Module 8: Knowledge Management

KM in Indian Organizations and the future of KM

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KM in Indian Organizations

- The competitive forces have forced Indian organizations to use KM include quality, cost reduction, improvement in efficiency, improved delivery, flexibility and innovation
- Many organizations in India have initiated knowledge management initiatives.

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KM in Indian Manufacturing Organizations

- A survey conducted in manufacturing organizations showed the reasons for using KM as follows:

- *ensuring competitive advantage;*

- *creating new knowledge for the organization;*

-*managing resources effectively;*

- *developing new technologies and products.*

- Planning, organizing, shop-floor operations, and R&D are the main areas where the use of KM is important for manufacturing firms

Source: M.D. Singh Ravi Shankar Rakesh Narain Adish Kumar , (2006),"Survey of knowledge management practices in Indian manufacturing industries", Journal of Knowledge Management, Vol. 10 Iss 6 pp. 110 - 128

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KM in Indian Manufacturing Organizations

- A survey indicated that manufacturing sector has been benefitted from KM in the following ways:

- Ensuring the availability of the right kind of technology;
- Using best practices;
- Devolving ways to narrow the gap between marketing,
- manufacturing and R&D;
- Using IT tools;
- Developing new capabilities;
- Deploying the right people in right place;
- Using knowledge maps; and
- Improving quality and productivity and plant capacity, etc.

Source: M.D. Singh Ravi Shankar Rakesh Narain, and Adish Kumar , (2006),"Survey of knowledge management practices in Indian manufacturing industries", Journal of Knowledge Management, Vol. 10 Iss 6 pp. 110 - 128

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KM practices in Indian Public and Private sector

- In India, KM in public sector is still in its early stages and has a long way to go in order to keep pace with private sector counterparts
- Private sector fared better compared to public sector on existence of KM system and mechanism, involvement of stakeholders for ideas, mechanism of transferring best practices and knowledge, and importance of tacit knowledge
- Private sector better use of internal benchmarking effectively to identify improvement opportunities through identifying employee knowledge gaps, take action to bridge gaps and create reusable repositories.

Source: Deepak C., & Himanshu JJ. (2010),"Knowledge management initiatives in Indian public and private sector organizations", Journal of Knowledge Management, Vol. 14 (6) pp. 811 - 827

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KM practices in Indian Public and Private sector

- Private sector encourage more job rotation, apprenticeship, mentorship, etc. to maximize the sharing of tacit knowledge and its conversion into explicit form
- Private sector create a strong linkage between KM and improved business performance
- Private sector demonstrate greater tolerance for uncertainty and ambiguity that encourages employee ability to experiment, innovate and create new ideas
- Private sector developed strong metrics and knowledge audit systems to determine the return of its knowledge investments

Deepak C., & Himanshu JJ. (2010),"Knowledge management initiatives in Indian public and private sector organizations", Journal of Knowledge Management, Vol. 14 Iss 6 pp. 811 - 827

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KM practices in Indian Public and Private sector

- Public sector encourages more formal discussion, facilitates systematically knowledge sharing
- Public sector have a more coherent strategy for KM and they are more advanced in areas of knowledge sharing
- Both public and private sector organizations in India need to improve on various dimensions of KM like *process, leadership, culture, technology and measurement.*

Deepak C., & Himanshu JJ. (2010),"Knowledge management initiatives in Indian public and private sector organizations", Journal of Knowledge Management, Vol. 14 Iss 6 pp. 811 - 827

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Knowledge Management : Some Suggestions

- KM should become a policy in the company.
- The involvement of top management is needed in allocating the necessary resource flow to initiate and sustain KM practice.
- KM awareness and commitment
- People need to be aware of the importance of documentation

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KM Practices Problems and concerns

- Individuals are not visibly rewarded for knowledge sharing.
- Lack of knowledge sharing and tendency to hoard knowledge
- KM is not given due importance in the performance appraisal system
- Culture is not facilitating sharing and learning in the organization to a very high extent
- The maturity level of employees towards the concept of KM is inadequate
- No formal mechanism to transfer the knowledge gained through seminars, training programmes, deputation abroad to the workplace

KM Practices in IT Companies, Sinigh and Soltano, TQM, 21(2),145-157, 2010.

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KM Practices in IT Companies:

- IT companies are extensively using software like CAT and CAD as a knowledge tool while designing.
- LAN can be used more extensively for information sharing and also centralized cataloguing of reports can go a long way in managing knowledge.
- There is a need to document experiences gained from earlier projects so that this learning can be applied on future projects
- Companies must be able to capture, validate and distribute new knowledge fast enough to change strategic direction and resource allocations, if they are to prosper in turbulent environments.

KM Practices in IT Companies, Sinigh and Soltano, TQM, 21(2),145-157, 2010.

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Reasons for Launching Knowledge Management Programme in IT Companies

Sl no	Name of the company	Gaining competitive advantage	Improve customer retention/satisfaction	Retain key talent/expertise	Develop new services	Improved image	Avoid loss of key personnel
1	Tata Consultancy Services	√	√	√			
2	CMC	√	√	√	√		
3	IXIA	√	√	√	√		
4	Data Core India Pvt Ltd		√	√	√		√
5	Labvantage	√	√	√	√		
6	Wipro				√		
7	Ontrack Systems Pvt Ltd		√	√	√		√
8	Infovision Software	√	√	√	√		
9	Anshin Software	√		√	√		
10	Compare Infobase	√			√	√	√
11	R S Software	√	√	√	√		
12	Cognizant Technology		√	√	√		√
13	Usha Comm	√				√	√
14	Satyam	√	√	√	√	√	
15	Accenture	√	√			√	
16	Java Soft Tech	√	√				√
17	Infosys Technology	√	√	√	√	√	√
18	HCL Technologies	√	√	√	√		√
19	Oracle	√	√	√	*US Branch*		
20	IBM	√	√	√			√

Satwana Choudhury:2011, 3rd International Conference on Information and Financial Engineering. IPEDR vol.12 (2011) © (2011) IACSIT Press, Singapore

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Sources of Knowledge Acquisitions in IT Companies

Sl no	Name of the company	Websites	Journal	Competitors	Internal communication systems	Past history	Others
1	Tata Consultancy Services	√	√	✓	√	√	
2	CMC	√			√		
3	IXIA	√	√	√	√	√	
4	Data Core India Pvt Ltd	√			√	√	
5	Labvantage	√	√	√	√	√	
6	Wipro				√		
7	Ontrack Systems	√			√	√	
8	Infovision Software				√		
9	Anshin Software				√	√	√
10	Compare Infobase	√	√		√		
11	R S Software	√	√	√	√	√	√
12	Cognizent Technology	√	√	√	√	√	√
13	Usha Comm	√		√	√	√	
14	Satyam	√	√		√	√	
15	Accenture	√	√		√	√	√
16	Java Soft Tech				√		√
17	Infosys Tecchnology	√	√		√	√	√
18	HCL Technologies	√			√		√
19	Oracle	√	√	√	√	√	

