Reimagining organizational data: Examples from IBM Research

Advancing the Study of Innovation and Globalization in Organizations
May 29 & 30, 2009
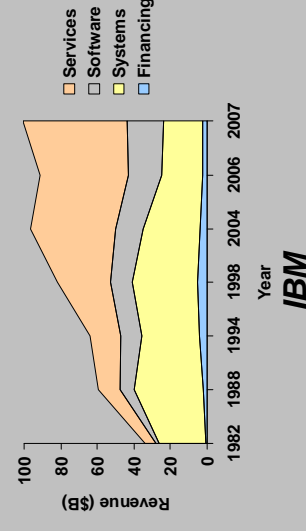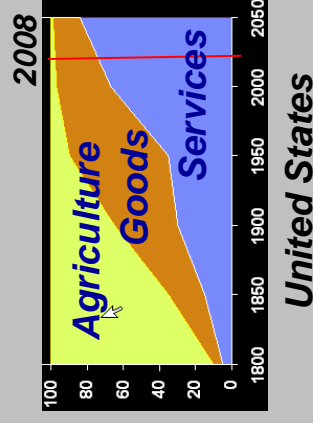Jeanette Blomberg
IBM Almaden Research Center

IBM Research – The changing landscape

Emergence of the globally distributed and extensible enterprises (Not just large businesses and large institutions)

Shift to service economy with implications for a *service dominate logic* (economic exchange focused on co-creation of value in service exchange)

Challenge and Opportunity

- Economic value is derived through creation and exchange of ideas that occurs *across* organizations.

- Data infrastructures not in place to support the modeling and measuring of *idea co-creation within and across organizations*

United States

Agriculture
Goods
Services

1800 1850 1900 1950 2000 2050
2008

IBM

Services
Software
Systems
Financing

Revenue ($B)
100 80 60 40 20 0
1982 1988 1994 1998 2004 2006 2007
Year

Globally distributed and extensible enterprise

- Boundaries between organizations are blurred and permeable

- Requires a focus on what happens between organizations – the interstices

- Suggests social science research approaches geared to study *distributed organizations*

- IBM case

  - Estimates are that 40% of IBM employees do not work from an IBM office (mobile, work from home or work from client site)

  - Many employees have never met their manager or the other people they work with face-to-face.

  - Many employees interact with clients and the clients' customers as much if not more than with co-workers

Service Dominate Logic Concepts and Challenges

Concepts

- The customer is a co-creator of (economic) value

- Value is realized when the service offering is used — experienced

- Goods (technologies) are appliances in support of service delivery

- The application of skill(s) and knowledge is the fundamental unit of exchange

From Vargo and Lusch, 2004

Some Key Challenges

- Measuring the *value* of **intangibles** in service exchanges

- Transferring **tacit knowledge** across **cultural** and organizational boundaries as part of a service encounter

- Innovating within the context of the **service relationship** (extra-organizational)
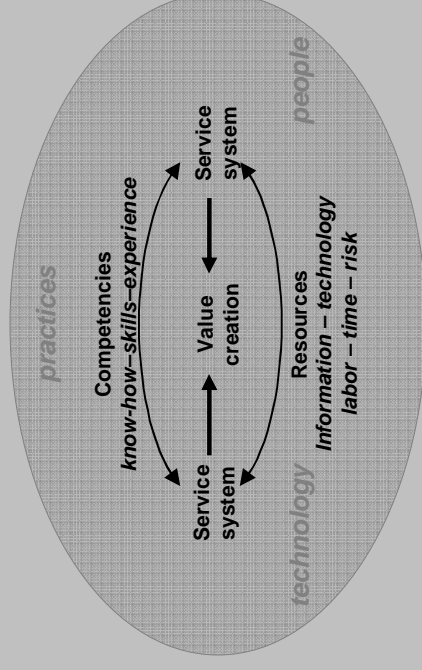
Repurposing Digital Artifacts: Organizational Archaeology

- Materials created as a result of everyday organizational activities and processes
- Metrics used to evaluate and motivate organizational activities and processes
- Networks of relations among people and things that are created as a result of the operations of organizations

Inter- & intra- organizational relations

- Focus on interactions among people, technologies, organizations & enterprises that
  - ▸ integrate resources and competencies in the context of the "service" exchange
  - ▸ enable relationship formation
- Model the dynamics of client-provider service interactions over time.

practices

Competencies
know-how–skills–experience

Service
system

Value
creation

Service
system

people

technology

Resources
Information – technology
labor – time – risk

Fringe – Enhanced Directory and Social Networking Application

Aggregated information
- Auto-populate profiles to reflect activity from other systems (blogs, bookmarks, publications, patents, etc...)
- Reduces need for people to maintain their profile with timely information

People tagging
- Employees publicly tag one another
- Aggregated tags serve as both personal classification as well as grounding for improved expertise search

Aggregated social networks
- Merge explicit networks (like Facebook) with *implicit networks mined from artifacts*

BIW Analytics Technology – COrporate Brand and Reputation Analysis -- COBRA

http://www.almaden.ibm.com/asr/projects/biw/biw-index.shtml

- Combines unstructured and structured information to discovery insights in one platform
- Contains General ETL, data warehousing capability for unstructured and structured data
- COBRA application – An end-to-end social media mining solution with comprehensive analytics

