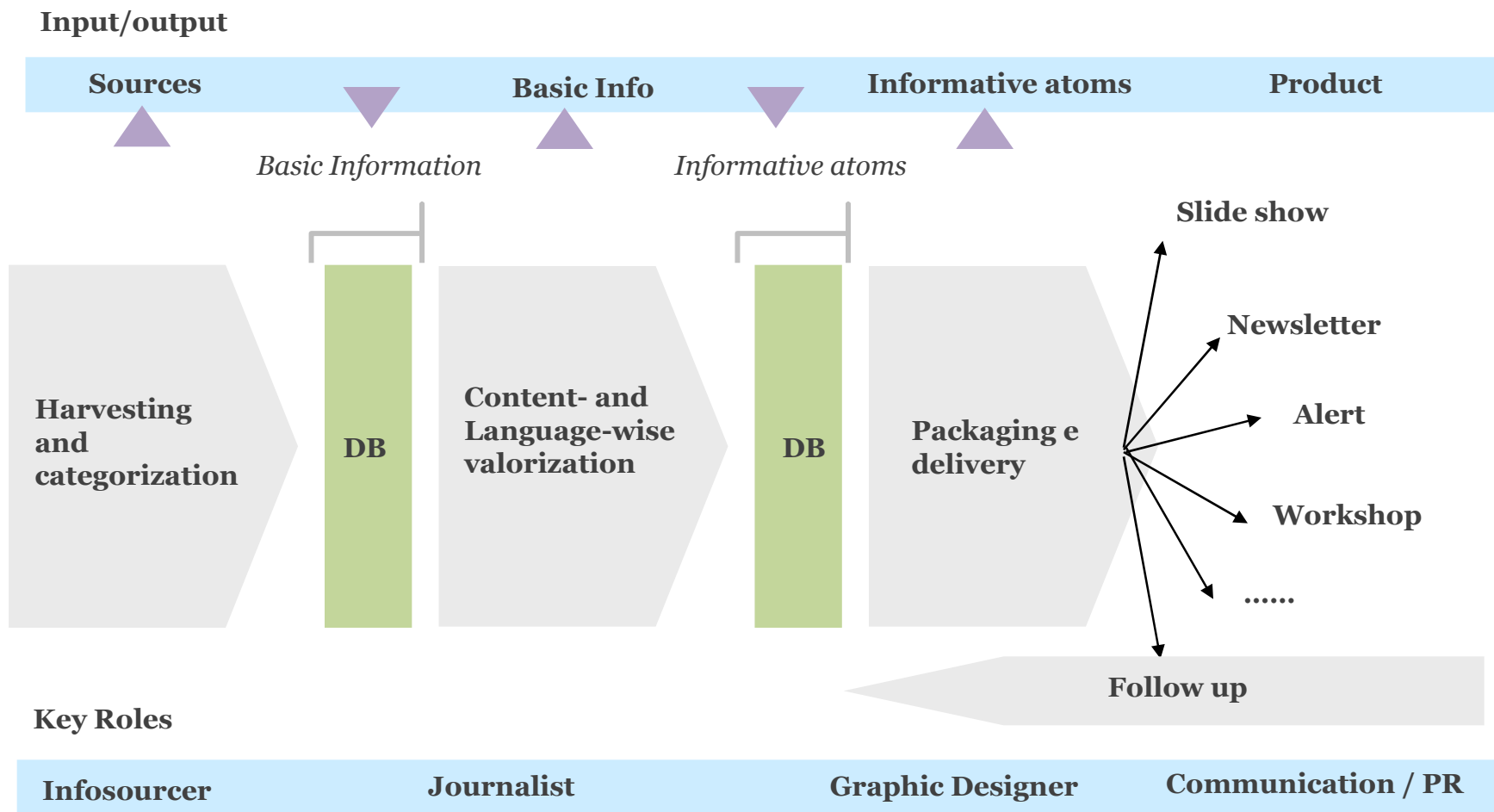
- Slide show
- Newsletter
- Alert
- Workshop

### Informative Atoms

- Technological monographs
- Case Studies
- Technological opportunities
- Market trends
- Relevant events
- Company profiles