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Satwana Choudhury:2011, 3rd International Conference on Information and Financial Engineering, IPEDR vol.12 (2011) © (2011) IACSIT Press, Singapore

Managing Ideas for Innovation in IT Companies

Sl no	Name of the company	Ideas		Innovations
		Collecting ideas	*Implementing ideas*	
1	Tata consultancy Services	√	√	√
2	CMC	√	√	
3	IXIA	√	√	
4	Data Core India Pvt Ltd	√	√	
5	Labvantage	√	√	
6	Wipro	√	√	
7	Ontrack Systems	√	√	
8	Infovision Software	√	√	√
9	Anshin Software	√	√	√
10	Compare Infobase	√	√	
11	R S Software	√	√	
12	Cognizent Technology	√	√	√
13	Usha Comm	√	√	
14	Satyam	√	√	
15	Accenture	√	√	√
16	Java Soft Tech	*depend on the*	*project assigned and*	*situation arise*
17	Infosys Technology	√	√	√
18	HCL Technologies	√	√	√
19	Oracle	√	√	√
20	IBM	√	√	√

Satwana Choudhury:2011 3rd International Conference on Information and Financial Engineering, IPEDR vol.12 (2011) © (2011) IACSIT Press, Singapore

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Task ahead for KM in IT Companies

- Knowledge Management systems, to be effective should have easy-to-use interface, solid reliability, accessibility throughout the target segment and utilities to mine relevant information.
- The target segment (like employees, customers, investors) needs to be taken into account before creating KM systems. The full commitment to KM from the top management is very critical in its implementation

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Issues: Managing knowledge workers in a Knowledge Economy

- Embodies experience, innovation, creativity, and transformation of experience into knowledge for leveraging products or services
- Transforms business and personal experience into knowledge through capturing, assessing, applying, sharing, and disseminating it within the organization to solve specific problems or to create value

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1.Understanding Personality and Professional Attributes of Knowledge Workers

- Holding unique values
- Aligning personal and professional growth with corporate vision
- Adopting an attitude of collaboration and sharing
- Innovative capacity and a creative mind
- Clear understanding of the business he is a part
- Willing to learn, unlearn, and adopt new ways that result in better ways of doing a job
- In command of self-control and self-learning
- Willing to grow with the company

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2. Developing the core competencies of knowledge workers

- Thinking skills—having a vision how the product or the company can be better
- Continuous learning—unlearning and relearning in tune with fast-changing conditions
- Innovative teams and teamwork—via collaboration, cooperation, and coordination
- Innovation and creativity—”dreaming” new ways to advance the firm

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Developing the core competencies of knowledge workers

- Risk taking and potential success—making joint decisions with calculated risk
- Decision action taking—be willing to embrace professional discipline, patience, and determination
- Culture of responsibility toward knowledge—loyalty and commitment to one's manager or leader

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3. Facilitating a culture.

- Those in charge of KM initiatives need to create a culture of knowledge sharing to implement KM.
- The time tested and effective way to transfer knowledge is for people to find others who have it and talk to them
- Employee attitude towards radical change in the ongoing system

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4. Having a KM Strategy

- Actively Managing Knowledge
- Expert Individuals Provide Insights
- Development of Critical Capabilities
- Ease of Availability of Information
- Sensing and Understanding meaning and values
- Structure the Institutionalized Goals
- Link individual learning with organizational learning by creating processes and system
- Identify Knowledge Assets and easy to use interface

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Current issues of Knowledge management in Indian Companies

- *Cultural diversity and wide disparities in the extent of up-to-date infrastructure make managing knowledge challenging in developing countries like India.*
- *Cultural diversity and infrastructural gap issues are also related to a variety of government, educational, political, social, and economic factors.*

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Current issues of Knowledge management in Indian Companies

- *Environmental factors interact with organizational variables and information technology to enable or constrain knowledge management processes in the creation and protection of knowledge resources.*
- Leadership, structure, and culture that are contextual to each organization and the environment in which they operate.
- Firms should align information technology, people, structure, and organizational influences to make knowledge processes and socio-cultural management sustainable.

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Most admired knowledge economy (MAKE) Award

- The Global MAKE study is a measure of the *rate at which an organization is transforming its tacit* and explicit corporate knowledge into new enterprise intellectual capital and increased shareholder value (or in the case of non-profit and public organizations, stakeholder capital).
- Accenture and Microsoft are the only organizations which have been recognized as Global MAKE Winners every year since the MAKE research studies began in 1998

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Most admired knowledge economy (MAKE) Award

Knowledge performance dimensions which form the MAKE framework

- developing knowledge workers through senior management leadership.
- developing and delivering knowledge-based products/services/solutions.
- maximizing enterprise intellectual capital.
- creating an environment for collaborative enterprise knowledge sharing.
- creating a learning organization.
- delivering value based on stakeholder knowledge.
- transforming enterprise knowledge into shareholder/stakeholder value.

- Three Indian firms are there as winners I 2016- Tata group, Infosys and Wipro India Limited. These companies have won it a number of times

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Key Findings of MAKE Global Study 2016

- Successfully managing enterprise knowledge yields big dividends
- Higher Return on Revenues
- Excel at creating knowledge-driven organizational cultures, and developing knowledge workers through supportive senior management leadership
- Leadership challenges in hiring, training and developing knowledge workers.

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Key Findings of MAKE Study

- Firms continue to struggle to create value through managing other 'people' issues, including improving the skills and capabilities of knowledge workers, creating learning organizations, and working in partnership with customers/stakeholders.
- Many organizations are failing to address the rapidly changing digital world of social media and the customization of the customer experience in order to create a competitive edge.

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Some case examples

- Tata Steel
- Infosys
- Wipro
- BHEL
- ONGC

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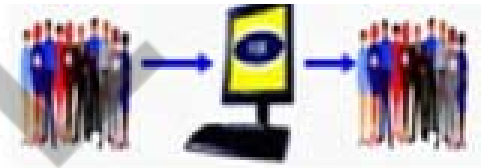
KM in TATA STEEL

KM strategy at TATA Steel



- **Codification (Tacit - Explicit -Tacit)**
  - Capture, Deploy and Use.
  - Knowledge transfer is independent of time and space.
- **Personalization (Tacit - Tacit)**
  - Knowledge transfers across divisions, departments/Customers/Suppliers : K-Communities, CVM,RVM,SVM.
  - Knowledge Manthan (Churning) for shop floor employees.
- **Knowledge Diffusion**
  - Usage of K-Assets (KP, CoP, Projects..)
  - K-debates.
  - Quizzes.
  - Knowledge Manthan.

