



Alat dan Teknologi Sistem Manajemen Pengetahuan

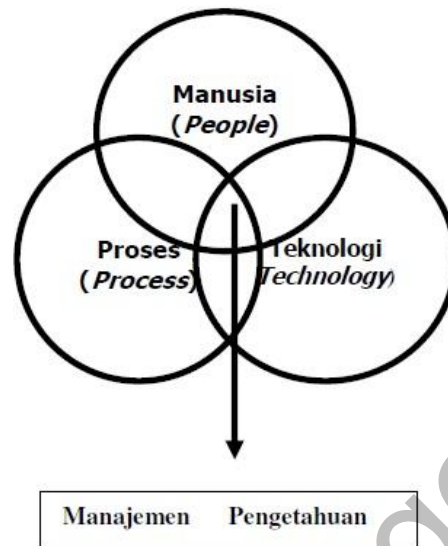
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I. PENDAHULUAN

Sistem informasi dalam perkembangannya berkembang sangat pesat dalam memenuhi kebutuhan organisasi yang bermanfaat untuk peningkatan kinerja operasional. Kebutuhan akan sumber daya teknologi yang di inginkan membuat manajerial berusaha untuk melakukan persiapan yang matang dalam perencanaan mengikuti jangka waktu yang di tentukan. Salah satu faktor yang mempengaruhi peningkatan kinerja adalah sumber daya manusia yang sangat berperan penting bagi kelangsungan hidup organisasi. Kompetensi sumber daya manusia di organisasi dapat ditingkatkan salah satunya yaitu dengan pengelolaan pengetahuan. Pengelolaan pengetahuan atau *Knowledge Management (KM)* sekarang ini sangat penting untuk meningkatkan nilai kompetitif suatu organisasi dalam menghilangkan kesenjangan antar karyawan. Sistem pengelolaan pengetahuan merupakan suatu sarana yang berbasiskan teknologi informasi dalam pengelolaan pengetahuan yang dibutuhkan oleh karyawan untuk meningkatkan keahliannya dalam membantu organisasi dalam operasionalnya.

Sistem pengelolaan pengetahuan atau *knowledge management system (KMS)* merupakan solusi dari penerapan pengelolaan pengetahuan di organisasi. KMS adalah teknologi yang memungkinkan *knowledge Management* untuk berjalan dengan efektif dan efisien[6]. *Knowledge management System* merupakan sistem informasi yang dipakai untuk mengelola Knowledge yang terdapat didalam sebuah organisasi[4]. *Knowledge Management System* merupakan gabungan dari teknologi dan mekanisme yang dikembangkan untuk mendukung proses *Knowledge Management* [5]. Pada umumnya organisasi menerapkan KMS menggunakan pendekatan seperti pada gambar 1.1 untuk mengelola pengetahuannya[11], yaitu : Manusia, Proses, dan Teknologi.



Gambar 1.1 tiga cabang penerapan KMS [11]

KMS sangat bergantung pada partisipasi manusia didalamnya. *Knowledge Management System* dikelompokkan menjadi 4(empat) macam [5], yaitu :

a. *Knowledge Discovery System*

Knowledge Discovery System merupakan proses membangun *tacit* atau *explicit knowledge* baru dari data dan informasi atau sintesis pengetahuan terdahulu.

b. *Knowledge Capture System*

Knowledge Capture System merupakan proses perbaikan salah satu dari *tacit* atau *explicit knowledge* yang melalui *people*, *artifact*, atau melalui organisasi

c. *Knowledge Sharing System*

Knowledge Sharing System merupakan proses dimana *tacit* atau *explicit knowledge* dapat dikomunikasikan dengan individu lainnya. *Knowledge Sharing System* dapat dikelompokkan lagi menjadi : Keahlian sistem pelacak, penerapan database yang baik, hal yang dipelajari sistem, sistem peringatan, dan database laporan insiden.

d. *Knowledge Application System*

Knowledge Application System merupakan proses penggunaan pengetahuan yang dipunyai oleh beberapa individu lain tanpa mendapatkannya secara nyata atau mempelajari *Knowledge* tersebut.