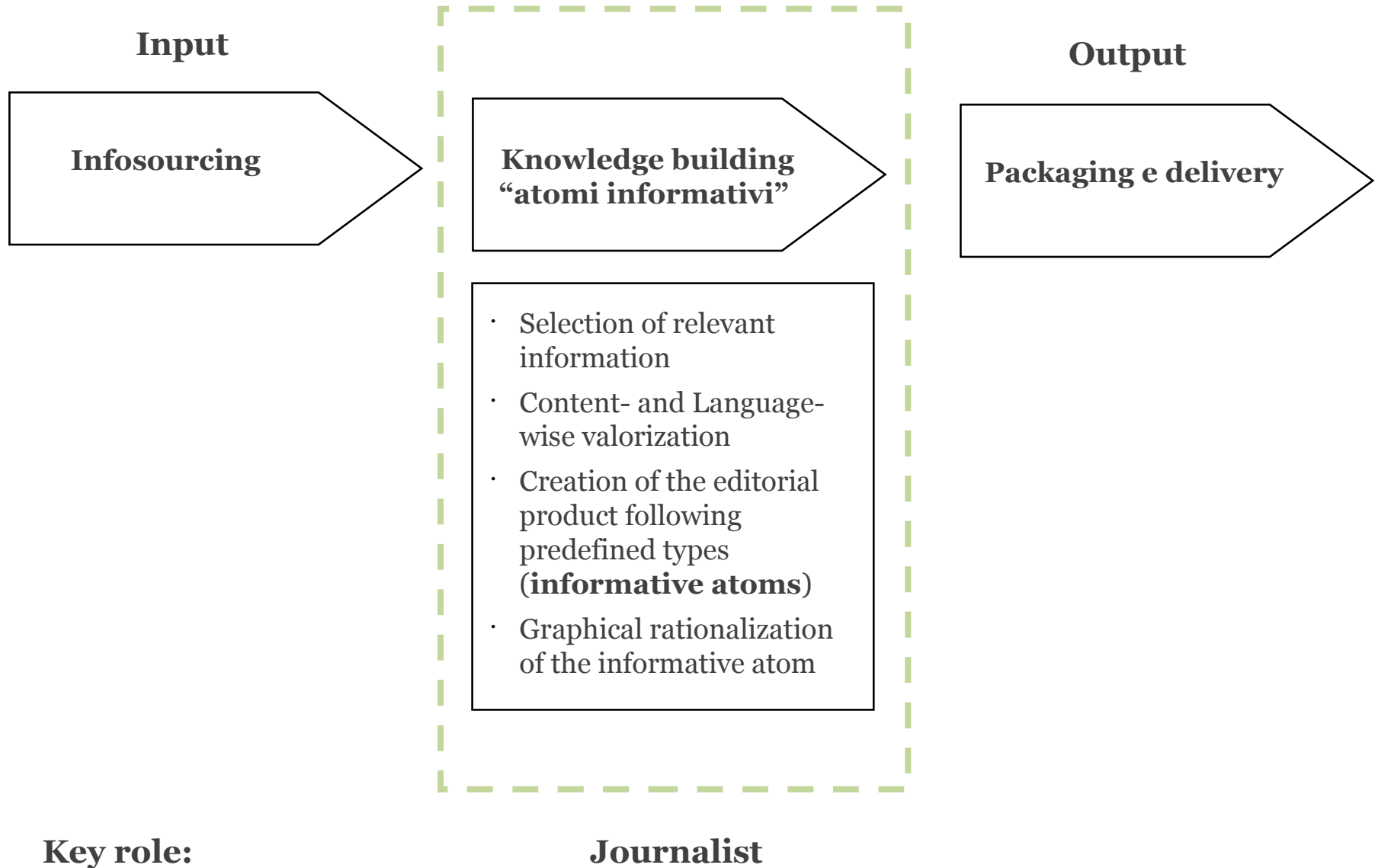
### On demand

- Online Q&A
- Contact center
- Face to face meetings
- Meeting with experts
- .....



DB = Database

Note: information sources and database contents are specifically chosen for any business or knowledge sector covered by the Center





## CONTENTS

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Technological monographs

- In-depth descriptions of specific themes

Case Studies

- Description of working solutions

Technological opportunities

- Highlighting of possibilities

Market trends

- The performance of field variables and the highlighting of emerging phenomenons

Relevant events

- Relevants facts or events related to the subject matter

Company profiles

- Interesting business models or activities



Six types of self-contained content

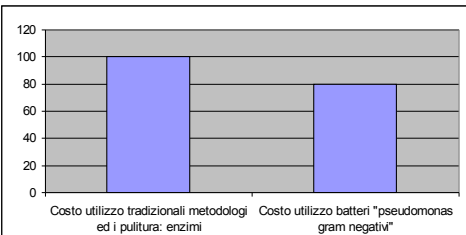
## Text

L'utilizzo dei batteri *Pseudomonas* Gram negativi permette di rimuovere in 24 - 36 ore croste di solfati, strati di nitrati e patine di sostanze organiche in condizioni di cellule non proliferanti ed in modo mirato senza intaccare il materiale sano.....

## Images



## Charts



Thanks to libraries and a CMS, the back-end system is capable of **automatically assembly of the page, in PDF format**

## Enhanced informative atom

### Batteri per il restauro



L'utilizzo dei batteri *Pseudomonas* Gram negativi permette di rimuovere in 24 - 36 ore croste di solfati, strati di nitrati e patine di sostanze organiche in condizioni di cellule non proliferanti ed in modo mirato senza intaccare il materiale sano.

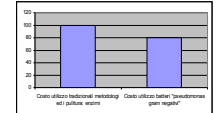
Il procedimento di applicazione è semplice: i batteri vengono infatti mescolati ad un gel che viene poi spalmato con una spatola e ricoperto da garze e pellicole che mantengono l'umidità e bloccano l'ossigeno. Il giorno seguente viene rimosso con un bastoncino e dell'acqua.