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Steps in implementing KM in TATA Steel

Step 1: KM Initiation

- Bring people from different fields from within the company.
- Cultural transformation
- Top management support
- Connectivity and content problem
- Co-operation

Step 2: Establish Knowledge Repository

- Share experiences on corporate intranet
- Knowledge piece and query on Km site
- Integrate repositories at Division/Department level.

Step 3: Knowledge Communities

- Link like-minded people
- Solve problems by brainstorming
- Share tacit knowledge of experts
- Major roles of members of communities
  - Champion
  - Convener
  - Practice leader
  - Lead expert
  - Practitioner
- Inticulate the habit of browsing of internet among employees

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Development of KM in TATA STEEL

PHASE -1 (1999-2000)	PHASE -2 (2000-01)	PHASE-3 (2001-02)	PHASE-4 (20002-03)
Create Awareness	Knowledge communities Kick-off	Design KM Index	Involvement of supervisors
Design Processes	Security system in KM portal Introduced	Design community index	Focus on knowledge creation by communities
Design Systems		Deploy KM processes across organization	Virtual communities
Launch of KM Portal		"ask expert" launched	Customer and supplier knowledge
Create success stories		Recognition system introduced	

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Benefits of KM at TATA Steel

Collaboration and interaction among Employees

Expert skills were available

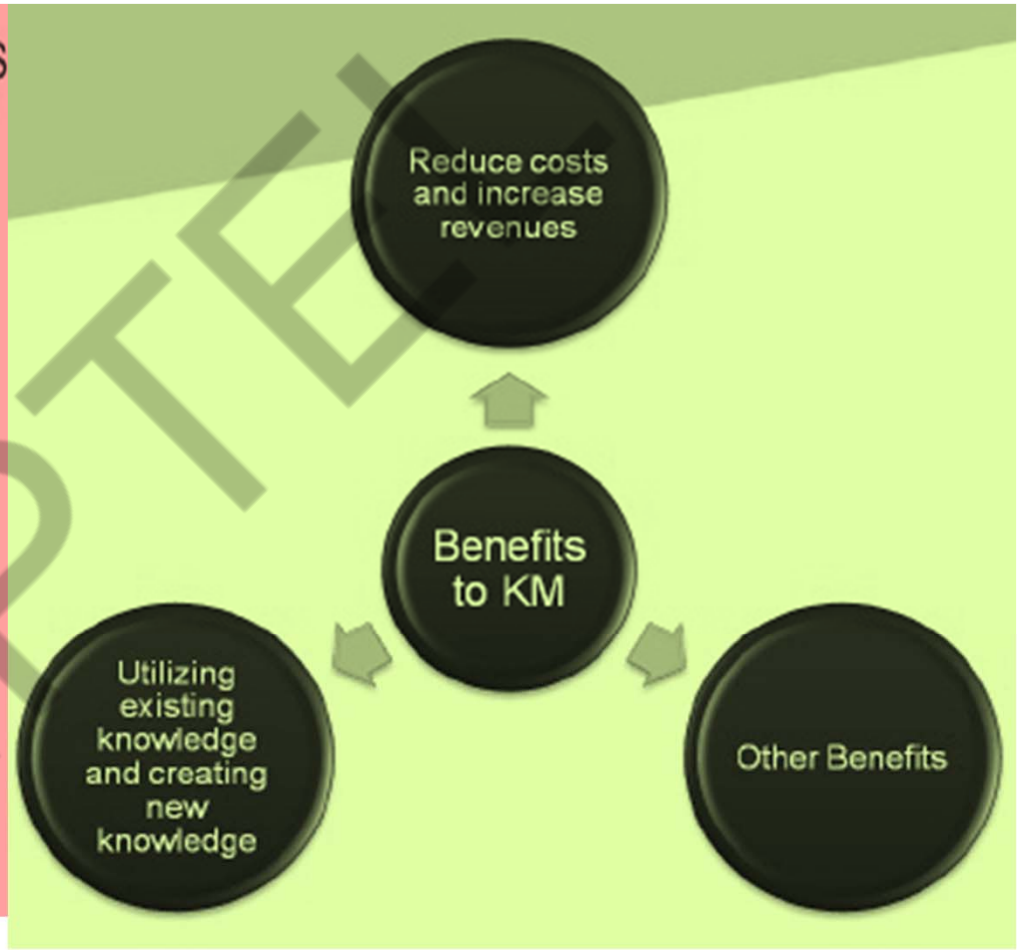
Job satisfaction

Reduction in R&D expenditure

Duplication of Ideas reduced

Gain a competitive advantage in market

Productivity increases



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Tata Steel has been conferred the prestigious Indian 'Most Admired Knowledge Enterprises' (MAKE) Award many times

Future of KM at TATA Steel

Tata Steel plans to link e-learning with the KM repository and KM communities,

Devise an intellectual capital index, network with retired employees,

And develop employee skills for better externalization of knowledge and integration with the customer's knowledge...

"The key to business modernization in 21st century is not just through the expenditure of huge sums of money to create physical assets,but orienting people-the greatest asset-towards meeting the opportunities and challenges of the future.'

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KM at Infosys

- In 1999, Infosys introduced a formal KM system In order to maintain uniformity in knowledge dissemination,
- Kshop, a knowledge portal was launched in year 2000.
- KM group introduced KCU's (knowledge currency units) in 2001 to encourage employees to use and contribute to Kshop
- KCU scheme was modified and emphasized on knowledge sharing and visibility rather than monetary rewards in April 2002.
- After these changes the quality contributions to Kshop increased. By 2005, Infosys had highly sophisticated KM system in place.
- Nov 2005, "Infosys inducted into Global MAKE Hall of Fame". (3 consecutive years)

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The KMM - Knowledge Management Maturity Model

- The 3 prongs- People, Process, and Technology

  -Each level has a set of prerequisites the organization is required to meet.

  -A given maturity level implies a certain level of organizational capability

  ❖from level 4 onwards, quantitatively

  -Each maturity level is characterized in terms of the efficacy of each stage of the **knowledge life cycle:**

  – Knowledge Acquisition
  – Knowledge Dissemination
  – Knowledge Reuse

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Level–Organizational Capability Mapping

Level		*Capability*
1	Default	Undefined
2	Reactive	Basic repeatability
3	Aware	Restricted data-driven decision-making; Restricted leverage of internal expertise; Ability to manage virtual teams well.

Level–Organizational Capability Mapping

Level		*Capability*
1	Default	Undefined
2	Reactive	Basic repeatability
3	Aware	Restricted data-driven decision-making; Restricted leverage of internal expertise; Ability to manage virtual teams well.

