Technologies for Knowledge Management

WK-7
Technologies for Knowledge (D&P)

• KM is much more than technology
• “Techknowledgy” is part of KM
• Availability of WWW and Lotus Notes

‘Since knowledge and the value of harnessing it have always been with us, it must be the availability of these new technologies that has stoked the knowledge fire.’
HP and Knowledge Management

- Lotus Notes and WWW, common tools *
- Electronic Sales Partner system
- Metaknowledge, searching, browsing, access, archival and navigation
- Connex – Yellow Pages of experts
  - Human side and technical side *
- Trainer’s Trading Post – Notes – Reseller Info
- Common Set of Tools and Technologies
  - Word Processor, Presentation and Spreadsheets
  - DBMS, Search Engines, Communications Networks
Technology’s Most Important Role in KM

- Extending the reach and range
- Enhancing the speed of K transfer
- Extraction, Structuring, Codification, Generation
- Wide variety of technologies
- Combine with human-oriented KM approaches – dynamic K environments
Nonaka and Takeuchi (1995)

Tacit to Tacit – Socialization - P2P
Tacit to Explicit – Externalization – P2T
Explicit to Explicit – Combination – T2T
Explicit to Tacit – Internalization – T2P

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Knowledge Generation and Codification

- Knowledge generation
- Knowledge codification
- Knowledge transfer - spirals
- Tools
  - Data management tools- data warehouses, data search engines, data modeling, visualization
  - Information management tools - automated information search and retrieval agents, decision support technologies, executive information systems, document management technologies
  - Knowledge management
Humans Using Search Tools

- Search engines that allow for entry of new, relevant information into the system:
  - www.verity.com
  - www.agentware.com
  - www.fulcrum.com
  - www.grapevine.com
  - www.broadvision.com
  - www.info.com
  - www.datamindcorp.com
  - www.ideafisher.com
  - www.mindman.com

Examples of tools generally considered part of KM. Downloaded from a Google search.
Humans Using IT For Knowledge Codification

- Put knowledge in form that makes it accessible to those who need it
  - www.excalibur.com
  - www.documentum.com
  - www.filenet.com
  - www.thebrain.com
  - www.inxight.com
  - www.thinkingtools.com

Examples of tools generally considered part of KM. Downloaded from a Google search.
Humans in Knowledge Dissemination, Transfer

- Accelerate the spirals
  - Socialization-externalization-combination-internalization
  - Application - understanding - application - understanding
  - Motors for change
- Transmission and absorption
  - www.lotus.com
  - www.microsoft.com
  - www.rootlearning.com
  - Groupware
- Wholistic applications
  - www.inference.com
  - www.primus.com
  - www.knowlix.com
  - www.kanisa.com

Examples of tools generally considered part of KM. Downloaded from a Google search.

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Expert Systems and AI

- IT to capture and manipulate K?I?
- Overly high expectations and over hype
- Limitations of AI and Expert Systems
- Benefits of AI and Expert Systems ??
Non-Routine Increasing Returns

From Hi Structure to Lo Structure

Lo Structure

Hi Structure

‘White Waters’

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

Stable

From Routine to Non-Routine

Non-Routine

Dimensions of KM Performance

KM for Whitewaters
AI, Expert Systems and CBR

- McDonnell Douglas – Landing Planes
- CBR – Customer Service Database
- Rule Based Systems and Qualitative Text Analysis Based Systems
- Role of technology vs. role of people
- Videoconferencing, telephone, PCs
- Data Management vs. K Management
- How about C Management???
State of K Technologies

“The concept of KM technologies is not only broad but also a bit slippery to define”

- K Repositories, Intranets, Portals ??
- Human brokers and Artificial brokers
- WWW and Lotus Notes – Beyond ??
- AA KnowledgeExchange – Future?
- Hoover et al., WebLuis, GrapeVINE ??
- K, Meta-K, XML, DAML, Beyond??
- On-line thesaurus – how about misspellings?
Knowledge Technologies Enabled by Humans

“While technologies designed for managing data are structured, typically numerically oriented, and address large volumes of observations, knowledge technologies deal most frequently with text rather than numbers, and text in relatively unstructured forms, such as clauses, sentences, paragraphs, and even stories.”
Broad Knowledge Repositories

• Repositories of structured, explicit knowledge
  – ABIInform, Lexis/Nexis, Dialog,… ???
  – Internet (engines, crawlers, ferrets, bots)

• Challenge: Quantity and Quality
  – Intelligent brokers – Humans and Bots

• Lotus Notes and Web Publishing
  – Challenges… ???
Challenges of Lotus Notes (DP)