L'applicazione di questa tecnica permette di ottenere vantaggi di costo, infatti il costo dei batteri vivi è inferiore a quello degli enzimi, altrimenti utilizzati per tali scopi

- La applicazione è utilizzabile in maniera massiva
- La tecnica di applicazione sugli artefatti deve essere insegnata ma non è particolarmente difficile
- I batteri possono essere conservati e trasportati con facilità

Le applicazioni attualmente realizzate sono:

- Affreschi del Camposanto di Pisa
- Basamento della Oietà Rondanini di Michelangelo
- Lunette ornamentali del Duomo di Milano
- Parete del Duomo di Matera
- Facciata di Santa Maria delle Grazie a Milano
- Sculture del castello del Buonconsiglio di Trento



Tale tecnica è stata sviluppata da alcuni ricercatori della Facoltà di Agraria della Università Statale di Milano:

- Claudia Sorlini: preside della Facoltà di Agraria della Statale ed esperta di biorecupero di opere d'arte [claudia.sorlini@unimi.it](mailto:claudia.sorlini@unimi.it)
- Francesca Capitelli
- Giancarlo Ranalli
- Elisabetta Zanardini

Gli stessi ricercatori stanno attualmente analizzando un progetto di spin off con la società Agnifutur quale partner industriale



Ricerca avanzata nel database

Archivio newsletter

Cerca nel database

Home

Ti trovi qui: home > Ricerca avanzata nel Sito

Ricerca Avanzata

Archivio

Contatti

Feed

Cerca

Parola chiave

Macro categoria Beni culturali Selezione

Area di appartenenza: Conoscenza, Conservazione, Fruizione, Gestione economica Selezione

Area di applicazione: Documentazione, Diagnostica

Materiali: Manufatti, Materiali lapidei, Marmi, Metalli

Tipologia: Fisica, Chimica, Informatica, Biologia

Ambiente: Emerso, Ipogeo, Sommerso

Atomo informativo: Monografie tecnologiche, Casi aziendali, Opportunità tecnolog..., Trend di mercato

Prodotto editoriale

Data

Budget

Azienda

Stadio sviluppo

Localizzazione

Cerca

Data	Macro Categoria	Titolo	Abstract	Dettagli News
14/11/2007	Beni culturali	Studio Azzurro e il Museo audiovisivo della resistenza di Massa Carrara	"Studio Azzurro" nasce nel 1982 a Milano, come luogo di produzione video e ricerca artistica dalla confluenza di tre figure provenienti da ambiti mediatici diversi: Fabio Cirifino (fotografia), Paolo Rosa (arti visive e cinema) e Leonardo Sangiorgi (grafica e animazione). A partire dal	Dettagli
14/11/2007	Edilizia	Italcementi e il suo Mianco TX Millennium	Italcementi ha realizzato per la costruzione della Chiesa Dives in Misericordia un nuovo cemento con biossido di titanio, denominato Bianco TX Millennium, la cui innovativa formulazione, brevettata, assicura un bianco ineguagliabile e costante nel tempo. Risultato di un'importante ricerca	Dettagli

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## Visualizza News

( 69) Beni culturali

Titolo: (12/11/2007) UFF

Azienda:

Fonte:

Esperto: 0

Localizzazione e stato dello sviluppo: - Prodotto

Budget: 0 Euro

Area di Appartenenza: Fruizione

Area applicazione: Tecn. Museografiche

Materiali: Marmi

Tipologia: Chimica

Ambiente: Ipogeo

Atomo Informativo: Casi aziendali

jgkljgheklrhgeklrrjggghhhkldjshgkjdfgrd



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## Inserimento News

[Beni culturali](#) [Edilizia](#)

Titolo:

Area di Appartenenza	<input type="text" value="Ricerca"/> <input type="text" value="Produzione materiale"/> <input type="text" value="Strumentazione"/>	Area applicazione	<input type="text" value="Centri di ricerca"/> <input type="text" value="Università"/> <input type="text" value="Laboratori di aziende"/>	Materiali	<input type="text" value="Manufatti"/> <input type="text" value="Materiali lapidei"/> <input type="text" value="Marmi"/>
Tipologia	<input type="text" value="Fisica"/> <input type="text" value="Chimica"/> <input type="text" value="Informatica"/>	Ambiente	<input type="text" value="Emerso"/> <input type="text" value="Ipogeo"/> <input type="text" value="Sommerso"/>	Atomo Informativo	<input type="text" value="Monografie tecnologiche"/> <input type="text" value="Casi aziendali"/> <input type="text" value="Opportunità tecnologiche"/>
Data di inserimento:	<input type="text" value="12/11/2007"/>	Azienda/Soggetto:	<input type="text"/>	Budget:	<input type="text"/>
Stadio sviluppo:	<input type="text" value=".."/>	Localizzazione:	<input type="text" value=".."/>	Fonte:	<input type="text"/>
Nome esperto:	<input type="text"/>	Cognome esperto:	<input type="text"/>	E-mail esperto:	<input type="text"/>
Prodotto Editoriale:					
<input type="radio"/> News <input type="radio"/> Presentazione					
Testo					
<input type="text"/>					