Level 1: Default

- Conviction in anything other than survival-level tasks low.
- Belief in formal training being the sole mechanism for learning; all learning is reactive
- Organization's knowledge is fragmented in isolated pockets, and stays in people's heads

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Level 2: Reactive

- The organization shares knowledge purely on need basis
- Routine and procedural knowledge shared

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Key Result Areas - Level 2

- ***Knowledge Awareness*** *(People)*
  - Awareness of knowledge as a resource that must be managed explicitly ("somebody-else-should-do-it" syndrome!)
  - Senior management recognizes need for formal knowledge management.
  - Knowledge 'database administrator' role
- ***Content Capture*** *(Process)*
  - Knowledge indispensable for routine tasks is documented.
  - Database of knowledge exists (usually disparate formats)
  - Content compilation done reasonably well but creation still ad-hoc
  - Content management responsibility dispersed through organization.
- ***Basic Information Management*** *(Technology)*
  - Rudimentary knowledge-recording systems in existence
    - diverse data formats, fragmented data, low data integrity, high data obsolescence
  - Systems support routine and procedural sharing.
  - Online and technology-based learning mechanisms put in place - largely reactively.

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Level 3: Aware

- Content fit for use for all functions; knowledge meets need
- Beginnings of integrated approach to managing knowledge life-cycle.
- Enterprise-wide knowledge-propagation systems in existence – awareness and maintenance are moderate.
    - Internal expertise is leveraged in technologically complex and unfamiliar areas, or where it is imperative.
- The organization collects and understands metrics for KM; KM activities begin to be translated into productivity gains
- Managers recognize role in, and encourage, knowledge-sharing.
- The organization is able to see a link between KM processes and results.

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Key Result Areas - Level 3

- ***Central Knowledge Organization (****People****)***
  - Dedicated KM group for infrastructure management and content management.
  - Processes and roles well-defined not below CMM level 4.
- ***Knowledge Education (****People****)***
  - Training in KM processes for KM group;
  - Formal training program for contributors, users, facilitators, champions, etc. with feedback
- ***Content Structure Management*** (Process)
  - Ability to structure, categorize, access content
    - Integrated logical content architecture exists.
    - Knowledge content is augmented with pointers to people.
    - Knowledge is structured
      - a taxonomy of knowledge topics
    - Content management process defined.
      - creation, editing, streamlining, publishing, certification and maintenance
    - Process is owned by a central knowledge organization
- ***Knowledge Technology Infrastructure (****Technology****)***
  - Single-point access to knowledge available across the organization (the knowledge is not integrated –only access is available)

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Knowledge Shop

Infosys

Knowledge @ Infosys | Knowledge Links | Infosys K-Assets | External K-Assets | Other Links | Knowledge Navigator | Sparsh

Select K-Path(s)!

- Technology
- Methodology
- Application Domain
- Project Management
- Culture
- Others

Find Knowledge Topic

Selected

Technology>Mobile Computing/M

Welcome to the Knowledge Navigator

You can retrieve content by specifying the knowledge path

al knowledge
hecking the
hrough with

- Development
- Engineering Services
- Enterprise Application Integration (EAI)
- ERP
- Euro
- Internet/E-Commerce Methodology
- Knowledge Management
- Maintenance
- Management Consulting
- Rapid Application Development
- Reengineering
- Standards and guidelines
- Y2K

- Alliancing
- Application design - Internet
- Application Service Provider
- Architecture Definition
- B2B
- B2C
- Business Consulting
- Buy Side
  - Agents
  - Aggregation
  - E-Procurement
- C2C
- Development and Deployment
- Discovery
- Infrastructure Definition
- Internet Architecture
- Internet Security
- Launching Sites
- Market Place
- Program Management
- Requirements
- Sell Side
- Value Chain Integrator
- Value Chain Service Provider
- Venture Capital
- Web page design

You can find free text search below

AN

Select the content-type

- All
- BOK Entries
- Project Snapshot
- Event-material(Int.)
- Internal Literature
- Reusable Artifacts
- loads
- (Ext.)
- External Literature
- Internal FAQ
- External FAQ
- Book Reviews
- News
- Reviewed Websites
- Glossary
- Trends

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Level 4: Convinced

- Enterprise-wide knowledge-sharing systems in place – quality, currency, utility, usage high
- Knowledge processes scaled up across the organization.
- Organizational boundaries breakdown as knowledge barriers
- Quantification of benefits of knowledge sharing and reuse at org unit level – business impact clearly recognized
- Feedback loops are qualitatively better and tighter.
- Ability to sense and respond proactively to environmental changes

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Key Result Areas - Level 4

- ***Customized Enabling*** *(People)*
  - Training (all modes) available at time and point of need
- ***Knowledge Infrastructure Management*** *(Technology)*
  - Technology infrastructure for knowledge-sharing is seamless; the knowledge content is integrated into a whole.
- ***Content Enlivenment*** *(Process)*
    - Content enlivened with expertise;
    - Experts across organization committed to respond
    - High sync between knowledge in, knowledge out
- ***Knowledge Configuration Management*** *(Process)*
    - Organization-wide process for integrating and managing the knowledge content configuration.
    - Knowledge life-cycle processes are mapped

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Key Result Areas - Level 4

- ***Quantitative Knowledge Management*** *(Process)*
  - Knowledge creation, sharing reuse levels are measured quantitatively
    - variance across the organization low.
  - Benefits of knowledge sharing and reuse at the individual project / function level quantified.
  - Capability baselines are created and used.
  - Content management process uses quantitative data.

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Level 5: Sharing

- Culture of sharing institutionalized; sharing becomes second nature to all.
- Organizational boundaries irrelevant
- Knowledge ROI integral to decision-making
- Continuous tweaking of the kdge processes
- Ability to shape environmental change; organization becomes a knowledge leader

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Key Result Areas - Level 5

- ***Expertise Integration***
  - Content and (human) expertise available as an integral package.
    - appropriate expertise is available to help understand content and tailor it to specific need.
- ***Knowledge Leverage***
  - Ability to measure contribution of knowledge to competence
  - Availability of knowledge inputs needed to perform tasks is guaranteed in quantitative terms.
  - Knowledge processes continuously tweaked: performance measures used to improve content management and technology infrastructure
- ***Innovation Management***
  - Organization has the ability to assimilate, use and innovate based on ideas both external and internal. Processes exist for leveraging new ideas for business advantage.
  - Knowledge base considerations explicitly used in taking on a new customer / project

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KM at Wipro

- The KM initiative at Wipro began in 2000
- The KM process at Wipro has three stages-

- First stage assesses the competencies of people, establishes the desired competency levels and current gaps and designs relevant training to bridge the gap.

- Second stage attempts, through the use of technology, to retain the knowledge within the organization in a manner that can be accessed by people on demand.

- Last stage involves people continuously using the existing knowledge base, augmented with research to deliver higher value to the customer.

