Processing data streams by relational analysis

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Plan

- Introduction
- Tetralogie
- Proposition
- X-Plor
- Conclusion

In the **business intelligence (BI)** context, the majority of the strategic information comes from **relational** sources and the relevance of extracted knowledge usually depends on considering **data evolution** and their interactions

The multidimensional approach (nD) may bring forth a solution to identify and understand the underlying structures or strategies. But non-expert users get easily lost.

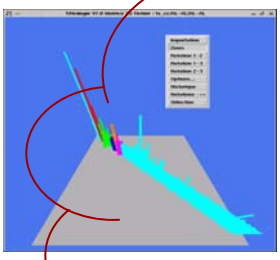
We have already a platform called **Tetralogie** that is specialized for strategic scanning and another tool called **Xplor** which is dedicated to business intelligence. As a consequence, we provide a **unified system to generate** and manage relational data and extract implicit knowledge, whose content and format are adapted to decision-makers that are not experts in nD or BI.

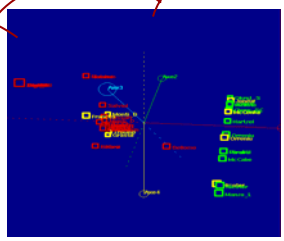
Tetralogie is a tool particularly adapted to the macroscopic analyses *(Dousset, 2003),* from a corpus of documents collected for a precise subject. It is able to detect:

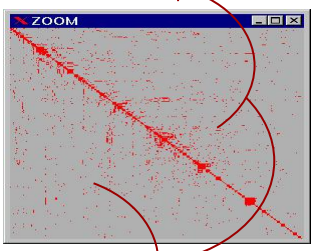
- Strong signals ,
- Weak signals ,
- Significant tendencies .

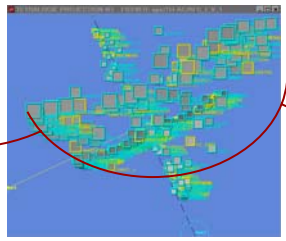
The elaborate information results, represents a synthesis obtained by various methods of data analysis and diffused via graphic visualizations

Tétralogie output visualisation







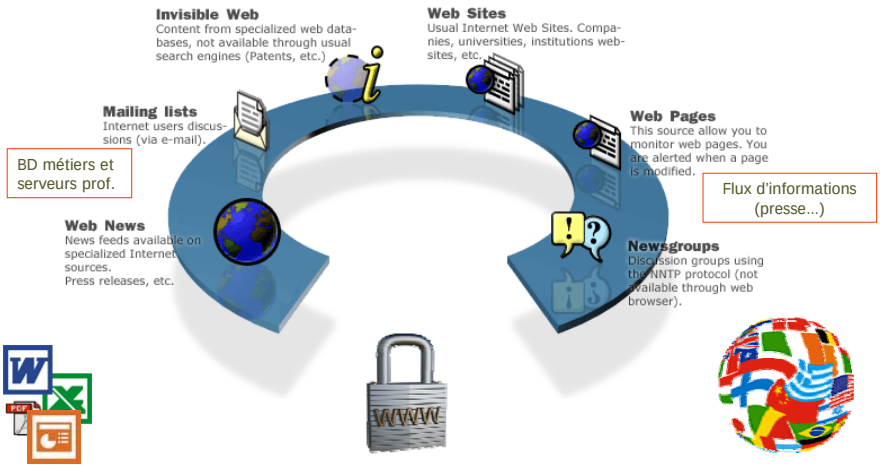


global strategic Aspect

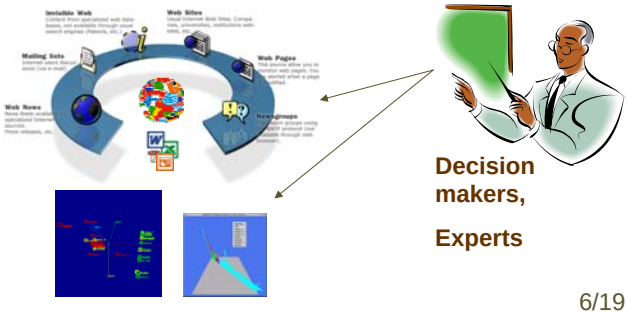
System Xplor with perspective to **automate the on-line processing of relational information** and to propose analysis and navigation tools oriented to **business intelligence** (BI).