- Haphazard “knowledge architectures”
- **Andersen Knowledge Xchange**
  - Technology issues
  - People issues
- Difficult to Navigate and Search
- Integration of Diverse Sources Missing
- Supplemented by additional tools
  - Hoovers, GrapeVINE, NewsPage, OneSource, other databases
Other Technological Aspects

• Knowledge Maps and Knowledge Charts
• Online Thesauri and Embedded Links
• Expert Locators, Yellow Pages, Profiling
• Expert Systems – Challenges ???
• Constraint Based Systems
• Case Based Reasoning (Inference – eGain)
10-Step / 4-Phase

Phase 2 and Step 3

Design the Knowledge Management Infrastructure

KMT-7
Infrastructure Foundations

- IT serves two primary functions
  - Storage and retrieval
  - Communications
- Network – transfer and collaboration
- Selecting Technology
  - Find K, Create new K, Package and Assemble K, Apply K, Reuse and revalidate K
MUST SEE… CHECK THIS OUT!!!
MUST SEE... CHECK THIS OUT!!!

eGain in the News

eGain Customers Worldwide

Microsoft

Recent Press Releases

- eGain Announces Preliminary Results for September 2002 Quarter
- eGain's Virtual Agent Technology Gains Momentum in Japan
- eGain Announces 2003 User Conference
- New Worldwide Alliance between eGain & NC Solutions Enables Revolutionary eGovernment Initiative in Japan
- eGain Knowledge Increases Virgin Mobile's Customer Satisfaction
- eGain Announces Increased Emphasis on Global Operating Model
- Media Alert - eGain Joins Industry Effort to Promote Open Standards

Recent Press Clippings

- September 12, 2002 - DestinationCRM.com

eGain Solutions

Enabling eService
eGain provides the most comprehensive eService software and services that enable knowledge-powered multi-channel customer service in Global 2000 contact centers.
Read More

eGain Solutions in Action

Customer Testimonials

- Microsoft UK
  "We are confident that knowledge management is key to success in the customer care arena and that eGain's Knowledge solution is the right tool for us."
  Helen Pickup, Microsoft UK

- Quick & Reilly
  "Live Web assistance is absolutely a competitive advantage for us. We are dedicated to providing our customers with the best possible service, and eGain helps us meet that objective."
  - Michael Quinn, Senior Vice President of Electronic Brokerage and Internet Services for Quick & Reilly

Analyst Perspective

- Read IDC's report
eGain: Taking the Customer's Point of View
- ABN AMRO & eGain Profiled in Aberdeen's 2001 Top 10 CRM Report
- Esteban Kolsky, Lead eService Analyst Gartner Group, January 2002
  "By 2003, 40 percent of electronic customer relationship management (e-CRM) implementations will include collaboration tools as a standard feature for customer service and sales."
- Katrina Howell, Industry Research Analyst Frost & Sullivan, August, 2001
  "eGain has distinguished itself in a highly competitive market by providing a range of product and delivery options: point solutions, full suite, licensed software or hosted solution."
- Christopher Fletcher, Director, CRM Aberdeen Group
  "eGain has from the very start focused on developing Web-based customer communications solutions that can be rapidly and easily hosted."

Reports on eGain
What Technologies Cannot Do

• Neural Nets, Genetic Algorithms (??)
• Beyond Black Boxes – Street and elsewhere
• Data Mining and ‘knowledge discovery’
• What Technologies Cannot Do ??
  – Human, Cultural, Social, Behavioral issues
  – ‘Dynamic discontinuous change’ issues
  – Gaps Between Data and Knowledge ??
• K-Use, K-Creation and K-Renewal ??
Expert systems for knowledge management: crossing the chasm between information processing and sense making

Y. Malhotra

Originally this article was titled before publication:
"CROSSING THE CHASM BETWEEN RATIONAL SYSTEMS AND SENSE MAKING"

Abstract

Based on insights from research in information systems, information science, business strategy and organization science, this paper develops the bases for advancing the paradigm of AI and expert systems technologies to account for two related issues: (a) dynamic radical discontinuous change impacting organizational performance; and (b) human sense-making processes that can complement the machine learning capabilities for designing and implementing more effective knowledge management systems. © 2001 Elsevier Science Ltd. All rights reserved.