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KM at Wipro

- Leadership in KM- Top management commitment, with the CEO driving the initiative to ensure the success of this movement in Wipro
- Building a collaborative learning environment and culture for KM.
- Infrastructure for KM -leveraged its existing IT infrastructure to capture, store and share Knowledge across the enterprise
- Developing metrics for measurement of continuous improvement

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Standard Knowledge Management Process at Wipro

Knowledge Management is done in Wipro through online portal known as **Knet** where employees could share their articles and it is made accessible to all other employees who wishes to refer.

Knet also has online courses for study purpose for Wipro's Internal Assessment.

It also has information about tests undertaken by employee and option to apply for any certification.

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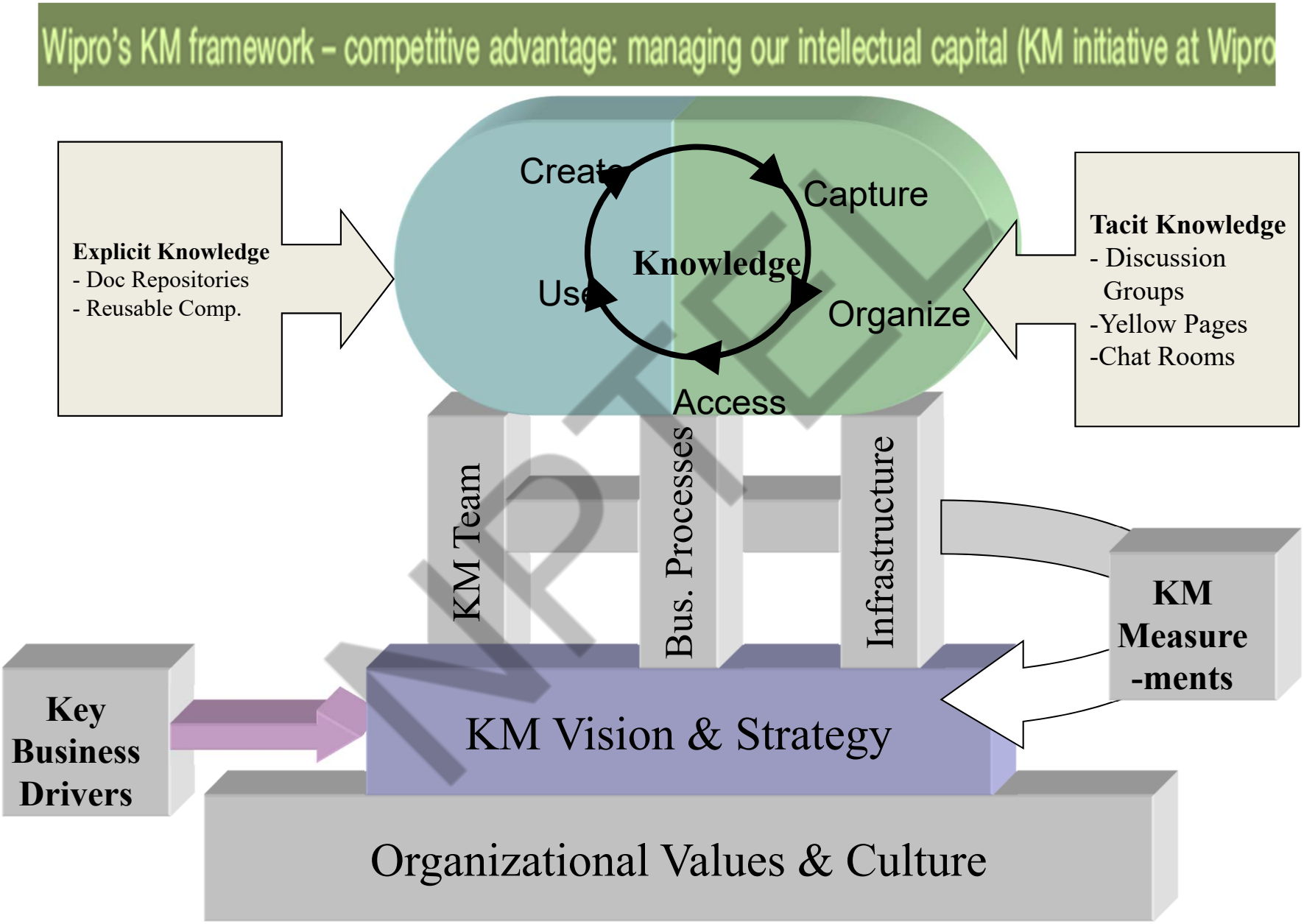
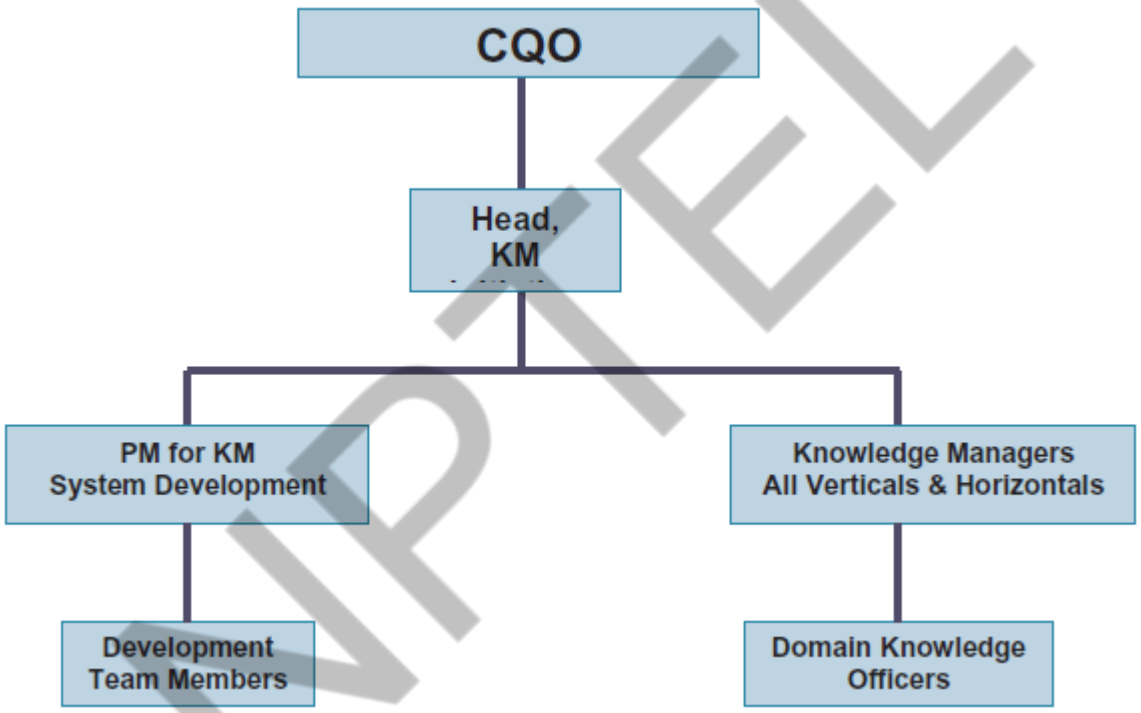
KM at WIPRO