- Internet made the Information an overabundant good
  - Cisco estimated the global Internet traffic during 2010 in about **14,984 PetaByte per month**
  - On July 2008, the number of pages (URLs) indexed by Google reached the **trillion**
  - **More than 75.000 new Blogs** are created every day, of which more than half are updated daily in the 3 subsequent months
- **Scarcity** is no more a feature specific of high-priced raw materials, rather becoming a trait of the customers targeted by the new offer and their attention
- In a digital world, whose economics are based on the abundance of content, the scarcity of human attention becomes **critical in value creation**: this is the factor that drives the masses towards specific information and services
- A major paradigm shift: users are now the first ring in the value chain, taking the place that once belonged to products and/or companies. This means that **the digital economy may well be seen as an attention economy**

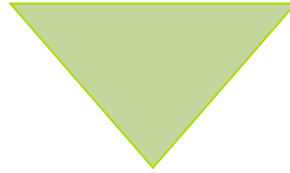
# MULTITASKING IS KILLING PRODUCTIVITY AND HINDERING CREATIVITY

Derek Dean e Caroline Webb: RECOVERING FROM INFORMATION OVERLOAD (McKinsey Quarterly, January 2011 )



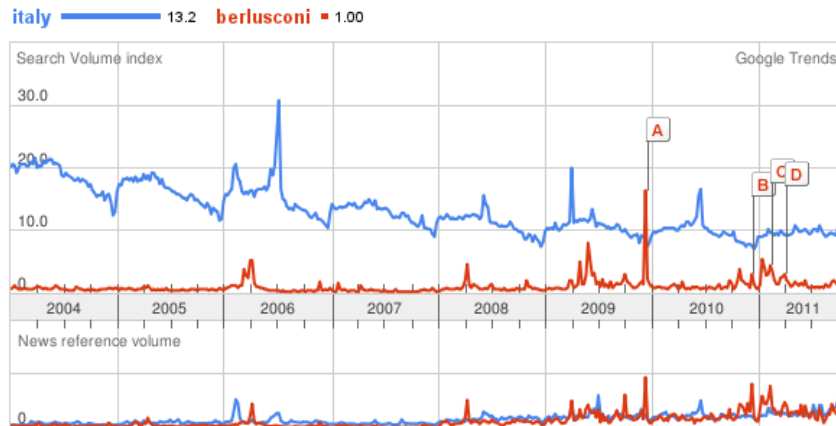
- Evidences are emerging that hint a potential risk, for highly digitized people, of developing a **true addiction to multitasking**
- Edward Hallowell and John Ratey, from Harvard, wrote about people subject to “dopamine surges” when connected to other people by digital means – with behavioral patterns similar to those similar to those experienced by patients with a clinical history of addiction to drugs of abuse
- Who never struggled with the impulse to check repeatedly the mobile phone screen, even when **in the middle of other, unrelated tasks?**
- A new discipline, *Concentratio Interrupta*, was incepted, to try and study the phenomenon
- "The working day of an average office/knowledge worker is broken into **slots of no more than eleven minutes each**, often shrunk to three when needed" (Gloria Mark, HCI professor at Irvine University)

- The Librarie Particulière, belonging to the then-King of France Charles V, contained, in 1368, 917 writings (**the whole late medieval human knowledge**)



- In 1997 the French president Chirac opened the new French National Library, made up of about **10 million of books, 350.000 magazines, 76.000 microfilm**, arranged on 400km of shelves
- BlogSphere doubles every 6 months
- During 2010, **about 6 trillion of SMS were exchanged**, with an average rate of **200.000 SMS per second**
- More than 50.000 new books are published in Italy

*Source: G. Da Empoli: "Informazione eccessiva"; press clipping*



Source: Google Trends; research volume and news results number related to the terms "Italy" and "Berlusconi"

