

IT METHOD & TOOLS FOR KM

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KM WORKSHOP 2014

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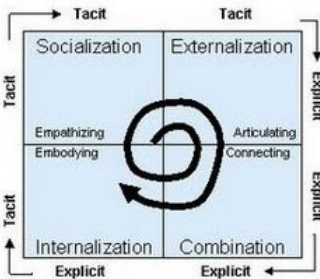


Structure of Presentation

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- IAEA Recommendations: KM Tools
- Nuclear Malaysia: KM Tools Analysis
- IT Tools for KM in Nuclear Malaysia
- Ms SharePoint Implementation
- Conclusion

KM Concept and Processes – K-Transfer

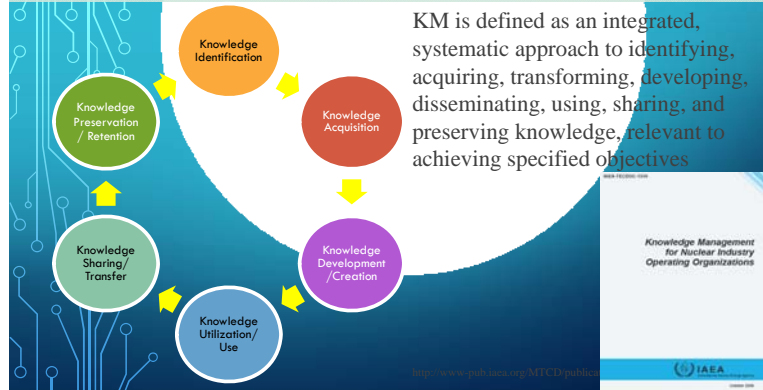
Figure1: SECI Model (Nonaka and Takeuchi)



- Tacit to Tacit - **Socialization**
- Explicit to Tacit - **Externalization**
- Tacit to Explicit to Explicit - **Combination**
- Explicit to Explicit - **Internalization**

Source: Nonaka and Takeuchi (1999)

Nuclear KM Processes



KM is defined as an integrated, systematic approach to identifying, acquiring, transforming, developing, disseminating, using, sharing, and preserving knowledge, relevant to achieving specified objectives



IT Tools supporting KM Processes

KM Processes	Activities	Sample Vendors
Knowledge Creation	Business intelligence, knowledge discovery, e-learning	Business Objects, Skillsoft, Orbital,
Knowledge Codification	Content management system, document management, categorization, abstracting, taxonomy	Interwoven, Autonomy
Knowledge Retrieval	Search, visualization	Google, Askleaves, Inktomi, Inxight
Knowledge Application	Workflow, collaboration, help desk	eRoom, Intraspect, PeopleLink
Knowledge Distribution	Knowledge portal, agents	Plumtree, AskMe
Knowledge Validation	Online expert communities, contribution valuation, assessment/rating/ranking/ scoring	IBM
Knowledge Tracking	E-mail mining, corporate yellow pages	Tacit
Knowledge Personalization	Expertise locators, communication, conferencing, collaboration	AskMe
Full-spectrum KM	Complete KM suites	Hummingbird, Open Text, Verity, IBM

Source: Madanmohan Rao, Knowledge Management Tools and Techniques

<http://www.walidshare.net/ezendu/knowledge-management-system-technology>

IT Tools supporting KM Processes

Category	Dominating Knowledge Conversion Process	Origin of Concepts	Example
Intranet Based Systems	Combination	Computer Networks (Web Technology)	Microsoft Internet Information Server
Electronic Document Management	Combination	Information Science	Excalibur Retrieval Ware and File Net
Groupware	Externalization	CSCW (Computer Supported Cooperative Work)	Lotus Notes and Microsoft Exchange
Workflow	Externalization	Organisation and Methods	ARIS Toolset (IDS Scheer)
Knowledge Base Systems	Externalization	Artificial Intelligence	Neugents (Computer Associates)
Business Intelligence	Combination	Database Management	Business Objects
Knowledge Map	Socialization	Information Science and Human Resource Management	Gingo (Trivium) and Lotus Discovery Server
Innovation Support Tools	Internalization	Innovation and Technology Management	Invention Machine
Competitive Intelligence Tools	Combination	Strategic Management and Information Science	Knowledge Works (Cipher Systems) and Vigipro (CRQ/CG)
Knowledge Portals	Socialization, Externalization and Combination	Computer Networks and Information Science	Digital Dashboard (Microsoft), Lotus k-station and Sopheon

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IT Tools supporting KM Processes