Wipro's KM framework – competitive advantage: managing our intellectual capital (KM initiative at Wipro
Explicit Knowledge
- Doc Repositories
- Reusable Comp.
Create
Capture
Knowledge
Use
Organize
Access
Tacit Knowledge
- Discussion Groups
-Yellow Pages
-Chat Rooms
KM Team
Bus. Processes
Infrastructure
KM Measure -ments
Key Business Drivers
KM Vision & Strategy
Organizational Values & Culture

KM initiative dedicated team

- Structure- KM head directly reporting to CEO



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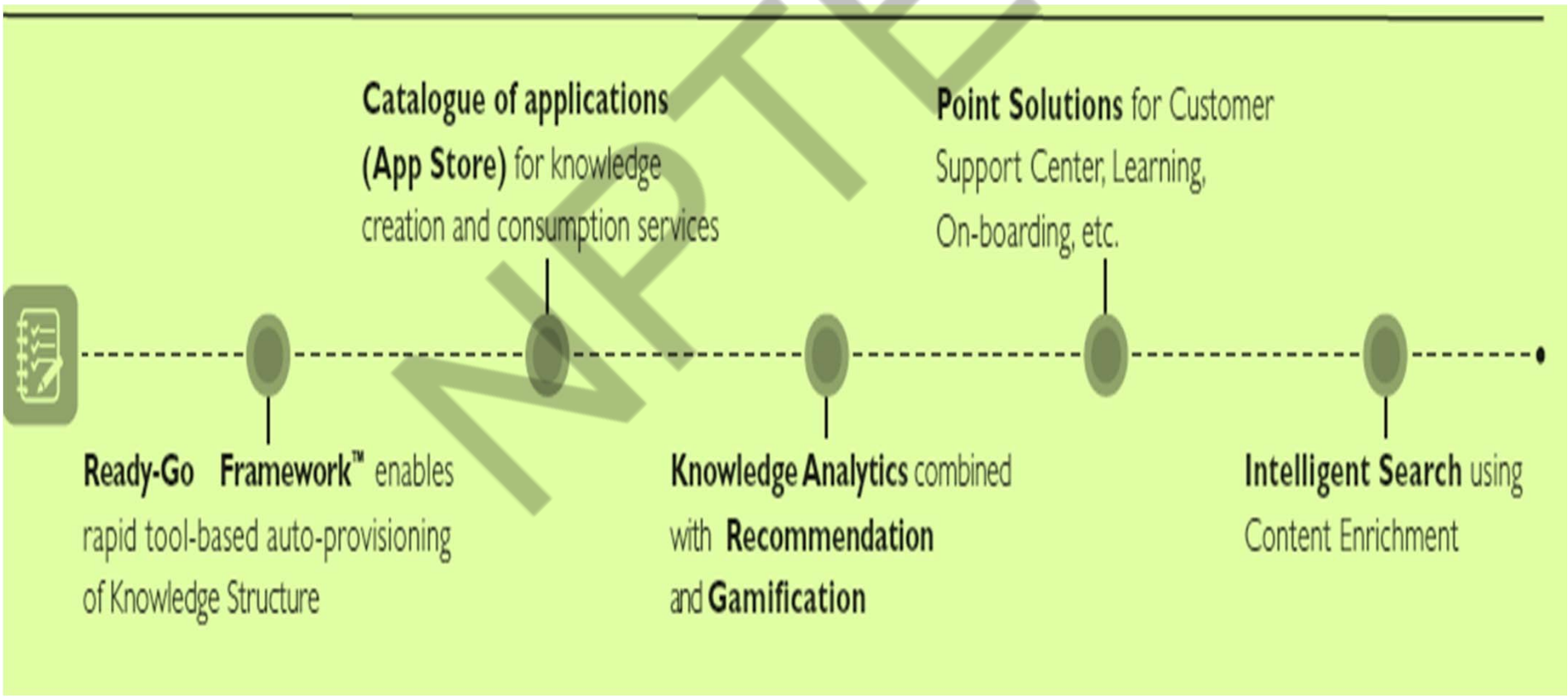
Wipro's My Workmate™

- solution on cloud can help organizations
- delivering services in support of the full lifecycle of end-to-end
- integrated Knowledge Management program – from Knowledge assessments, Strategy, Processes, KM, Technology Roadmap to Implementation, Roll-out, Sustenance, and Enhancement.



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Benefits of KM programme at WIPRO

Empower Enterprise

- Improve employee efficiency and productivity
- Protect intellectual capital
- Reduce learning curve and improve employee satisfaction

Improve Customer Experience

- Improve business agility and shorter time-to-market
- Improve content quality and consistency across multi-service channels
- Increase customer trust and loyalty with effective and faster resolutions

Delivered Business Value

- Reduce resource, implementation, maintenance, and customer service costs
- Improve business decisions
- Accelerate innovation with an aesthetic that excites users and encourages collaboration

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KM at BHEL

- The KM process at BHEL- robust and flexible document management system which provides role-based access to documents
- Leadership in KM-Top management has given it utmost importance by creating team for the implementation of the KM framework
- Building a collaborative learning environment and culture for KM. facilitating, a culture of information sharing, relationship building and trust.
- Has created a knowledge bank through its efficient
- document management system
- Infrastructure for KM - A web portal for document and data, user interface through a single window
- Developing metrics for measurement of continuous improvement -

  - internal metric to track how its central repository is being used by individuals and teams across departments.