Platform utama pengelolaan pengetahuan digital berkisar seputar *knowledge bases* dan forum diskusi yang mudah dicari, Portal organisasi muncul untuk mencoba mengekspos informasi melalui satu dasbor tunggal, biasanya tidak berjalan dengan baik, meski teknologi portal masih memainkan peran kunci dalam banyak kasus penggunaan saat ini, Berbagai



pertimbangan pemilihan alat untuk pengelolaan pengetahuan antara lain [1]: Memahami kesesuaian alat yang tepat untuk pekerjaan yang tepat, alat yang tepat tidak cukup untuk kesuksesan KM, tapi ini adalah prasyarat yang semakin penting; Banyak dari alat-alat baru tersebut dilengkapi dengan repositori organisasi itu sendiri yang menyebabkan lebih banyak informasi yang harus disajikan; kolaborasi dan berbagi pengetahuan merupakan hal-hal untuk menambahkan nilai yang dilakukan dalam organisasi, Pemimpin KM diposisikan secara unik untuk membantu perusahaan menempatkan alat baru dalam konteks pekerjaan sehari-hari.

Knowledge Management Technologies adalah teknologi informasi yang dapat digunakan untuk memfasilitasi knowledge management, Teknologi Manajemen Pengetahuan secara intrinsik tidak berbeda dengan teknologi informasi, namun hal tersebut fokus pada pengelolaan pengetahuan daripada pemrosesan informasi[2]. Knowledge Management Technologies juga mendukung sistem manajemen pengetahuan dan mendapatkan keuntungan dari infrastruktur manajemen pengetahuan, terutama infrastruktur teknologi informasi, Teknologi KM merupakan komponen kunci dari sistem KM[2]. Pengetahuan dan informasi organisasi penting didistribusikan ke seluruh karyawan atau pegawai berupa fasilitas teknologi informasi. Hilangnya tacit pengetahuan berarti kehilangan sumber kunci organisasi, dengan menerapkan solusi manajemen pengetahuan pada umumnya selalu mengembangkan alat baru yaitu dengan mengintegrasikan semua informasi penting dan mengkodifikasi pengetahuan yang ada, kebanyakan kerangka kerja manajemen pengetahuan ditargetkan pada organisasi kecil, dengan menciptakan dan mengelola visualisasi data dan informasi yang dapat digunakan.

Dari uraian diatas bahwa dalam pengembangan KMS membutuhkan metode yang sangat sesuai dengan kebutuhan pengguna karena metode yang sesuai akan bermanfaat antara lain: Proses bisnis yang disederhanakan, dengan mengungkapkan pandangan organisasi yang berbeda dari proses dan data yang sama, redundansi apapun dapat ditangani; Kompleksitas informasi sistem berkurang, informasi perusahaan yang dihasilkan akan memiliki lebih sedikit aplikasi dan database serta biaya yang dapat diinvestasikan kembali ke dalam perbaikan sistem informasi lebih lanjut; Integrasi dimungkinkan melalui sharing data dan konsolidasi informasi dengan mengidentifikasi poin-poin dalam menerapkan standar untuk data bersama; Evolusi yang cepat terhadap teknologi baru pada pemahaman data dan proses dalam menciptakan dan mengakses data.

Makalah ini bertujuan untuk membahas teknologi sebagai alat dalam pengembangan sistem pengelolaan pengetahuan yang di dapat dari berbagai literatur yang disajikan oleh penulis yang dapat digunakan oleh organisasi untuk pengembangan sistem yang lebih baik.



Kebutuhan akan sistem yang baik sangat di dambakan oleh organisasi untuk membantu operasional kegiatannya dalam hal ini dalam pengelolaan pengetahuan baik pengetahuan tacit maupun pengetahuan eksplisit.