Knowledge Management Processes	Knowledge Creation	Knowledge Storage/ Retrieval	Knowledge Transfer	Knowledge Application
Supporting Information Technologies	Data-mining, Learning tools	Electronic bulletin boards, Knowledge repositories, Databases	Electronic bulletin boards, Discussion forums, Knowledge directories	Expert systems, Workflow systems
IT Enables	Combining new sources of knowledge, Just-in-time learning	Support of individual and organizational memory, Inter-group knowledge access	More extensive internal network, More communication channels available, Faster access to knowledge sources	More rapid application of new knowledge through workflow automation
Platform Technologies	Groupware and communication technologies, Intranets			

Source: Alavi & Leidner, Knowledge management and knowledge management systems
<http://www.silideshare.net/etandi/knowledge-management-system-technology>

IAEA Recommendations: KM Tools

KM ANALYSIS TOOLS	KNOWLEDGE CAPTURE TECHNIQUES	SOCIAL INTERACTION AND KNOWLEDGE SHARING TECHNIQUES	IT TOOLS
<ul style="list-style-type: none"> • KM maturity self-assessment • Knowledge loss risk assessment • Identification of critical knowledge • Rapid evidence review 	<ul style="list-style-type: none"> • Interview techniques • Laddering and concept mapping • Process mapping • Observation • Constrained tasks - structured interviews, self-assessment • questionnaires, quizzes and guessing games • Concept sorting 	<ul style="list-style-type: none"> • Communities of practice • Peer assist • Knowledge marketplace - 'dating service' (face-to-face, on-line or via email) • After action review • Knowledge café 	<ul style="list-style-type: none"> • Document and content management systems • Explicit knowledge search/retrieval • Knowledge base systems • Portals • Collaboration and social networking tools • Skills/competency management systems

IAEA Recommendations: KM Tools

MITIGATING SINGLETON RELIANCE	IMPROVING INNOVATION	DEVELOPING COLLABORATION RELATIONSHIPS AND PARTNERSHIPS	MAKING THE BEST USE OF AVAILABLE FUNDS	MAINTAINING AND DEVELOPING STAFF COMPETENCE	PROTECTING INTELLECTUAL PROPERTY	DELIVERY OF NUCLEAR EDUCATION	COMPLIANCE WITH NUCLEAR LEGISLATIVE REQUIREMENTS
<ul style="list-style-type: none"> • Identification of critical knowledge; • Knowledge loss risk assessment; • Succession planning; • Tacit knowledge capture; • Explicit knowledge search/find; • IT tools to facilitate the techniques above. 	<ul style="list-style-type: none"> — Communities of practice (CoP); — Knowledge base systems; — Explicit knowledge search/find; — Collaboration and social networking tools; — Rapid evidence reviews; — Peer assist; — Knowledge café. 	<ul style="list-style-type: none"> — Communities of practice; — Collaboration and social networking tools; — Peer assist; — Knowledge café; — Knowledge marketplace. 	<ul style="list-style-type: none"> • All — but with a targeted approach to address areas of inefficiency. 	<ul style="list-style-type: none"> — Competency frameworks; — Skills/competency management database tools; — Identification of critical knowledge; — Knowledge loss risk assessment; — Succession planning; — Communities of practice; — Collaboration and social networking tools; — Rapid evidence reviews; — Peer assist; — Knowledge café; — Knowledge marketplace. 	<ul style="list-style-type: none"> — Identification of critical knowledge; — Knowledge loss risk assessment; — Succession planning; — Tacit knowledge capture; — Explicit knowledge search/find; — IT tools to facilitate the techniques above. 	<ul style="list-style-type: none"> — Explicit knowledge search/find; — IT tools such as portals and collaboration tools. 	<ul style="list-style-type: none"> — Competency frameworks; — Skills/competency management database tools; — Identification of critical knowledge; — Knowledge loss risk assessment; — Succession planning; — Explicit knowledge search/find; — IT tools such as document/content management systems, portals and collaboration tools.

http://www-pub.iaea.org/MTCD/publications/PDF/TE_1675_web.pdf

Nuclear Malaysia: KM Tools Analysis

SME: COP	Current Practice	KM Tools	Issues & Challenges	Potential COP
RIA	K-Capture, Store, Sharing, Preservation and Utilization	Resrad, MicroShield, MSSharepoint	Culture- People (Sharing, capturing and preserving knowledge, Retirement, Workloads, Experience)	21 Fields of RIA
PDC	K-Capture, Store, Sharing, Preservation and Utilization	SharedFolder PDC, PDC-CRC, PDC-CRC-Ks, PDC Intranet Forum, A Vault (Drawing), MSSharepoint,	Culture- People and Technology (Laman sesawang yang pelbagai dan tiada integrasi sistem, (localweb, epc, rdms, smpkf, helpdesk, e-client), Kuota saiz fail yang terhad Promosi dan galakan kepada kakitangan dan pelanggan – kesedaran penggunaan spkms Istimqamah)	Pengurus, Pegawai dan Ketua, Unit/Khidmat, Ketua-Ketua Projek Kakitangan Pelaksana daripada Unit Pembangunan dan Khidmat Rutin, engurusan Atasan, Pelanggan PDC
Reactor Technology	K-Capture, Store, Sharing, Preservation and Utilization	SharedFolder, MSSharepoint (Discussion, Blog, Wiki,), Cloud Computing,	Culture- People and Technology (Manpower, Looseing Experts, ICT Infrastructure (Storage), RxLib also available through SharePoint, Use of RxLib minimizes duplication, less storage, Search by SharePoint not working, All BKN staff should share more in SF and SP, Allwarga should share more through SF & SP, Although SF is available thro SP, uploading is limited (Not possible?)	O&M, QAS, RIC, RxxP, FCM, TES

