



## 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>



# 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**

## 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](http://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



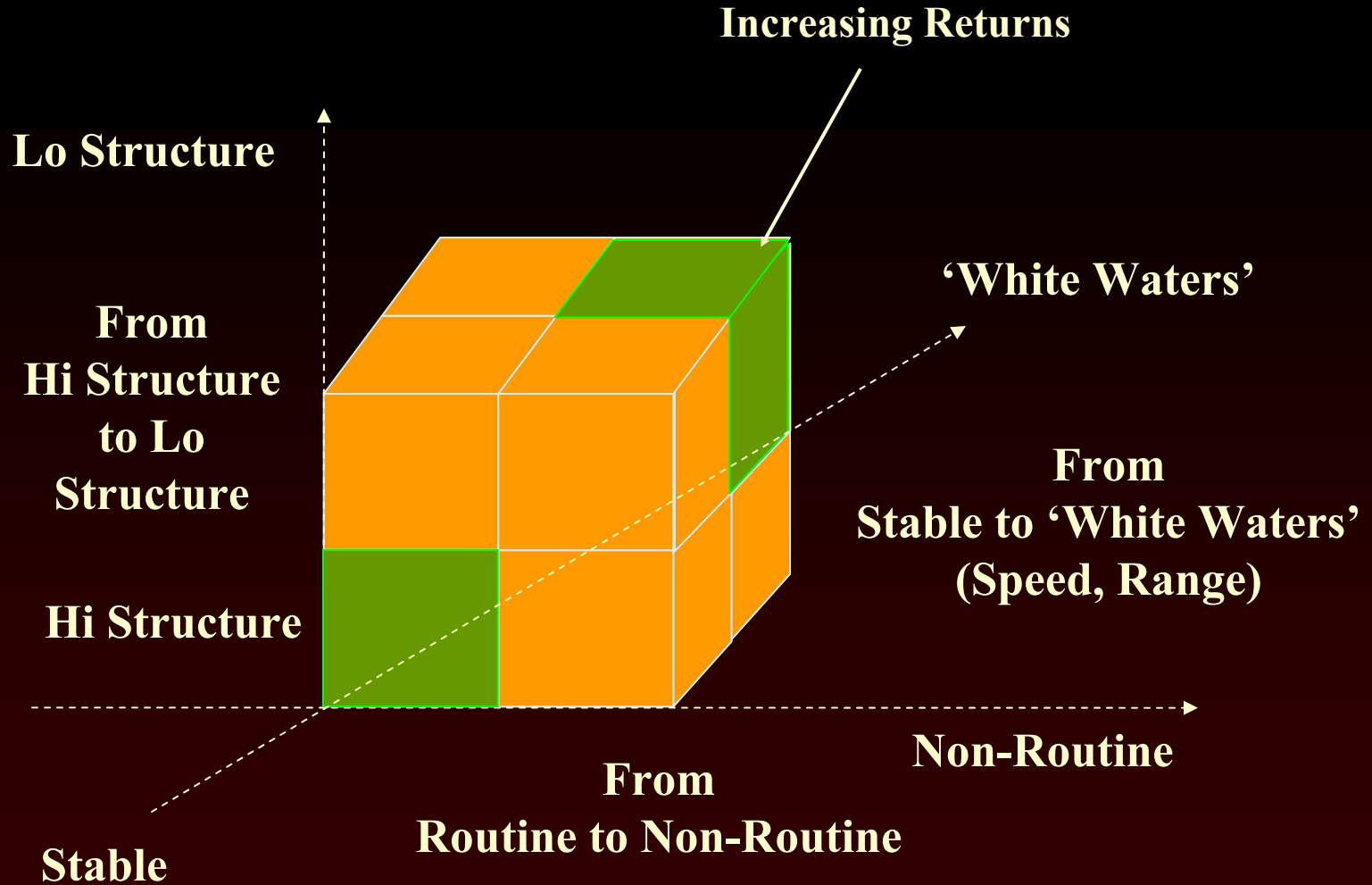
## Integrative and Interactive K Apps

- 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

## Interaction Complexity for K Apps

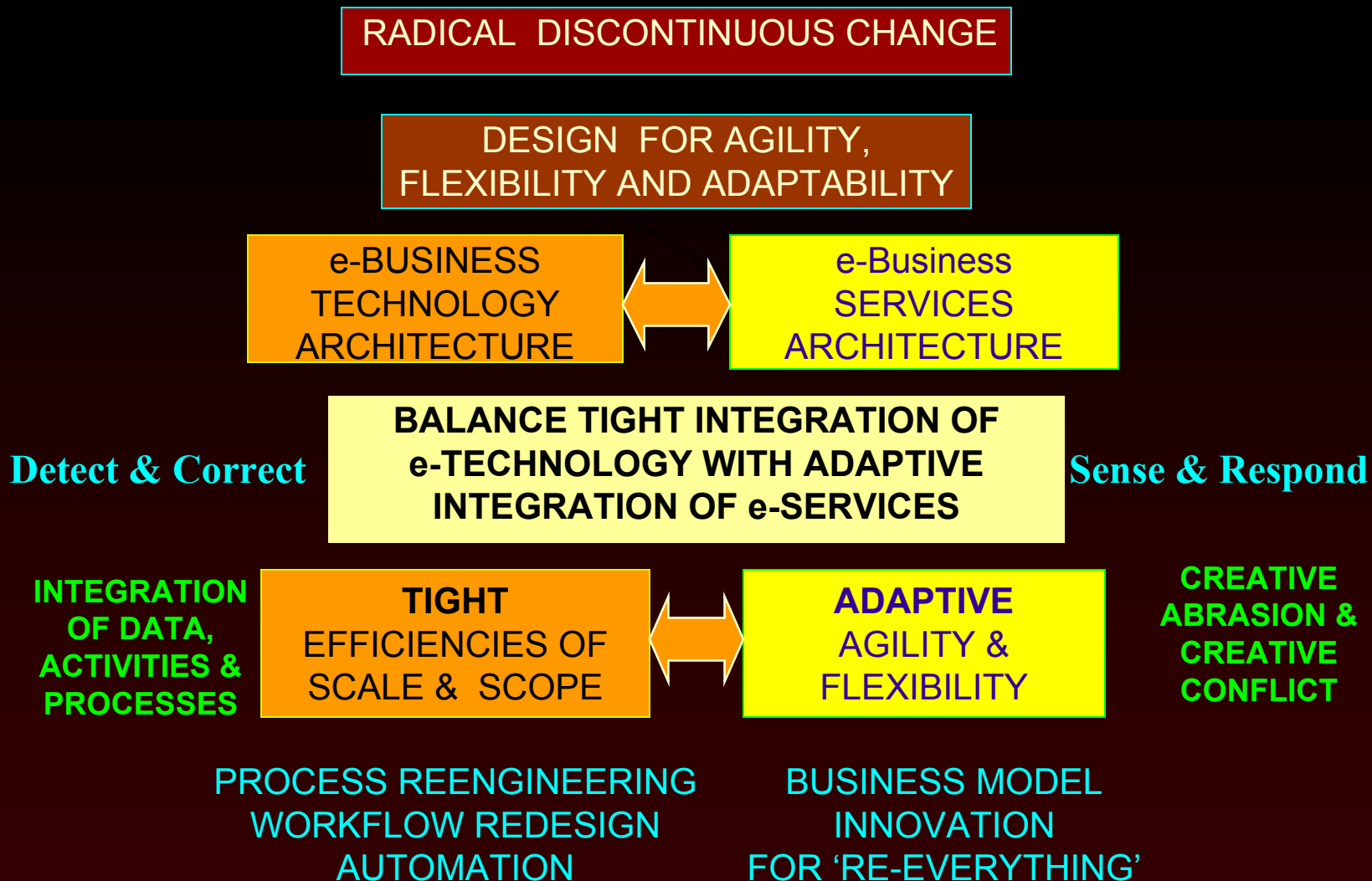
- As interaction complexity rises, biggest challenge is making the interactive KM components of system more social, cognitive, and behavioral and less technical in focus

## Dimensions of KM Performance





# e-Business Model Innovation





## More Stuff

- Build or Buy – No one answer
- Interoperability – Integration – Big issue
- Performance and Scalability
- User Interface Considerations
  - See [useit.com](http://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](http://searchenginewatch.com)

Automatic Meta Tagging - how automatic ???