Google bed and breakfast Coffs Harbour Search Advanced Search Preferences

Search: the web pages from Australia

Web Results 1 - 10 of about 78,700 for

Local business results for **bed and breakfast near Coffs Harbour NSW**

A. **BONVILLE LODGE - Luxury Bed and Breakfast** - www.bonvillelodge.com.au - (02) 6653 4735 - More

B. **Boambee Palms Bed & Breakfast** - www.boambeepalms.com.au - (02) 6658 4545 - More

C. **Santa Fe** - www.santafe.net.au - (02) 6653 7700 - More

D. **Robins Rest Bed & Breakfast** - maps.google.com.au - (02) 6651 4251 - More

E. **Beach Culture Bed and Brunch** - www.beachculturebedandbrunch.com.au - (02) 6653 6187 - More

F. **The Waterside Holiday Apartment** - www.waterside.com.au - (02) 6653 7388 - More

G. **Midway Motor Inn** - www.midwaymotorinn.com.au - (02) 6652 1444 - More

H. **Kalamunda Accommodation** - www.kalamunda-accommodation.com.au - (02) 6654 4205 - More

I. **Coffs Harbour Tourist Informa**

J. **Gum Trees BnB** - maps.google

Local search results

More results near Coffs Harbour

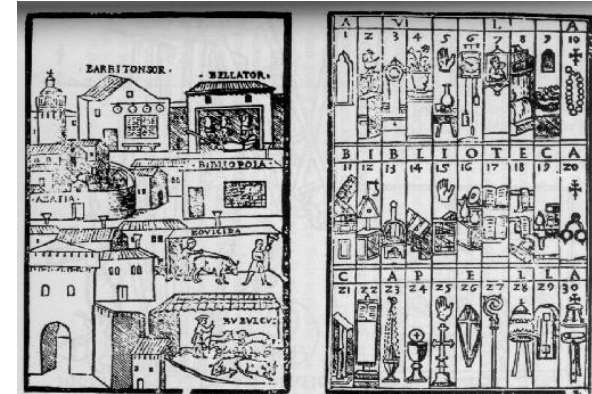
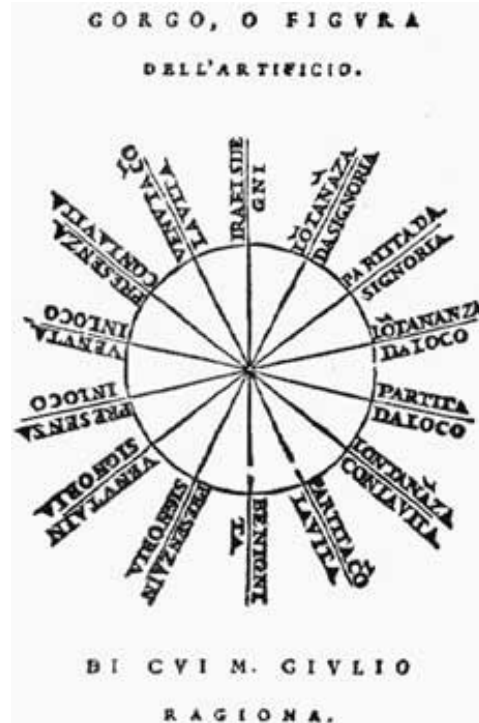
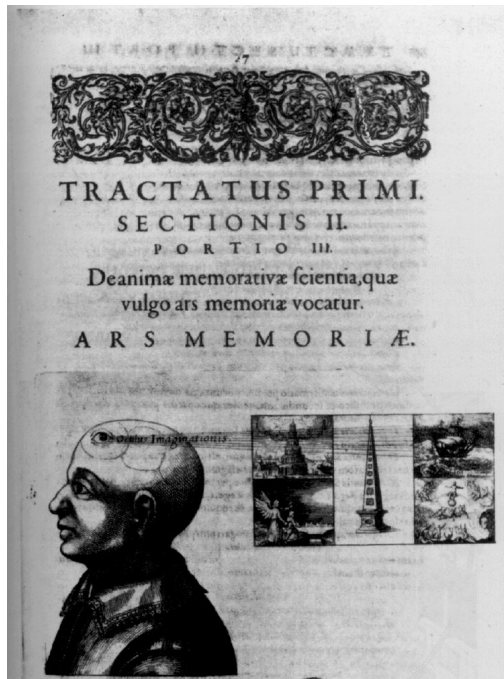
**Coffs Harbour, Bellingen, Dorrigo Bed and Breakfast, Guesthouse ...**  
Coffs Harbour, Bellingen, Dorrigo NSW Bed and Breakfast, farmstay and guesthouse accommodation.  
www.totaltravel.com.au/travel/nsw/northcoastnsw/coffsharbour/directory/bedbreakfast - 62k - Cached - Similar pages

**North Coast Bed and Breakfast, Guesthouse & Farmstay Accommodation ...**  
With it's elevated aspect and... Coffs Harbour Bed and Breakfast, Farmstay, Coffs Harbour, North Coast, New South Wales ...  
www.totaltravel.com.au/travel/nsw/northcoastnsw/directory/bedbreakfast - 70k - Cached - Similar pages

Source: Google; local relevance of search results



# UPDATE “THE ART OF MEMORY”



We should (provocatively) go back to the study of mnemonics – science focusing on how memory recalling works – seeking to update it