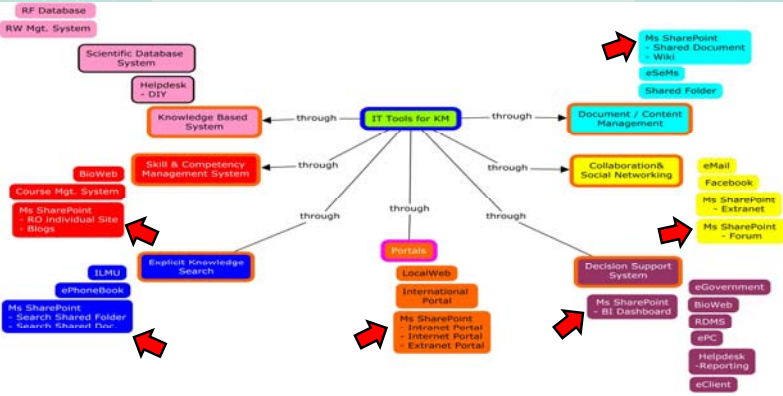
Nuclear Malaysia: KM Tools Analysis

KM Managers	Current Practice	KM Tools	Issues & Challenges	Potential COP
BMI	K-Capture, Store, Sharing and Utilization	Share Folder, Training Record Management, Formal Training Management Information System (SMPKF), Google, Local web, ePhonebook, e-Mail, Physical Files	People, Process and Technology (Need additional dedicated staff to manage knowledge in BMI, Learning material need to be shared electronically, E-learning solution need to be developed, e-STAR System Development need to be completed.)	Revive Nuclear Malaysia Get To Gather (NG2G) COP, Mini-seminar of the trainees (MST) COP
BPM	K-Capture, Store, Sharing, Preservation and Utilization	INIS, SDI, CAS (Current Awareness System), Web Publication, Technical report, Annual Report, Sistem ILMU (Nuklear Malaysia Library), (Nuklear Malaysia Library), Galeri Pameran Nuklear Malaysia, Shared folder (Arkib_BPM, Penerbitan, PPA, photo Galleria), SharePoint BPM, e-borang BPM, Manual Prosedur Kerja BPM, KM Facilities such as Bilik K-Aktiviti, K-Santai, Library.	People, Process and Technology (Rewards & Incentives, Lack of Cooperation & Communication, Manpower KM Repository (Software and hardware support), Training, Budget, Policy / Guidelines Culture, (Potential Solution: Helpdesk System Unit Penerbitan and Unit Rekabentuk & Pameran, BPM, KM Policy / Strategic Plan in NM, Repositori dan Rujukan Pengetahuan Nuklear (RP3))	Existing COPs: BPM staff, KM Committee such as Jawatankuasa Penerbitan Nuklear Malaysia, Wakil Bahagian untuk Folder Penerbitan, Ahli Fotografi Bahagian (R&D) Nuklear Malaysia etc., Division & Unit Meeting Public Potential CoP: INIS Awareness Committee , virtual community (such as social networks, newsgroups, weblogs), e-newsletters for nuclear application