From Client/Server to Agent Computing

Mobile Agents and Push and Pull

# *e-Business Performance*

**Customer Driven**

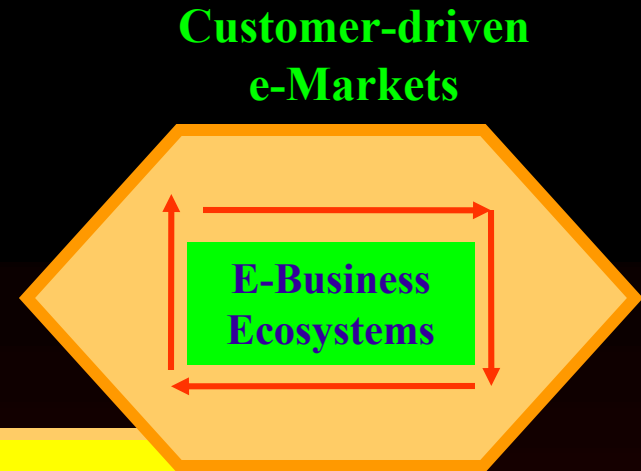
Service enhanced customization

**Value Creation**

**Supplier driven**

Mass production

**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

## 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

NEW

Technology Focus

e-Customer Focus

Reengineering



Rationalization



Automation



“Re-Everything”  
Business Model Innovation

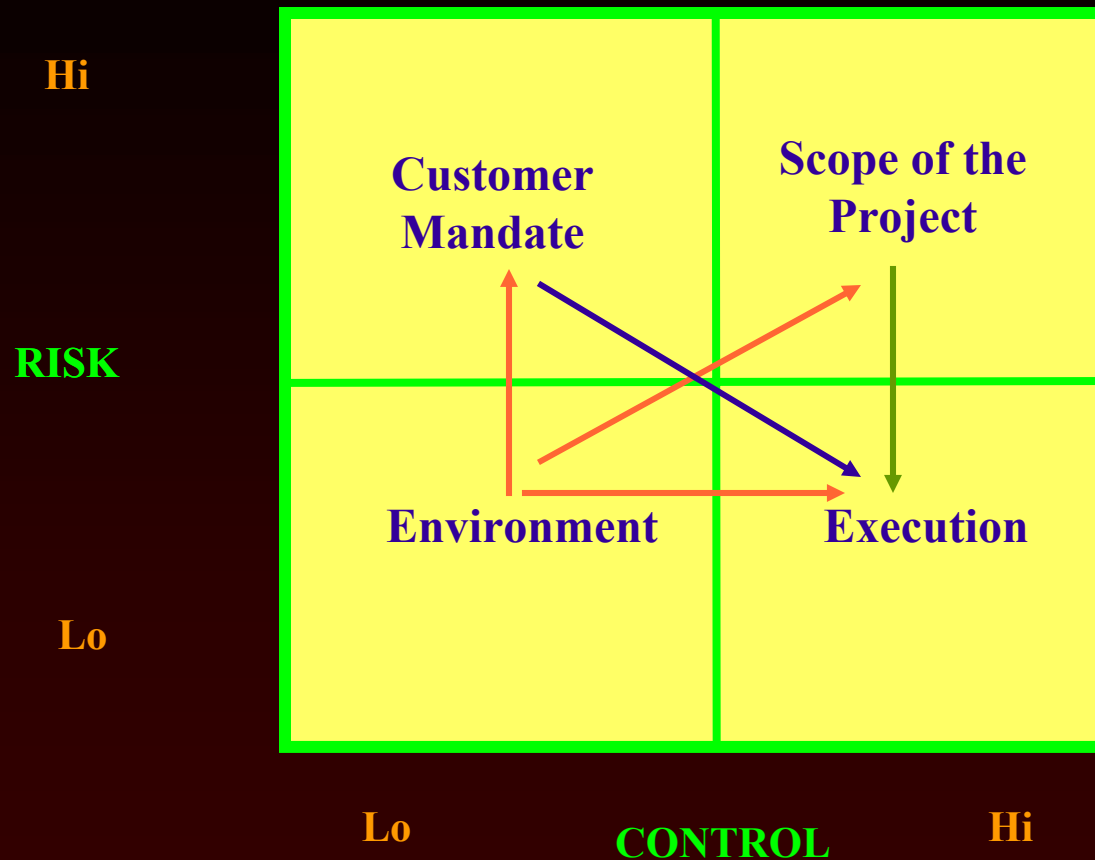
Reengineering ...IT-intensive Radical Redesign

Rationalization ...Streamlining Workflows

Automation ...Replacing humans with machines



# Categorizing KM Risks – Missing Dynamics



**Customer Driven  
Virtual Communities**

**Supplier Coopetition  
in Business Ecosystems**

**Human Capital  
as Key Enabler**



**FROM COMPLIANCE TO COMMITMENT**

**KNOWLEDGE  
PROCESS**

Knowledge  
*Utilization*

Knowledge  
*Creation*

External Controls  
for Compliance

Self Controls for  
Commitment

*Stable and  
Predictable  
Organizational  
Environment*

Self Control for  
Knowledge  
Utilization  
*'Wicked'  
Organizational  
Environment*

Pre-specification  
of rules,  
procedures and  
best practices

Self Control for  
Knowledge  
Creation