## Oral culture



Learn the rules

## Written culture



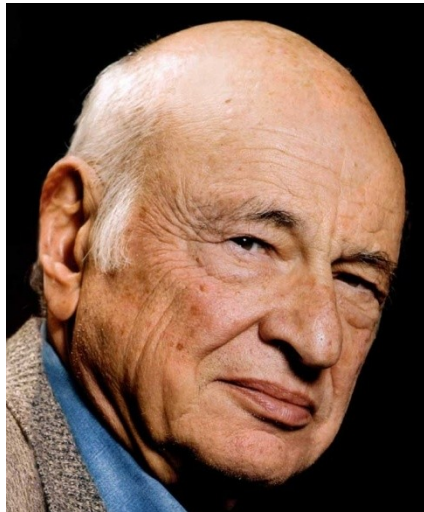
Refer to logarithmic  
tables

## eCulture



Press dials on a  
calculator

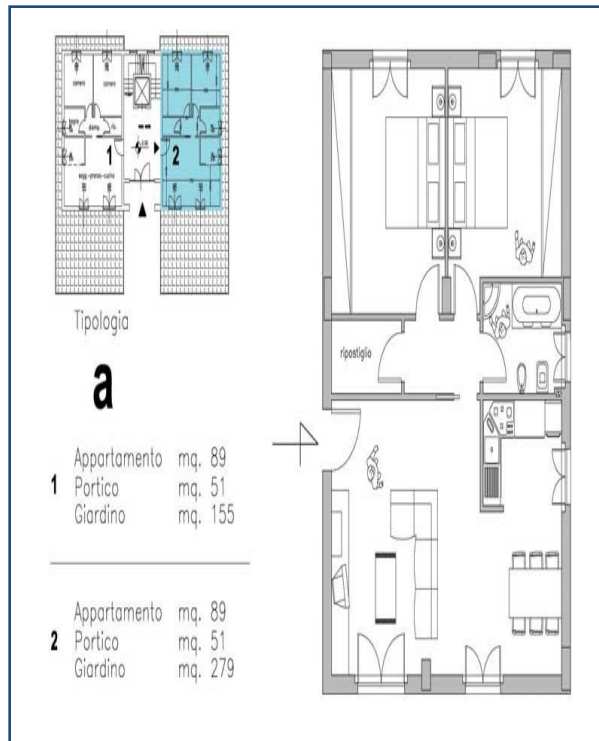
“Literary creation is the **assembly of a mosaic**”  
(Jean-Paul)



“It’s necessary to develop the natural attitude of the human mind to **locate information in a context and in a set**. It’s necessary to teach methods enabling the **awareness of mutual relationships and influences in a rather complex world**” (Edgar Morin)

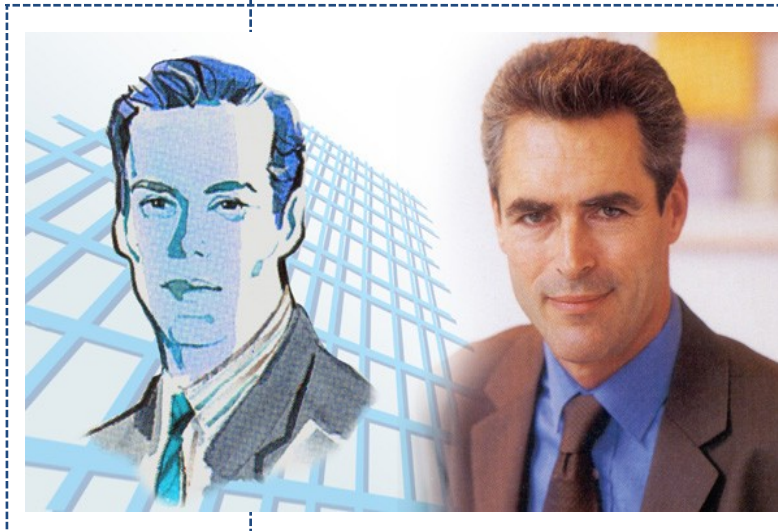
## Real world

## “Digital and virtual space”



## “Digital Self”

## Real self



# WHY A DIGITAL SELF?



Our experience is more and more influenced by the way we interact in the digital world

We need a lasting way to store memories and knowledges, and organize them in efficient ways

Information proliferates, but is more and more perishable and hardly accessed



We can't delegate (or trust) the Internet for the **storage** of our knowledge

There's no such thing as a **unique classification** suitable for all needs and people



We can't delegate (or trust) the Internet for the **organization** of our knowledge

# PROPOSED APPROACH

The transition from an oral cultural (Homer) to a written one (Plato) changed the man, specifically **the role of memory and the learning processes**