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KM at ONGC

- ONGC created an independent platform for KM resulting in launch of a KM portal
- People share their knowledge through informal interactions
- Launch of Gyanodayan to share experiential knowledge of individuals and teams and strive to increase it tacit and explicit knowledge base
- Developing a comprehensive KM system and plans to set up a virtual knowledge park

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Objective of KM programme at ONGC

- Skills knowledge gap identification
- Communities of practice- Drilling the limit to achieve the reduction in drilling time and squeeze the last bit info from seismic for maximizing the information value of seismic data
- Best practice and lessons learned on offshore structures and well stimulation services
- Leveraging the vast knowledge of its workers in the field of exploration and petroleum technology for increased productivity, cost , time and effort reduction, improved quality

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Major KM initiative from ONGC

- Introduction of company wide e learning system
- Knowledge up gradation programme- Unnati prayas, superunnati prayas, sangsaptak
- Formalization of roles, positions and responsibility
- Formalization of industry – academia programme

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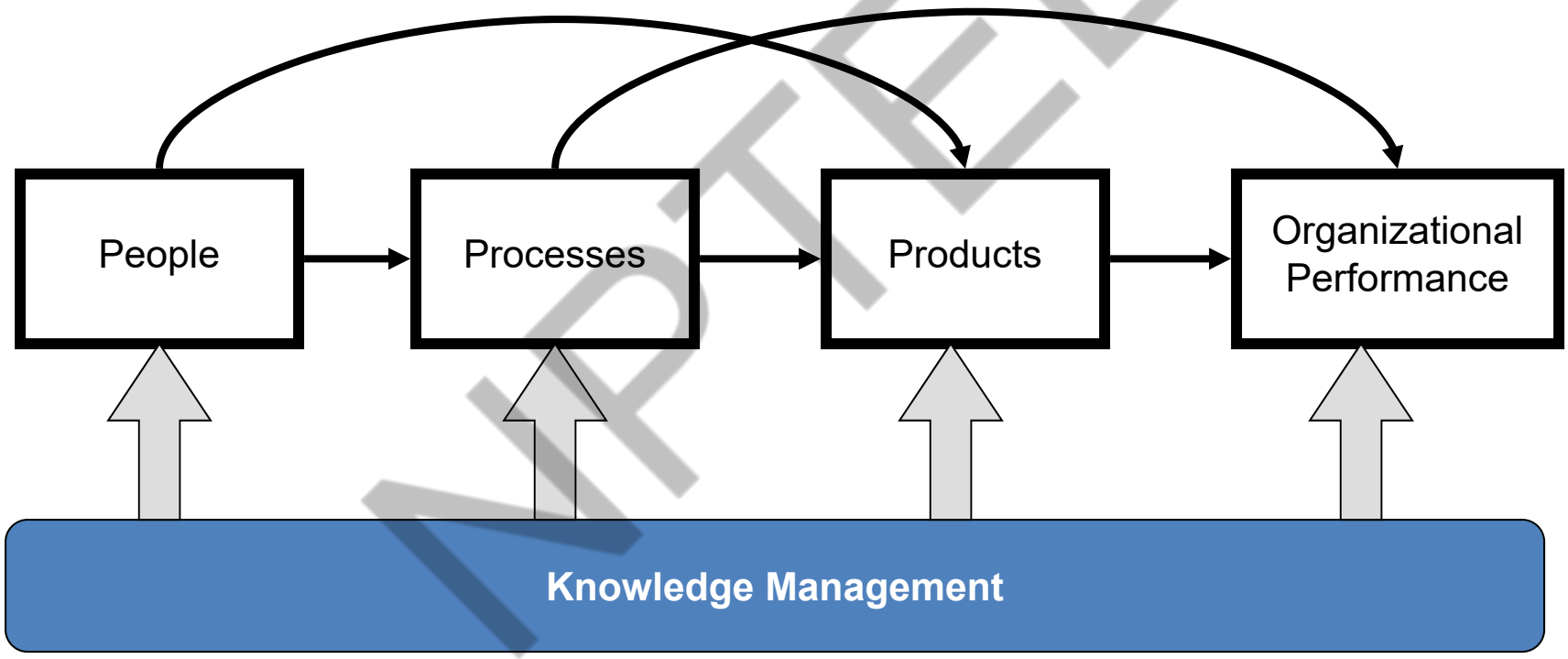
Dimensions of Organizational Impacts of KM



Becerra-Fernandez, et al. -- Knowledge Management 1/e 2004 Prentice Hall

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Impact of KM on employee, their learning and adaptability

- KM can facilitate employee learning
- KM also causes employees to become more flexible, and enhances their job satisfaction
- Employees cab better adapt when they interact with each other
- They are more likely to accept change
- They are more prepared to respond to change
- Employees sharing knowledge with one another resulting in reduced turnover rates and increased revenue and profit
- Leads to better job satisfaction

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Impact of KM on process Improvement

- KM enables improvements in organizational processes such as marketing, manufacturing, accounting, engineering, and public relations
- These impacts can be seen along three major dimensions
  - Effectiveness- performing the most suitable processes and making the best possible decisions
  - Efficiency- performing the processes quickly and in a low-cost fashion
  - Degree of innovation of the processes- performing the processes in a creative and novel fashion

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Impact of KM on Processes Improvement

- Impact on Process Effectiveness
  - KM can enable organizations to become more effective by helping them to select and perform the most appropriate processes
  - KM enables organizations to quickly adapt their processes according to the current circumstances, thereby maintaining process effectiveness in changing times
- Impact on Process Efficiency
  - Managing knowledge effectively can also enable organizations to be more productive and efficient
- Impact on Process Innovation
  - Organizations can increasingly rely on knowledge shared across individuals to produce innovative solutions to problems as well as to develop more innovative organizational processes

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Impact of KM on Products

Value added products - help organizations offer new products or improved products that provide a significant additional value as compared with earlier products
benefit from KM due to the effect the latter has on organizational process innovation
Knowledge based products- significant impact on product that are knowledge based like those in consulting or software development etc.
can sometimes play a significant role in traditional manufacturing firms

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Impacts of KM on Organizational Performance

- Direct Impacts
  - Knowledge is used to create innovative products that generate revenue and profit
- Indirect Impacts
  - Use of KM to demonstrate intellectual leadership within the industry, which, in turn, might enhance customer loyalty
  - Use of knowledge to gain an advantageous negotiating position with respect to competitors or partner organizations

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Economy of Scale and Scope

- A company's output is said to exhibit economy of scale if the average cost of production per unit decreases with increase in output
- A company's output is said to exhibit economy of scope when the total cost of that same company producing two or more different products is less than the sum of the costs that would be incurred if each product had been produced separately by a different company

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The future of KM

- KM systems to support humane decisions and to deal with “ wicked ” problems
- Corporate managers need to institute safeguards for insuring the security and adequate use of their corporate knowledge.

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Protecting Intellectual Property (IP)

- IP can be defined as any results of a human intellectual process that has inherent value to the individual or organization that sponsored the process.
- It includes inventions, designs, processes, organizational structures, strategic plans, marketing plans, computer programs, algorithms, literary works, music scores, and works of art, among many other things.

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IP losses can happen in many ways:

- Employee turnover.
- Physical theft of sensitive proprietary documents, either by outsiders or by insiders.
- Inadvertent disclosure to third parties without a non-disclosure agreement.
- Reverse engineering.
- The Web repository security is breached and unauthorized access to the proprietary documents takes place.
- Unauthorized parties intercept electronic mail, fax, telephone conversation or other communications for the purpose of illicitly acquiring knowledge.
- Attempts by insiders or outsiders to corrupt documents or databases with false data, information, or knowledge.

