Creating the KM System Blueprint (T)

- Develop the KM Architecture
- Understand and select architectural components
- Design for interoperability, performance, scalability, user interfaces
- Repository life-cycle management
- Build-or-buy decisions and tradeoffs
- Future-proof the KM System
For Sustainable Competitive Advantage

• Systems that create, locate, capture, share K and bring that K to bear on new problems and opportunities in timely manner

• Real world – fragmented K; extremely difficult to find or share; contains inconsistent, redundant and disused K

• Whither the “stable” blueprint of KM
Lost Opportunities and KM Systems

- Traps to avoid: trying to explicate K that is not explicable; failing to explicate K that should be converted from tK to eK.
- Constraints of time and money – kinks
- KM system serves as an enabler for K sharing and links people, processes, culture and values
- The CYC project [http://www.cyc.com](http://www.cyc.com)
Knowledge Management Architecture (KMA)

- IT as an enabler for sharing, application, validation, distribution of K
- Challenge – which K should be made eK and which best left as it is tK???
- Rich media and rich communications  ???
- KMA Components: Repositories, Collaborative platforms, Networks, Culture
The Knowledge Repository

- Information repository vs. K repository
  - Issues of content, context, and community
- Distributed content repositories – linked into an integrated repository
  - Show example 1
  - Show example 2
- Content provides the context – missing element ??? – most important
The Knowledge Repository

- **Declarative K**
  - Significant and meaningful concepts, categories, definitions, assumptions

- **Procedural K**
  - Processes, sequences of events and activities, actions

- **Causal K**
  - Rationale for decisions made or rejected or not made, eventual outcomes, and associated informal pieces (post-hoc analysis)

- **Contextual K (very important)**
  - Circumstances, assumptions, results of assumptions, informal stuff – video clips, annotations, notes, conversations

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The Knowledge Repository

- Transparency of backend databases and data warehouses, versioning control, authoring controls, date controls
- What is valid vs. what is invalid?
- ‘Old news’ versus ‘Hot Insights’
- Conversation with a Publisher – who is ‘time shifting’ content – “timeliness, validity, truth value”
Integrative Repositories

- Integrative repositories – top-down control – more loosening of control – more difficult to retain the structure
- E.g. AA Knowledgespace – 3,000 repositories of Lotus Notes databases – conversation with a consultant in Latin A.
- Managing content – addition, renewal, deletion, validation, versioning
  - Who does it?
  - How it will be done?
  - How frequently it will be done?
Content Centers

- Functional
- Business Intelligence
  - Who says what about whom
- Public, Trade and professional organizations, Investors and government agencies
- Knowledge Aggregation and Mining
Relating Information, Knowledge and Performance

Problems with “hits” in databases

How to get “meaningful” information that can facilitate “action”?

Role of computers, humans and agents?
More on Repositories

- Knowledge aggregation and mining
- Pattern recognition, agent-based retrieval, and thesaurii
- What is “KM Consulting” ????
- Who should have ultimate choice of:
  - What is served as valid K?
  - How it is served?
  - How often it is served?
More on Repositories

• Skill Databases to K Directories
• Automated Categorization e.g. Autonomy
• Personalized Content and Push Delivery
• Use of Profiles or ‘snoop’ technology
• Amazon.com and Carl Uncover  ???
• Botspot - intelliseek, matahari, enfish
Collaborative Platform

- Collaborative filtering
  - Active versus Automated, combination
- Community Centered filtering
  - Epinions.com
  - Comparing car seats and cars on epinions
- Meta Knowledge – K about K
- Multiple degrees of context – “loose” interpretations of information
  - How IT can help
  - Technology Choices
Integrative and Interactive K Apps

- Integrative view and interactive view should operate simultaneously
- Explicated content vs. Explicitly Captured Content
- Integrative App Support – for evaluation, interpretation, and adapting K
- Top-Down vs. Bottom-Up, Prosumers of K, contrast with e-publishing

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Interaction Complexity for K Apps

• As interaction complexity rises, biggest challenge is making the interactive KM components of system more social, cognitive, and behavioral and less technical in focus
Non-Routine
Increasing Returns