Keywords: Expert systems; Artificial intelligence; Knowledge management; Information systems; Information science; Business strategy; Discontinuous change; Sense making; Information processing

1. Introduction
Differences of KM from Other Systems??

• Between KM System and Data Warehouse
• KM System and Extranets / Intranets
• KM Systems and Groupware
groove™
Desktop Collaboration Software

what
Groove is software that effortlessly keeps people, information, and PC’s in sync; online or offline, real-time or anytime – it just works.

why
Groove is 10x better than using email alone for sharing files or working with others on documents, tasks, projects and decisions.

how
Leverage the power of your PC to work directly with others, PC-to-PC, in secure mobile shared spaces.
Groove Workspace

Benefits
FAQ
Starter Kit for Small Business
Starter Kit for Workgroups

Relay Server
Management Server
Integration Server
Hosted Services
Resources

groove
workspace

Desktop Collaboration Software

Are you juggling important documents, discussions, and projects in your email inbox?

Email, a great tool for back-and-forth messaging, is a time-killer when it comes to joint file editing, team projects and other collaborative work.

Groove Workspace gives you a better way. Work on files together. Discuss work in real-time. Share presentations with anyone, wherever they are.

Shared Spaces
Create project-specific virtual shared spaces for working with different groups of people. Share files, discuss ideas.

Get Groove Workspace
Buy Now
Try Now

Groove for...
Enterprise
End-user freedom, centralized IT control.

Government
Gross agency information
Nonaka and Takeuchi (1995)

Tacit to Tacit – Socialization - P2P
Tacit to Explicit – Externalization – P2T
Explicit to Explicit – Combination – T2T
Explicit to Tacit – Internalization – T2P
FerretSoft

Free Downloads

How to Purchase

Support & Feedback

Webferret (web-fərˈɪt)
A software utility for searching the Internet in order to find something, fast.

FerretSoft (ferˈɪt-sôf)
The software folks who provide users the WebFerret for FREE.
Steady at the Helm with Lotus LearningSpace

Sea Ray Boats solves turnover problem with e-learning

More Headlines
- Lotusphere 2003 registration opens today
- "IBM Lotus Notes & Domino 6 delivers"
- Serirol Deploys Multilingual CRM Solution with IBM Business Partner I Enterprises and IBM Lotus Notes and Domino 6
- Business Partner solutions for Lotus Notes and Domino 6
- The press reacts to our October 1 announcements

Lotus software

Vision & Strategy

Instant collaboration: the new speed of business
What are the market trends in team collaboration as we release of Lotus SameTime and QuickPlace 3.0

e-Learning goes real-time
With the release of Lotus LearningSpace - Virtual Classroom, Mindspan director talks about a "blended learning approach."

More stories...

Lotus Presents
- Lotusphere 2003
  - January 26 - 30
  - Registration Now Open
- Dynamic e-business
  - The next stage of e-business
Lotus Domino

**Domino Family of Servers** provide a multi-platform foundation for collaboration and e-business, driving solutions from corporate messaging to Web based transactions and everything in between.

**Introducing Lotus Domino 6**
IBM Lotus Domino server offers robust tools that can simplify your system management tasks and increase network performance and uptime. Achieve better administrative control with tools like policies, archiving, quota management and SPAM filtering. And smoothly evolve your Lotus messaging solutions to meet marketplace demands.

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**Extending Domino**
- Domino Everyplace
- Domino Off-Line Services
- Domino Unified Communication Services
- Domino Workflow
- Domino Doc
- EasySync Pro
- LearningSpace
- Lotus Domino Driver for JDBC
- Lotus Notes SQL
- QuickPlace
- Sametime

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**In the News**
- Announcing the immediate availability of Lotus Notes and Domino 6. The new version of the leading messaging and collaboration platform has gone gold! Purchase today. Download trial.

**Events**
- NEW! A Preview of Domino 6
- 24 x 7 webcast: Lotus Domino 6 Server Enhancements
  Learn how Lotus Domino 6 makes it even easier for administrators to...
Three-tier Infrastructure Software For Business Portals And E-business Applications That Give You The Power To Discover, Organize, Connect...and Profit.

PRODUCT PREVIEW
The coming of the Raven
By Tony Patton

The inability to locate resources and information within an enterprise is one of the biggest complaints among companies. The rapid turnover of employees adds to the problem. Fortunately, Lotus has produced a new product, codenamed Raven, that may provide a solution.

Extensive coverage was made of Raven at the Lotusphere I attended this past January in Orlando. The technology has matured since that time, and Lotus now has a beta program for testing. Lotus is making a big fuss about Raven, so let's take a look at this new software and see how it can help computing enterprises get a handle on their resources.

"The development of Raven has combined two hot concepts, knowledge management and portals."