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How to protect the organization from IP losses

- Non-disclosure Agreements
- Patents
- Copyrights
- Trade Secrets

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KM: A new Paradigm for Decision-Making

- The development of MIS, Decision Support Systems, and KMS has been influenced by the works of five influential philosophers, namely, Leibniz, Locke, Kant, Hegel, and Singer.
- Recent developments in KMS have also enabled to extend the reach of those involved in the solution, through group support systems.
- As globalization expands, the number of stakeholders affected by the organization increases

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Decision making based on multiple perspectives

- Technical perspective
- Personal and individual perspective
- Decision making based on multiple perspectives
- Organizational and social perspective
- Ethics and aesthetics perspective

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Emerging KM Practices

- Knowledge management practices that enable knowledge sharing and collaboration include-
- Web 2.0's role in KM
- Social networks
- Wikis and Blogs
- Open source development community
- Virtual worlds
- The three worlds of IT `

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Emergence of Web 2.0

- Coined by Tim O'Reilly in 2004 to describe development and evolution of Web-based communities and hosted services such as social- networking sites, video sharing sites, wikis, blogs, and folksonomies
- AJAX- Asynchronous JavaScript and X ML allows web applications to perform more like a desktop application

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Emergence of Web 2.0

- Collective Intelligence- The content from Web 2.0 comes from users, e.g. product reviews
- Web 2.0 is of strategic value
- Will maintain or increase investment in: social networking, P2P networking, Web services
- Enterprise 1.0 vs 2.0- 1.0 - IT = channel for distribution and platform for viewing 2.0 - IT provides tools search, links, authoring, tagging, signals, and extensions

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Social Networking

- Friendster (2002) Allowed users to share photos, videos, comments and messages among friends
- “Who’s viewed me?” Grew (based on user relationships not via traditional marketing
- MySpace (2003) “A place for friends” — included features of Friendster Added music (knowledge) discovery
- Aligned itself as channel for music distribution among indie and major recording label artists Highest visited domain in the USA in 2006

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Social Networking (continued)

- Linked In (2003) Professional social network
- Orkut (2005) Google owned used mostly to India and Brazil
- YouTube (2005) Google owned Allows users to upload, share and comment on videos
  Enabled proliferation of video authoring and sharing for the masses

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Social Networking (continued-)

- Facebook (2004) Designed as replacement (for photo directories (facebooks) given to freshmen
- Exclusivity — must join as part of a network
- Added security Initially comprised (only of students from elite Universities
- Now includes most schools, geographies, and workplaces
- News feed — supports stickiness. Many repeat visits throughout the day

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Social Networking (continued)

- *Knowledge sharing research*
- Knowledge held by Entities –people, organizations or information systems
- Relationships characterized by-
- Type — friendship, advice or professional
- Strength — intensity or reciprocity
- Density — ratio of actual to possible ties in a network
- Position of the individual in the network-Central or peripheral

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Social Networking (continued)

- Enterprise uses of social networking
- Contact management
- Marketing
- Knowledge sharing
- Talent management
- Advantages - Self-organizing
- Leverages real-world connections

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Wikis

- Collections of web pages editable by anyone
- User generated content
- Usually a volunteer effort
- Collaborative
- No formal/professional review
- Approval stems from collective wisdom
- Most famous example — Wikipedia -Largest online encyclopedia — 3 million English articles

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Web Logs (Blogs)

- Web diary / journal Posts in reverse chronological order
- Used by people / organizations to communicate with public, to mainstream media for breaking news, Chronicle of events
- Army of Dude Twitter — a microblogging service
- Facilitates online presence for maintaining weak ties

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Open Source Development

- Originated after the development of ARPA net
- Free exchange of code for researchers
- Open source

- Coined by Tom O'reilly
- Collaborative
- Development of software
- Exchange done through internet
- Free software foundation- A legal entity under which the open source movement operates

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Open source development

- Open source initiatives- Principles

-Free distribution

- Source Code

- Derived works
- Integrity of Author's work
- Nondiscrimination for persons/groups
- Nondiscrimination on field
- Distribution of license
- License Must Not Be Specific to a Product
- License Must Not Restrict Other Software
- License Must Be Technology-Neutral

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Open Source Development

- Successful Open Source Projects:

Linux — x86 porting of Unix
Apache — world's most used web server
BIND — underpinning of Domain Name system
MySQL — relation database management system
Bugs found and fixed more quickly
New versions are more rapidly deployed

Motives for participation:

Need for product
Enjoyment, desire to create and improve
Reputation and status within the community
Affiliation ? Identity ? Values and ideology
Training, learning, reputation outside the community and career concerns

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Virtual Worlds

Metaverse

- **parallel online abstraction of the offline world**
- **Interaction via avatars Second Life and Developed by Linden Labs**
- **Highly interactive 3D, real-time, social network**
- **Virtual economy with currency — Linden Dollars**
- **Used for recreation, marketing, political campaigning, socializing, entertainment, and commerce**
- **Avatars interact in a 3D world known as the Grid**

Project Wonderland

Developed by Sun Used for virtual
Collaboration Runs on java
Use of open document format
Use XML to change virtual world

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Looking at the future

- The future of knowledge management, will be highlighted by three continuing trends:
  - (1) KM will benefit from progress in information technologies
  - (2) KM will continue the shift toward integrating knowledge from a variety of different perspectives
  - (3) KM will continue to make trade-offs in numerous important areas.

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Moving beyond information technologies

- KM will benefit from continual, and even more dynamic, progress in information technologies
- Improvements in cost/performance ratios of IT have caused the cost of digitizing information to approach zero, and the cost of coordinating across individuals, organizational sub-units, or organizations to approach zero as well.
- "*evolutionary agents*" may be dramatically different in their abilities to:
  - build theories and create a world of their own
  - assume any virtual identity they wish
  - possess free will
  - develop a moral code and a value system of their own

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Integrating knowledge from different perspectives

- KM will continue the shift toward bringing together, and effectively integrating, knowledge from a variety of different perspectives.
- KM originated at the individual level, focusing on the training and learning of individuals.
- The impact of KM is expected to continue with its use across networks of organizations and across governments, enabling collaborations across historical adversaries and integrating knowledge across highly diverse perspectives and disciplines

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Making trade-offs in important areas

- Same communication technologies that support the sharing of knowledge within an organization also enable the knowledge to leak outside the organization to its competing firms.
- It is essential to maintain a balance between using technology as substitutes for people (e.g., software agents) and using technology to enable collaboration from a wider range of people within and across organizations.

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Conclusions

- The future of KM is one where people and advanced technology will continue to work together, enabling knowledge integration across diverse domains, and with considerably higher payoffs.
- The future of KM will clearly be exciting due to the new opportunities and options, but interesting challenges definitely lay ahead for knowledge managers.

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