- System provides strategic analyses on corpora of textual information resulting from the most various sources.

Information sources :



Enables **decision makers** to perform their own **queries** and to interpret graphical output without the need for an **analyste**.



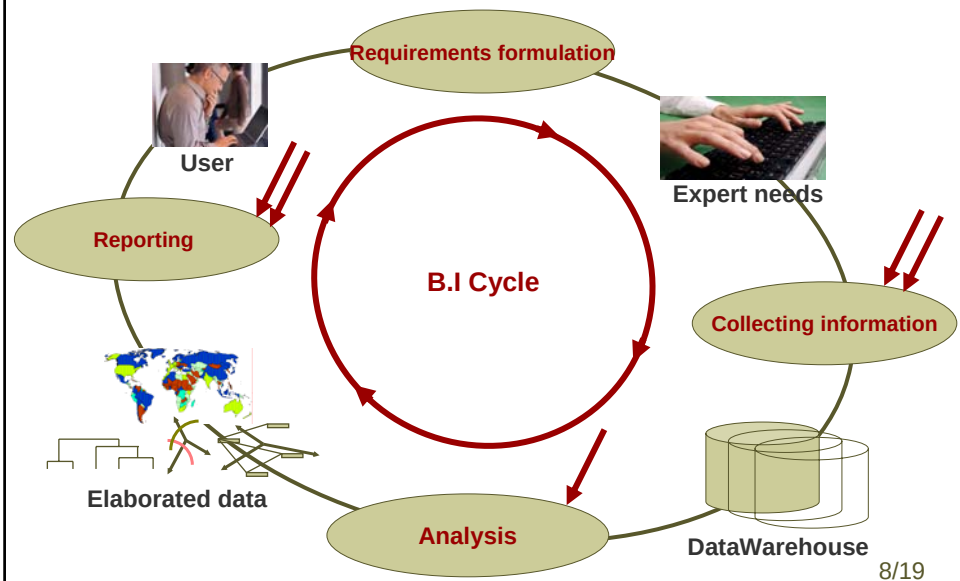
Decision makers,

Experts

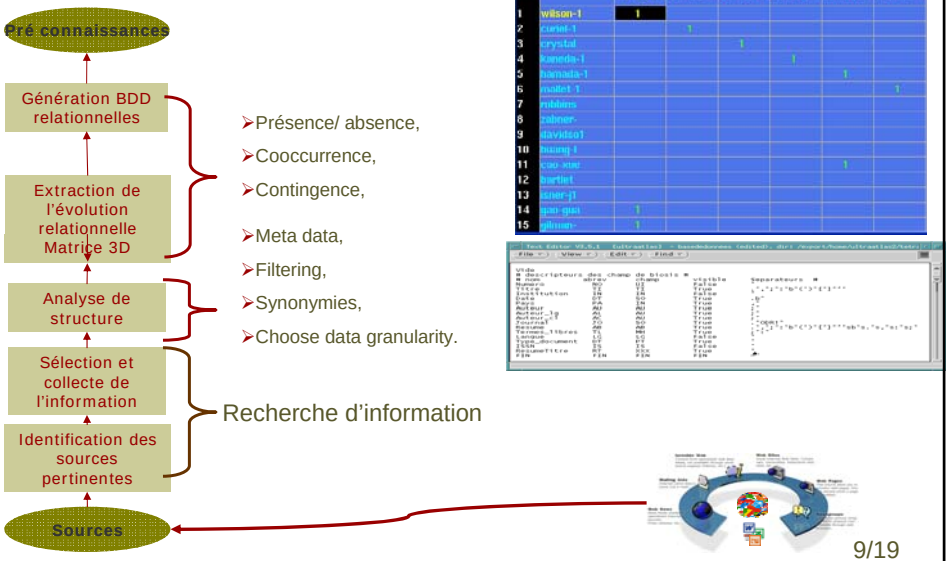
the BI is defined as the group of the coordinated actions for research, treatment, distribution
and protection of information that are useful for the economic actors, taking in consideration their individual and collective strategies.
According to the report Martre

- **Business intelligence (BI) tools** enable organizations to understand their internal and external environment through the systemic acquisition, collection, analysis, interpretation and exploitation of informations (Chung, 2002).