II. TEKNOLOGI DALAM SISTEM PENGELOLLAN PENGETAHUAN

1. Becerra-Fernandez dan Sabherwal, 2010.

Teknologi yang mendukung KM mencakup teknologi artificial intelligence (AI) termasuk yang digunakan untuk akuisisi pengetahuan dan penalaran berbasis kasus, kelompok diskusi elektronik, simulasi berbasis komputer, database, sistem pendukung keputusan, sistem perencanaan sumber daya perusahaan, sistem pakar, sistem informasi manajemen, sistem pencari keahlian, video conference, dan repositori informasi termasuk database praktik terbaik dan sistem pembelajaran. Teknologi KM juga mencakup teknologi Web 2.0 yang muncul, seperti wiki dan blog. Agar lebih mudah dipahami maka bisa dilihat pada tabel 2.1

Tabel 2.1 Proses KM Terpadu, Sistem, Mekanisme dan Teknologi [3]

| Proses KM | Sistem KM | KM Subproses | Mekanisme KM yang Ilustratif | Ilustrasi KM Technologies |
|----------------------|-----------------------------|---------------------------------|--|---|
| Penemuan pengetahuan | Sistem Penemuan pengetahuan | Kombinasi Sosialisasi | Rapat, percakapan telepon, pembuatan dokumen kolaboratif Rotasi karyawan antar departemen, konferensi. retreat brainstorming, proyek koperasi | Database, akses berbasis Web ke data, data mining, repositori informasi, portal Web, praktik terbaik dan pelajaran yang dipetik Videoconference, kelompok diskusi elektronik, e-mail |
| Tangkap Pengetahuan | Sistem Tangkap Pengetahuan | Eksternalisasi Internalisasi | Model, prototip, praktik terbaik, pelajaran Belajar dengan melakukan, on-the-job training, belajar dengan observasi, dan pertemuan tatap muka | Sistem pakar, kelompok obrolan, praktik terbaik, pelajaran yang dipelajari Komunikasi berbasis komputer, akuisisi berbasis pengetahuan AI, simulasi berbasis komputer |
| Berbagi pengetahuan | Sistem Berbagi pengetahuan | Sosialisasi Bertukar | Rotasi karyawan antar departemen, konferensi. retreat | Videoconference, kelompok diskusi elektronik, e-mail |



| | | | | |
|----------------------|-----------------------------|----------------|---|---|
| | | | brainstorming, proyek koperasi Memo, manual, surat, presentasi | Alat kolaborasi tim, akses berbasis Web ke data, database, dan repositori informasi, database praktik terbaik, sistem pembelajaran, sistem pencari keahlian |
| Aplikasi pengetahuan | Sistem Aplikasi pengetahuan | Arah Rutinitas | Hubungan hirarkis tradisional dalam organisasi, help desk, support center Kebijakan organisasi, praktik kerja, standar | Menangkap dan mentransfer pengetahuan para ahli, sistem pemecahan masalah, sistem penalaran berbasis kasus, sistem pendukung keputusan Sistem pakar, sistem perencanaan sumber daya perusahaan, sistem informasi manajemen |

2. Agarwal, N.K. & Islam, M.A. (2014)

Tujuan dari penelitian ini adalah untuk mengetahui alat / teknologi yang akan digunakan nilai ke perpustakaan saat mereka menerapkan Knowledge Management (KM) dan memetakannya fase siklus KM yang berbeda. Metodologi / pendekatan: Model siklus KM dan teori yang terkait dengan adopsi TI ditinjau, bersama dengan tools / teknologi untuk kolaborasi dan KM. Temuan: Ditemukan bahwa tidak ada satu set alat yang bisa diterapkan di perpustakaan. Selain itu, teknologi hanyalah enabler untuk KM. Oleh karena itu, seperangkat alat yang komprehensif, baik fisik maupun teknologi, dipaparkan.

a. Cycle 1: Creation and Capture

Table 2.2 Technology tools that best facilitate knowledge creation and capture[7]

| <i>Technology category</i> | What it does | Tool name | Application for KM in libraries |
|--|--|--|--|
| <i>Co-browsing; Screen sharing; Remote support</i> | 2 or more people browsing the web at the same time; helping another person situated remotely by accessing his/her screen | Firefly, GoInstant, LiveLook, Skype screen sharing, GoToMeeting, TeamViewer, Join.me, Netviewer, Twiddla | <i>Acquisition or sourcing:</i> E.g. Join.me is used by librarians to help patrons resolve their password and login issues, to demonstrate search strategies, or to problems downloading pdfs. |