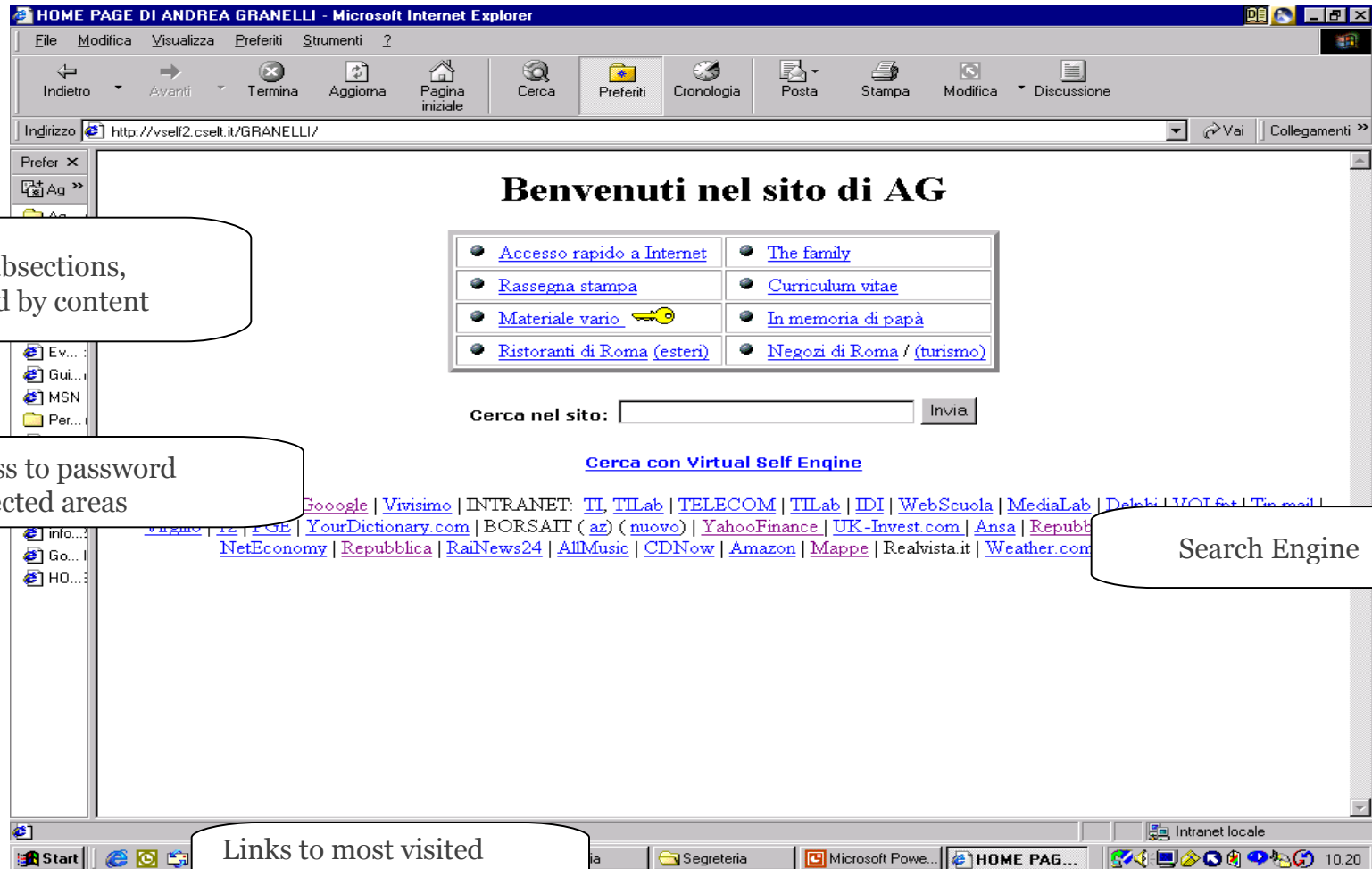
Likewise, the advent of eCulture (informatics and the Internet) brings on the change in human nature, both physiologically (the role of the memory) and anthropologically (organization of knowledge). The generation of new content, therefore, can't focus only on production-related aspects, but must also consider the way in which the man-receptor **stores and organizes its knowledge**.



Each and every learning process (reading, attending a lecture, visiting a museum, ...) should leave **modular memory traces** in the Digital Self, for **further elaboration and classification**

The re-arrangement of these traces, removed from their physical and logical context, will follow the associative structures of the Digital Self, **improving the awareness** of mutual semantic relationship and **enabling an incremental accumulation** of meaningful knowledge

# PERSONAL WEBSITE AS A DIGITAL SELF: AN EXAMPLE



# PERSONAL WEBSITE AS A DIGITAL SELF: USAGE DATA

- Very long lived: from electronic archive (1983) to personal website (1995)
- Private (password protected) and public sections
- 2.4 GB and 6.652 files as of November 2011 (44.3MB in 2001: +6000%)
- About 1.300 book excerpts; about 2000 aphorisms collected
- Always on – anytime, anywhere
- 24/7 backup service
- Available as offline collection of files (to synchronize with the online version)
- Allows for infinite printing of documents, or exporting to eReaders
- Continually updated and re-organized
- Search Engine
- Integrated with the webmail