Exple: analyse de dépôts de brevets



Collecting information:



Reporting:

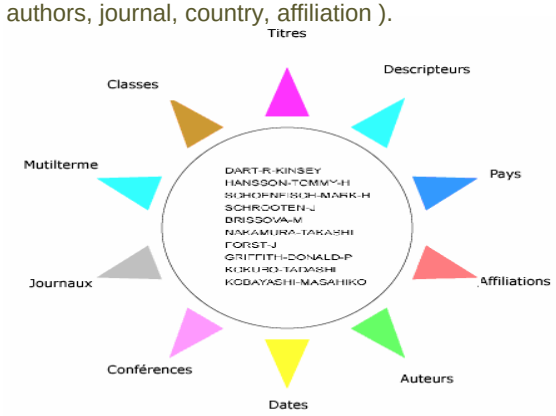
The "reporting" functions are essential to accomplish successful production presentation in BI and to convince the decision makers by a readable, relevant and concise document.

We have displayed reporting results in different diagrams:

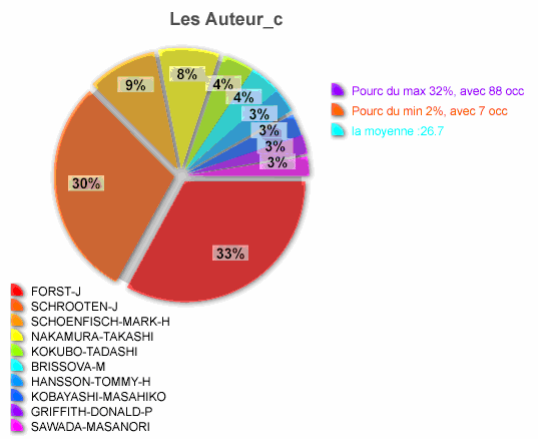
- Stars,
- Evolutionary 2D and 3D histograms,
- Comparative or cumulative 2D and 3D histograms,
- Geographical charts ,
- Relational graphs ,

Experimentations:

The star represents the analysis theme (authors) that is extracted from a relational database, and shows all the elements related to them in function of date (publications, authors, journal, country, affiliation).



Expérimentations:



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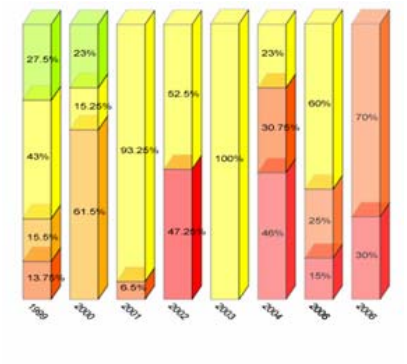

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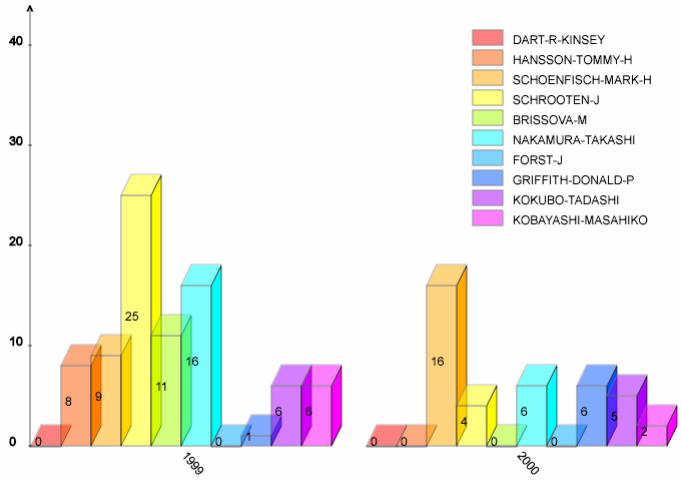