| | | | |
|--|---|---|--|
| <i>Collaborative visual reviewing</i> | Instead of emailing different versions of a document back and forth, team members can visually review documents, and all comment on a single read-only copy online. | A.nnotate, Diigo, Uptogo, ConceptShare, Creately, Review Studio (former Cozimo), Notable, GroupZap, Google Drive, PDF-XChange Viewer/Editor (annotate PDFs) | <i>Compilation or capture:</i> E.g. Diigo helps in research, sharing and collaboration in many library activities. |
| <i>Collaborative writing</i> | Projects where written works are created by multiple people together (collaboratively) rather than individually. | MixedInk, Wridea, Editorially, Draft, Google Docs/Drive | <i>Creation:</i> Help increase efficiency in creating storing, sharing document, bookmarks and citations. E.g. Google Docs/Drive can help library staff collaborate. |
| <i>Document sharing - wikis</i> | Helps to <i>create</i> and <i>share</i> work online and access <i>documents</i> from anywhere. | Wikis, Pbwiki, Wikispaces, Google Docs/Drive, Scribd, Issuu, Docstoc, MS SharePoint, Typewith.me | <i>Creation:</i> Wikis can be used by library staff to archive documents, and have places where multiple employees could upload/update. |
| <i>Knowledge community / profile capturing</i> | Websites for profiling based on expertise, and/or answering questions posed by visitors | Quora, K-comm.tk, Yahoo Answers, Wiki Answers | <i>Capture:</i> E.g. K-Comm helps capture the tacit knowledge held by individual library employees in various domains – from the sublime to the mundane. Helps provide a sense of community where everyone is an expert. |
| <i>Mindmapping and diagramming</i> | A diagram used to visually outline information. | Freemind, The Brain, Mind42, XMind, Webspiration, Bubbl, Mindmeister, Mindjet, MS Visio | <i>Capture:</i> Useful for libraries to developing maps that chart information, thought processes, library's maps, contact information, meeting notes, project planning, SWOT analysis and future plans. |

b. Cycle 2: Sharing and Dissemination

Table 2.3 Technology tools that best facilitate knowledge sharing and dissemination[7]

| <i>Technology category</i> | What it does | Tool name | Application for KM in Libraries |
|----------------------------|--|--|--|
| <i>File sharing</i> | Distributing or providing access to information stored digitally as files. | Dropbox, Skydox, clip2net, MediaFire, 4shared, Google Drive, SkyDrive, box.com | E.g. Libraries could use Dropbox or Google Drive to organize and share files pertaining to meetings or committee work. They could also assign different file permissions and make folders transparent outside a committee. |



| | | | |
|--|---|--|--|
| <i>Group communication / private social network for the organization</i> | A software platform that implements some form of group communication; teams can connect online. | Yammer, Socialcast, Teambox, Hipchat, Chatter, Socialcast, Everyme, Nextt, Ning, Groupsite, Meetup | E.g. Socialcast or Ning helps library teams (even when dispersed geographically) to interact socially (less formal than email) by making knowledge and updates accessible to their peers through a news feed. They can also build their own communities. |
| <i>Instant Messaging / Chat</i> | Real-time text transmission over the Internet. | Adium, Pidgin, Meebo, Yahoo, Windows Live, eBuddy, Google Talk, Trillian, Digsby, Nimbuzz; Todaysmeet (backchanneling) | E.g. Many libraries are using Meebo as a KM tool for reference services |
| <i>Intranet / Portal</i> | An internal computer network to share information, operational systems, or computing services within an organization. | Igloo, Interact-Intranet, Moxie software, Podio, X-Wiki | lists intranet among the most effective KM tools for libraries. Igloo, e.g., is a modern intranet that helps bring together content and conversation. |
| <i>Large audience webinars – 100+ participants</i> | A web-based seminar, lecture, presentation or workshop given over | GatherPlace, Adobe Connect, GoToWebinar, OmNovia, BigMarker | E.g. GoToWebinar can be used by librarians to disseminate best practices, or to update their skills by participating in webinars offered by others without leaving their work desks. |

c. Cycle 3: Application and Use

Table 2.4 Technology tools that best facilitate knowledge application and use[7]