From Routine to Non-Routine

From Hi Structure to Lo Structure

Hi Structure

Lo Structure

Stable

‘White Waters’

From Stable to ‘White Waters’
(Speed, Range)

KM for Whitewaters

Dimensions of KM Performance

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e-Business Model Innovation

RADICAL DISCONTINUOUS CHANGE

DESIGN FOR AGILITY, FLEXIBILITY AND ADAPTABILITY

e-BUSINESS TECHNOLOGY ARCHITECTURE

e-Business SERVICES ARCHITECTURE

BALANCE TIGHT INTEGRATION OF e-TECHNOLOGY WITH ADAPTIVE INTEGRATION OF e-SERVICES

TIGHT EFFICIENCIES OF SCALE & SCOPE

ADAPTIVE AGILITY & FLEXIBILITY

INTEGRATION OF DATA, ACTIVITIES & PROCESSES

PROCESS REENGINEERING WORKFLOW REDESIGN AUTOMATION

BUSINESS MODEL INNOVATION FOR ‘RE-EVERYTHING’

Detect & Correct

Sense & Respond

CREATIVE ABRASION & CREATIVE CONFLICT

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More Stuff

• Build or Buy – No one answer
• Interoperability – Integration – Big issue
• Performance and Scalability
• User Interface Considerations
  – See useit.com
• Network View of KM
• Future Proofing of KM Systems
• On RDF, KQML and PICS  ????
Developing the KM System

- Channels for tK and eK
- tK – Information – tK
- Contextual Expression at the Interface
- Browser as standard with TCL/tk and KQML wrappers.
- Platform Independence
- [Un]learning from intranets ????
Developing the KM System

- Document Management through Interface layer
- DMA standards and WebDAV standards
- Customizability and Versioning Controls
- Virtual Private networks
- Biometrics and other security issues
Collaborative Filtering and Intelligence Layer

Tags and Meta Tags – RDF tags
Static to Dynamic Structures – Data finds you;
    Search finds you – contrast with traditional
    hyperlinks and 404s
Automatic Full Text Indexing
See searchenginewatch.com
Automatic Meta Tagging - how automatic ???
From Client/Server to Agent Computing
Mobile Agents and Push and Pull
Customer Driven
Virtual Communities
Supplier Coopetition in Business Ecosystems
Human Capital as Key Enabler

Cyber Corporation
Extended ‘Chains’
Tightly coupled

Industrial Age Corp.
Vertical
Fully Integrated

Product – From atoms to bits
Channel – From bricks to clicks
Processes – From BPR to e-Agility

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Rapid Fire Changes – IT Infrastructures

“The classic timeline of BPR – where consultants are brought in, models are drawn up, and plans are implemented gradually – just isn’t fast enough…”

“Many companies can’t go back to the ‘clean slate’ and completely rearchitect critical systems such as order fulfillment and product databases from the bottom up because they greatly depend on existing infrastructures.”

“E-Business is forcing companies to rearchitect all or part of their IT infrastructures – and to do it quickly.”

- Rapid Fire IT Infrastructures, Information Week, January 31, 2000
From Reengineering to “Re-Everything”

OLD

Technology Focus

Reengineering

Rationalization

Automation

NEW

e-Customer Focus

“Re-Everything”
Business Model Innovation

Reengineering … IT-intensive Radical Redesign
Rationalization … Streamlining Workflows
Automation … Replacing humans with machines
Categorizing KM Risks – Missing Dynamics

Hi

RISK

Lo

Lo

CONTROL

Hi

Customer Mandate

Scope of the Project

Environment

Execution
e-Biz (R)evolution

FROM COMPLIANCE TO COMMITMENT

External Controls for Compliance

Self Controls for Commitment

Knowledge Utilization

Pre-specification of rules, procedures and best practices

Self Control for Knowledge Utilization

‘Wicked’ Organizational Environment

Knowledge Creation

Self Control for Knowledge Creation

Stable and Predictable Organizational Environment

Human Capital as Key Enabler

Knowledge Creation

Customer Driven Virtual Communities

Supplier Coopetition in Business Ecosystems

Knowledge Utilization

KNOWLEDGE PROCESS

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