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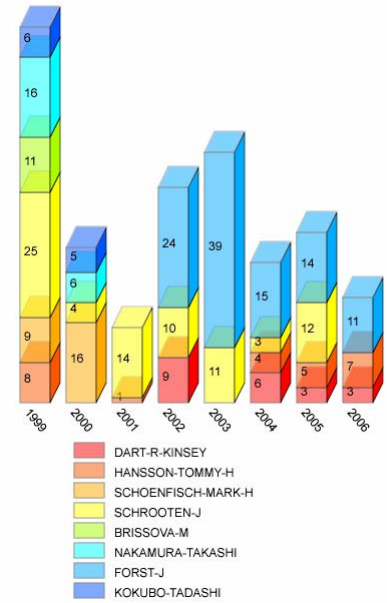

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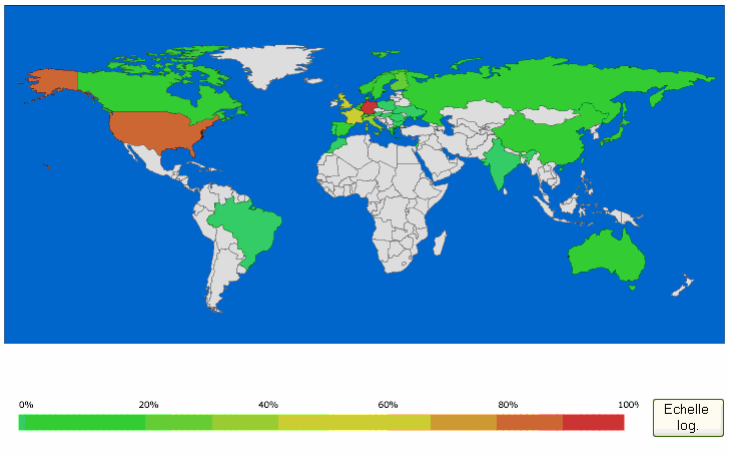

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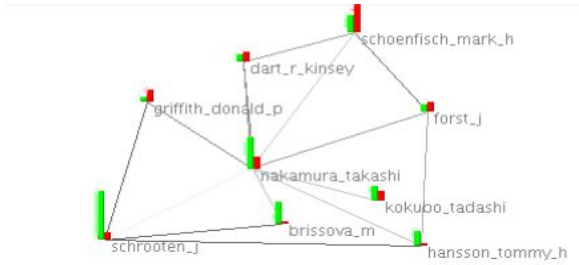

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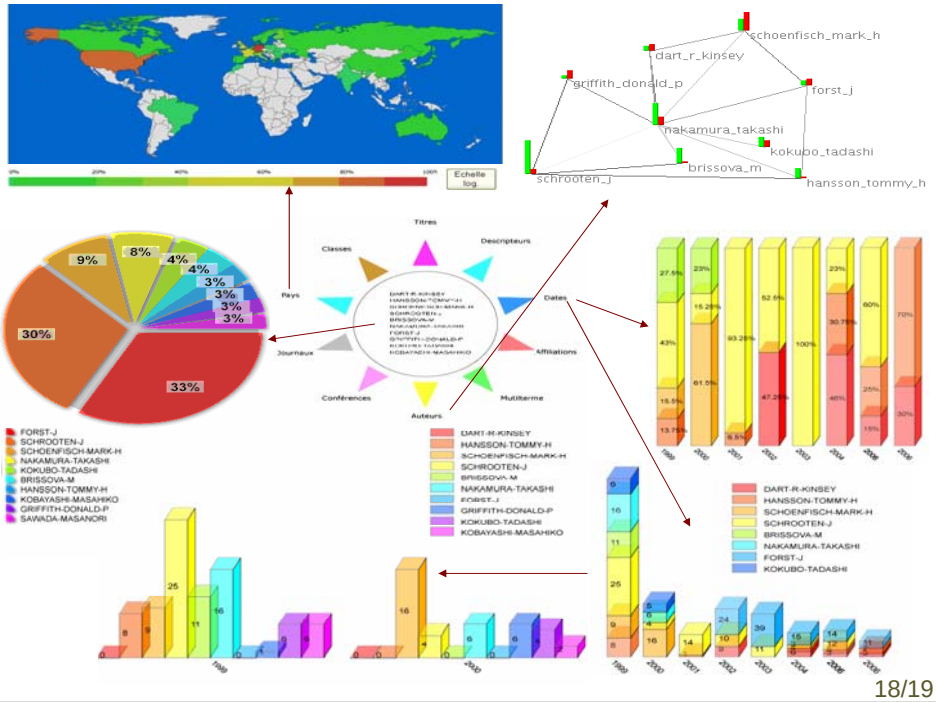