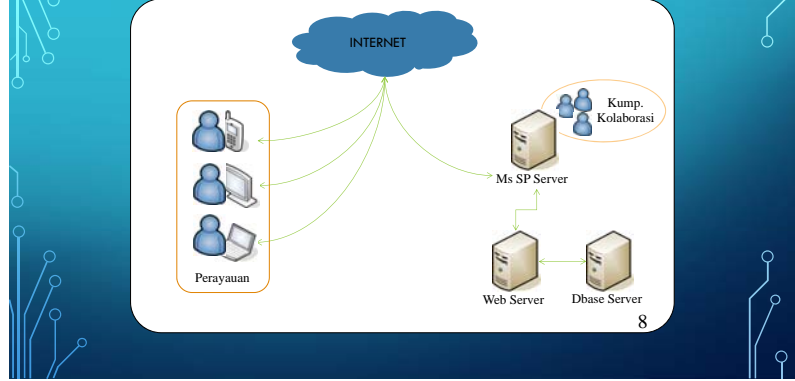
Nuclear Malaysia: KM Tools Analysis

KM Managers	Current Practice	KM Tools	Issues & Challenges	Potential COP
RIMC	K-Capture, Store, Sharing and Utilization	eScienceFund Systems (Research & Development Management (RDMS) Systems, Shared Folder, Sharepoint, eSMS	People, Process and Technology (Lack of awareness (work in silo), Lack of facilities – PC, Not familiar with KM, Lack of continuity, Lack of support/guidance from the relevant department)	Hari Inovasi – Open Day (public), IP Showcase, Expert Talk
IT	K-Capture, Store, Sharing and Utilization	eSMS, eAttendance, ePunchCard, IT Helpdesk, Bioweb, Kamus Nuklear Intranet (Localweb), ePhoneBook, Localweb, Shared Folder, SharePoint, eMail, Wiki Internet, (Blog, Forum, Social Network).	People, Process and Technology (Less structured work processes, Less structured knowledge, Less people know-how and know-why, Less quality of Knowledge preservation (lack of writing skill and afraid of writing know-how and know-why))	Computer and IT Security :ITERT, GRID Computing COP, KM Tool COP, Business Intelligence (BI) COP.

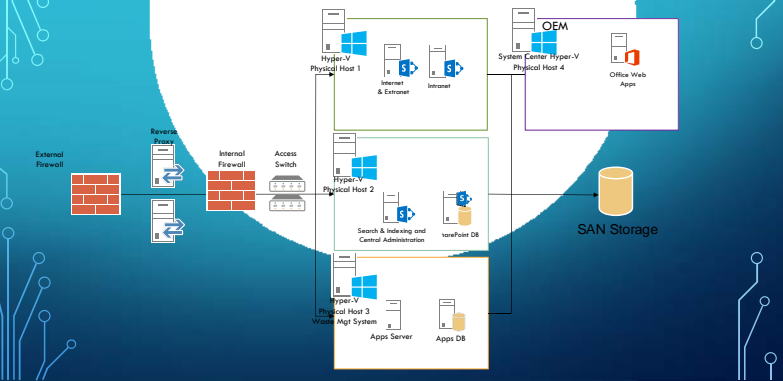
IT Tools for KM in Nuclear Malaysia



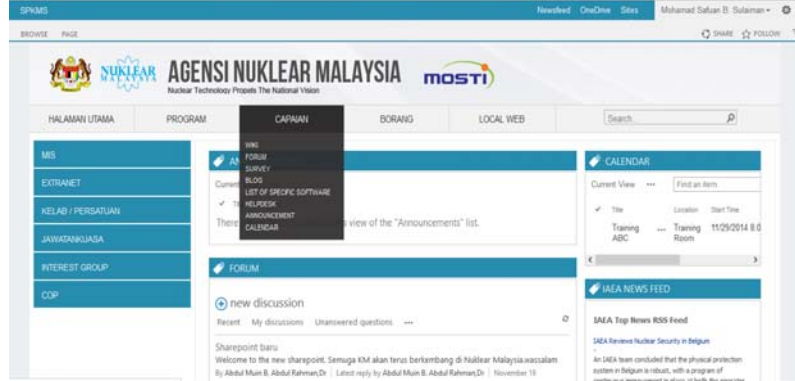
Ms SharePoint Implementation



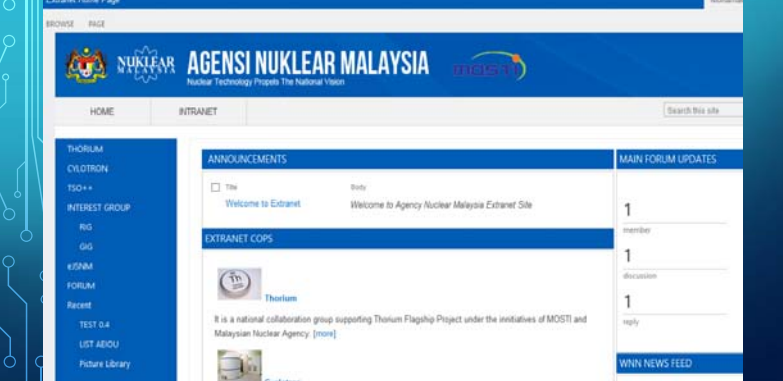
Ms SharePoint Implementation



Ms SharePoint Implementation – Intranet Portal



Ms SharePoint Implementation – Extranet Portal



Ms SharePoint Implementation – Internet Portal



Conclusion

- Several IT tools are available in Nuclear Malaysia
- Utilization of the tools should be further nurtured to get the full impact of NKM
- Implementation and utilization of Ms SharePoint 2013 is expected to reach the highest momentum of NKM Culture in Nuclear Malaysia.