Analytic Dashboard

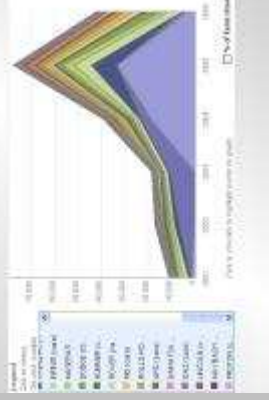*Analysis and Visualization*

Analyze Alerts Groups

Sentiment by Models

Alert Trend

Analyze Identify Alert (s)

Weak Base Alert

Strong Alert

Dynamic Analysis

Static Analytics

Alerts

Content Loading

Data Extraction

Data Transformation

model & mappings

Data Loading

XML

*Source Acquisition*s

List of Blogs/ Boards

Persistence Queries

Information Extraction

Targeted Websites

News Feed / Wires

Internal Customer Data

Social Media Online News

Many Eyes data visualization: Scaling data and/or the audience

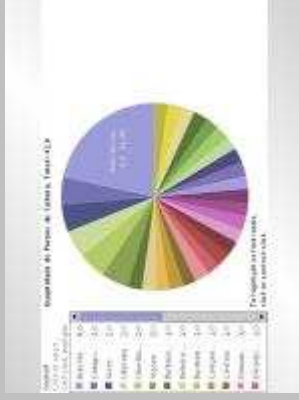http://www.research.ibm.com/social/projects_manyeyes.html

- The power of human visual intelligence to find patterns.
- Creating representations to think with
- Collective insight about data
- "Democratize" visualization and to enable a new social kind of data analysis.
- Collaborative sense making – externalizing the analytic process
  - ▲ Defining and restricting the audience

Stack graph

Pie chart

Treemap (2 types)

Bubble chart

World map

Tag cloud

Contact: Martin Wattenberg <mwatten@us.ibm.com>

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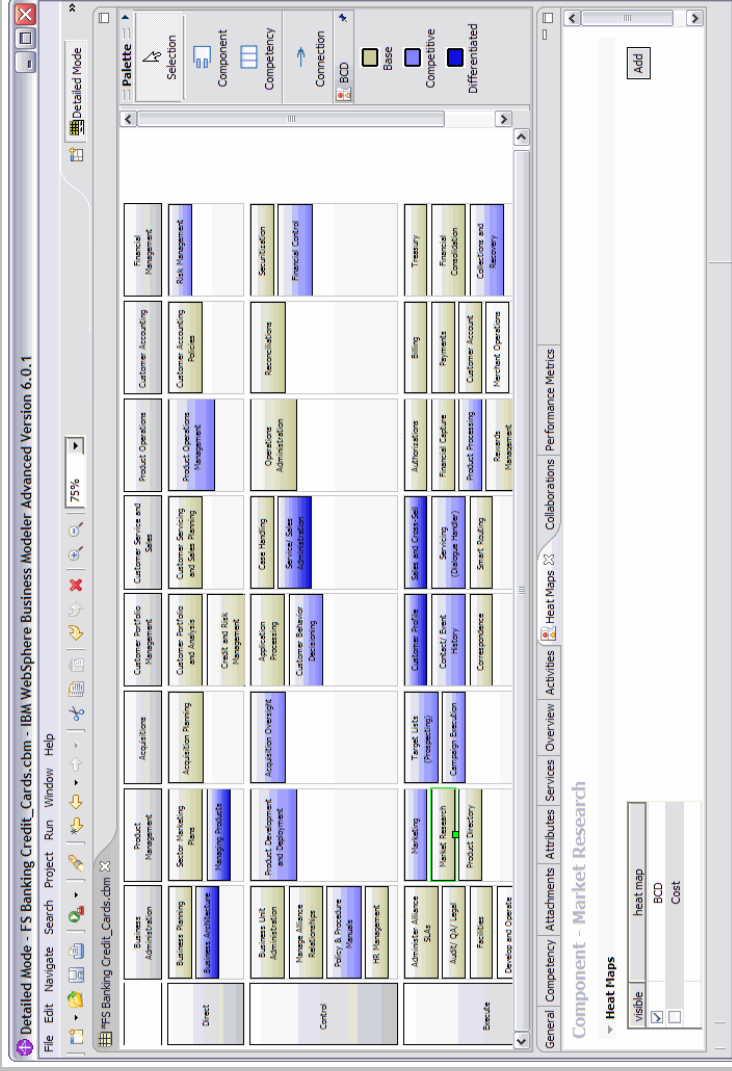
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Component Business Model – Experience and Know-how from Thousands of Client Engagements

■ A structured approach that helps decompose businesses into components and build business architecture

■ Systematic classification of diverse industries – component by component, measure by measure

■ 70+ CBM maps supporting 17 industries (23 enhanced with key performance indicators)

Component Business Modeling tool 3.0

A component is defined as a group of cohesive business activities supported by appropriate information systems, processes, organization structure and performance measures.

Contact: Jorge Sanz   <jorges@us.ibm.com>

Duel Agenda of IBM Research – Research about organizations and analytic techniques and approaches to aid organizations

Challenges

- Social issues of privacy, secrecy, trust, and competition

- Technical issues of finding, preparing and linking disparate databases

- Interpretive issues of making sense of the analyses and visualizations

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