Will it fly?
Knowledge Discovery

Manage information overload to make better decisions faster. Increase productivity and reduce costs by reusing knowledge and intellectual capital. Lotus defines Knowledge Management as a discipline providing the strategy, process and technology to share and leverage information and expertise. Become more effective by locating, capturing, organizing and disseminating explicit and tacit information though Knowledge Discovery solutions.

Backed by IBM's extensive service and support network and expertise, Lotus offers a robust portfolio of modular and standards-based software that easily integrates with other applications and operating platforms. Lotus distinctive solutions optimize an organization's business transactions with its customers and suppliers and the human interaction that support them. Learn more about Lotus Knowledge Management.

Knowledge Discovery is integral to the IBM Life Sciences framework. The success of Life Sciences R & D depends on the convergence of IT and science to improve efficiency, productivity, flexibility and competitive advantage. Review this presentation to discover how to begin.

Lotus' Own KM Solution- 24 X 7 Webcast
For a 24 X 7 able service, IBM offered this 24 x 7 online service.

Knowledge Management: From Messaging to Competitive Advantage
This 24 x 7 webinar explains how the Lotus products strategically fit together to help you leverage the value of your messaging infrastructure, developing a strong base for competitive advantage.
What does Autonomy do?

Autonomy is the leading provider of software infrastructure that automates operations on unstructured information.
ServiceWare: knowledge management solutions and software for e-service and the CRM call center - Netscape

- Ask ServiceWare - Site Map - Request Info

About | Products | Services | Customers | Partners | News & Events | International | Support

Enterprise Knowledge Management Solutions

ServiceWare Technologies provides enterprise knowledge management solutions that enable organizations to deliver superior service for customers, employees and partners by transforming information into knowledge.

Our Web-based solutions empower organizations to capture intellectual capital, develop and manage a repository of knowledge and effectively answer inquiries over the Web and in the contact center.

Who will benefit from ServiceWare's knowledge solutions?

- Enterprises that seek to retain intellectual capital
- Companies that need to provide Web-based self-service
- Call centers that support complex products or services

Read our customer success stories to find out how eService Suite™ is working for organizations everywhere.
Collapsing the Time to Knowledge.

Introducing the first-ever Enterprise Knowledge Platform, BrainEKP™, an easy-to-use system for organizing and sharing information. BrainEKP connects your people, processes, and information in a single interface so you can see and share your thinking. Learn more.

→ Learn About BrainEKP
→ BrainEKP for Customer Care
→ Watch the BrainEKP Tour

Choose a solution that is right for you:
dissemination, and synthesis.

Knowledge Management Processes

- **Synthesis**
  - analysis
  - creation
  - contextualization

- **Dissemination**
  - push
  - publishing
  - notification

- **Communication**
  - sharing
  - collaboration
  - group decisions

- **Gathering**
  - pull
  - searching
  - data entry/OCR

- **Storage**
  - filing
  - indexing
  - filtering

**Figure 1**

Software was grouped into five common categories that represent the current software market: document management, information management, searching and indexing, communications and collaboration, and expert...
KM Technologies – Form 1

- LANs, WANs,… VPNs, VoIP
- Bandwidth, ADSL, Cable, T1, DS3, OC3
- Remote Access to Network – SecureCRT, SecureFX
- Intranet, Extranet,… Portals…
- Video Conferencing,… Data, Voice, Text,…
- DSS,… GDSS, CSCW, Electronic Meetings
- Mobile Computing, Wireless, PDAs
- Skills Database,… Content, Quality, Currency
- Document Management (HP)
- Project Management, Workflow Systems,…
- Digital Asset Management, …
- Knowledge Management Tools and Technologies
- E-Business and E-Commerce Technologies
Knowledge and Technology

- Two dimensions of K ??
  - object or “thing”
  - Process
  - (Remember the wave and the particle)
- On learning and unlearning – role of T
- Of MIS, OIS, KWS and DSS – ‘old hat’
- Lotus Notes vs. Web
  - Whither Notes? Hello Web!
Collaborative Intelligence and Filtering

• Use what works – how do you know
• ‘Philosopher’s trap’ versus ‘foresight’
• Customer Knowledge, Marketing Knowledge, Competitor Knowledge, Market Performance – Link with T
• Stuck in the old model of static product, service and market definitions ????
Other Issues

• Expert Systems
• CBR, Genetic Algorithms, Neural Networks, Fuzzy Logic, etc.
• Evolving Search Technologies
• Of tags, metatags and XML
• Push versus Pull – with Personalization and customization spin