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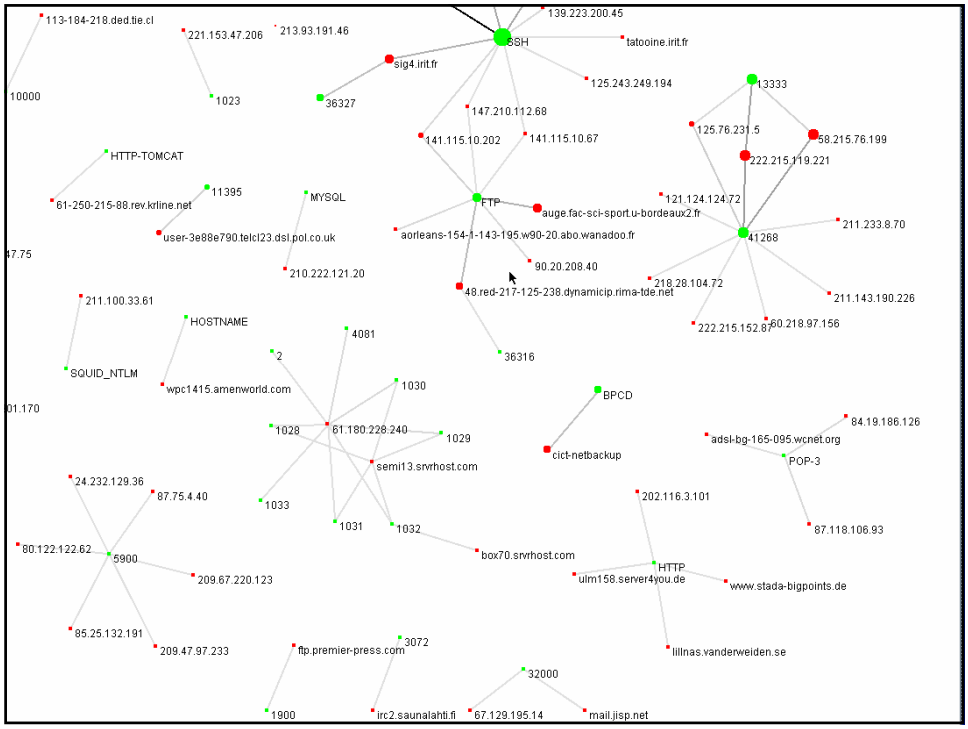
Experimentations:

Num: 1
Number: 9328
Date: 5Feb2007
Nomjour: lundi
NumJ: 5
Mois: Feb
Annee: 2007
Time: 2:17:39
Heure: 2
Minute: 17
Seconde: 39
Source: AOrleans-154-1-143-195.w90-20.abo.wanadoo.fr
Destination: atlas-dmz
Service: ftp
Action: Accept

Experimentations:

Num: 8
IP: 88.121.182.114
Jour: Mardi
J: 30
Mois: Jan
Annee: 2007
Heure: 01
Minutes: 13
Secondes: 01
Fichier: /IMAGES/firework/FLACCUEIL1.gif
ER: 200 2536
Tps: 1



Perspectives:

- continue experimenting,
- Formalize data stream model for our system.

Choo, C. W. (1998). “The Knowing Organization”. Oxford: Oxford University Press.

Dousset, B. (2003). “Intégration des méthodes interactives de découverte de connaissances pour la veille stratégique“, Mémoire d’habilitation à diriger les recherches, Université Paul Sabatier, Toulouse.

Thank You