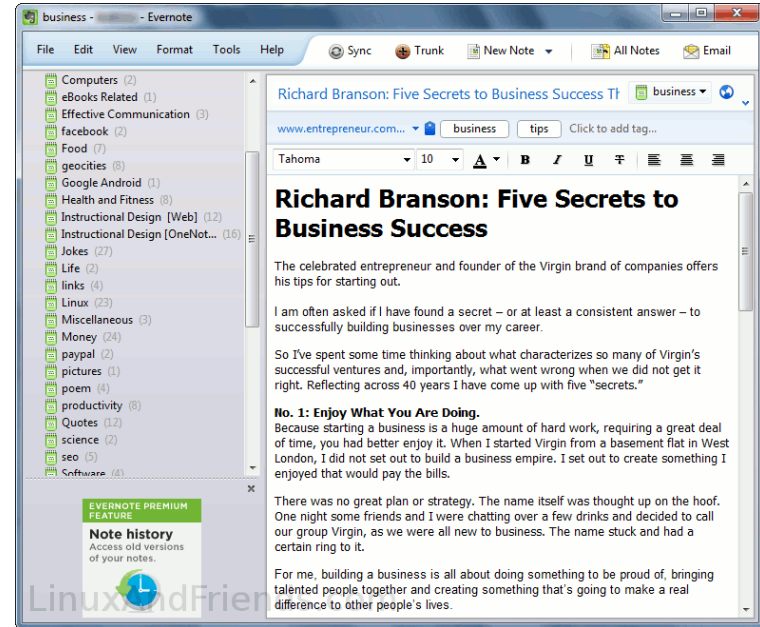
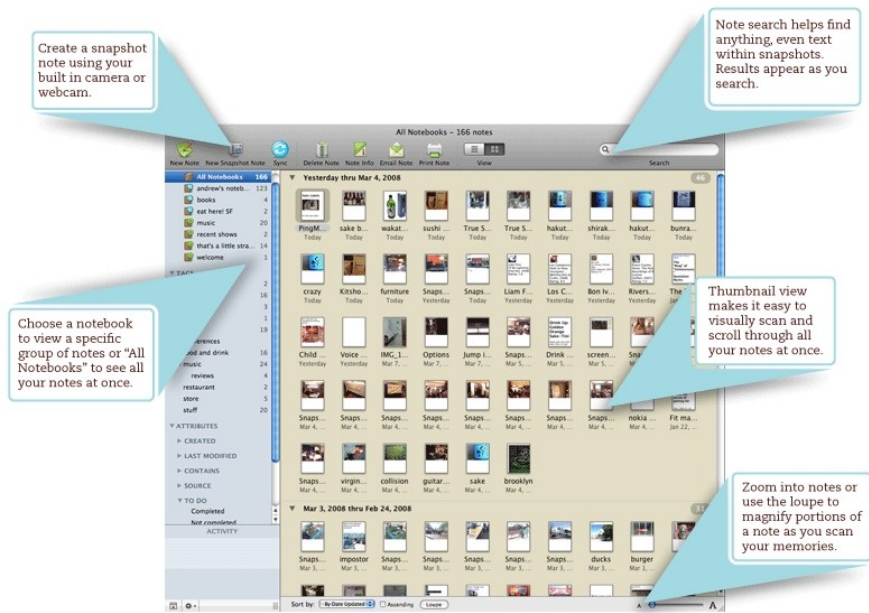


- *A Digital Self forces the synthesys, structuring and organization of information*, facilitating a **cumulative knowledge** by removing the “narrative customization” and enabling the “collection of ideas” performed by Pliny in his “*Naturalis Historia*”
- It allows for a “**Parking Area**” *for memory traces* – data and notes “continually worked on” (therefore not storable in their current form) – thanks to its uniqueness and availability
  - It supports the **re-organization of sparse, heterogeneous information**, related to “**new phenomenons**” (i.e. trends, movements, ...) and coming from different sources (i.e. magazines, free press, TV news, ...)
  - It powers a true “**Wit machine**”, a systematic and operational collection of “**thoughts that are thought**”, allowing for the organization of the “**everyday writing**”
  - It enables an “**aware forgetfulness**”, freeing temporarily the user from the burden of remembering non relevant information
- The growth in size of the Personal Site becomes **a reification of the user’s cultural growth** (as defined by Husserl)

- ***It supports e-learning:*** the insertion of a new concept in the “digital memory extension” forces two basic cognitive operations:
  - Definition of a prevailing thematic area;
  - Homogenization with the contents already present in the area;
- It empowers the ***immersive but erratic reader:*** it removes the necessity to open already read books, while allowing for truly synoptic views of groups of books, or multiple copies of interesting excerpts – to be shared or written on
- It enables an ***“eternal” retaining of relevant information*** – such as books/articles references, ... - despite the transient nature of online information and links
- It enables an ***“eternal” retaining of personal taste***, counteracting the risk of forgetting things we liked (book, songs, restaurants, hotels, quotes, ...) – something like Real Life Bookmarks

- A Personal Website as a Digital Self provides **different means of information retrieval** (thanks to multiple categorizations and the availability of a search engine): by topic (subsections), by title (e.g. list of books), by association (through hyperlinks), by exact word or phrase (search engine)
- It continually **stimulates the memory**, fostering the emergence of relationships between logically related materials, avoiding forgetfulness
- It may become **a practical mean to organize everyday life**: to-do lists (the so-called prospective memory), shopping lists, upcoming events and meetings, permanent contact list, guests lists, lent things, ....
- It helps improve the **management of personal relationships** (through contacts grouping)

# EVERNOTE: ANOTHER EXAMPLE OF DIGITAL MEMORY



- Evernote supports the **collection, elaboration and retrieval of sparse and heterogeneous memory traces**, likewise the abovementioned Personal Website
- Its main strength is the **multichannel approach**: input excerpts may come from a variety of sources (web, camera, ...); data are accessed through the browser, an ad-hoc desktop client, and a smartphone app