| <i>Technology category</i> | What it does | Tool name | Application for KM in Libraries |
|----------------------------|---|---|---|
| <i>Content management</i> | Creating solutions to manage all content created by the organization/library | WordPress, Drupal, Joomla, Plone, MS Sharepoint Server, Squiz Matrix | Libraries are adopting Drupal, WordPress, Joomla or Plone for easy content management. |
| <i>Event scheduling</i> | Finding a common time when everyone can make it; carried out when planning an event | Google Calendar, Doodle, Genbook, TimeToMeet, Appointment-plus, MeetingMaker, EventBrite | E.g. Doodle helps in finding a suitable time for an event (meeting, conference, trip, etc.) |
| <i>Expertise locator</i> | Connecting people with knowledge needs to experts. | Who's who, LinkedIn, Science Citation Index | Useful to librarians as knowing 'who knows what' is often more valuable than knowing 'how to do'. |
| <i>Project management</i> | Plan, organize, and manage resource pools and develop resource estimates. | Basecamp, Freedcamp Todayu, Clarizen, Genius project, AtTask, Project Insight, Daptive PPM, Tenrox, Project manager | Useful for projects such as creating a digital library, creating a multi-subject reference guide, preparing for teen reading week, etc. |



| | | | |
|--|--|--|--|
| <i>Work grouping / team collaboration workspaces</i> | Groups of users can easily access a set of related sheets, reports, and templates. | Smartsheet, AutoCAD, Wizehive, WebOffice, Onehub, Ubidesk, IBM Lotus Quickr, Teamlab | E.g. Ubidesk is fast and secure, and provides tools for knowledge crea |
|--|--|--|--|

3. Gallupe, B. (2001).

Tujuan dari makalah ini adalah untuk "mensurvei lanskap saat ini" dari KMS, dan menyediakan kerangka kerja untuk penelitian pengembangan dan penggunaan sistem ini dalam organisasi. Tabel 2.5 adalah menggambarkan tool untuk KMS.

| | |
|--|---|
| Intranet | Jaringan berbasis internet pribadi yang menggunakan Webbrowser untuk berbagi ilmu |
| Program Retrieval Informasi | Alat untuk mencari pengetahuan / data perusahaan dasar serta sumber pengetahuan eksternal menyediakan akses ke berbagai macam pengetahuan |
| Sistem Manajemen Basis Data | Kombinasikan dengan intranet dan informasi alat jaringan untuk menyediakan platform untuk dibangun alat manajemen pengetahuan khusus |
| Perangkat Lunak Manajemen Dokumen | Menyediakan sarana untuk menangkap, menyimpan, dan mendistribusikan pengetahuan dalam bentuk dokumen sebagai lawan dari data diskrit |
| Groupware | Perangkat lunak dan perangkat keras yang memungkinkan kelompok kerja untuk berkomunikasi dan berkolaborasi. Alat groupware biasanya memiliki fitur itu memungkinkan kelompok untuk melakukan tugas seperti menghasilkan ide (menciptakan pengetahuan baru) dan mencapai konsensus |
| Agen cerdas | Program perangkat lunak yang bisa menyaring pengetahuan yang benar-benar dibutuhkan pengguna. Ini mungkin menjadi sangat penting dalam pengetahuansituasi intensif dimana tertentu sumber pengetahuan perlu dipantau. |
| Sistem Berbasis Pengetahuan atau Pakar | Menyimpan pengetahuan para ahli dalam bentuk aturan atau kasus dan kemudian memberikan pengetahuan itu untuk pemula atau ahli lainnya. |



4. Greco et al (2013)

Tujuan penulisan ini adalah untuk memberikan kerangka metodologis yang bisa mendukung manajer dalam pemilihan Knowledge Management Sistem. Kerangka ini didasarkan pada pendekatan Analytic Hirarki Process. Tujuh tipologi KMS diidentifikasi dan dijelaskannya, merupakan alternatif yang mungkin di pilihan KMS yang paling sesuai:

- Document Management System (DMS)
- Learning platform (e-LP)
- Virtual Human Resource Management System (VHRMS)
- Knowledge Portal System (KPS)
- Decision Support System (DSS)
- Customer Relationship Management System (CRMS)
- Supply Chain Management System (SCMS)

5. Smuts et al(2009)

Di dalam makalah mengusulkan seperangkat karakteristik yang harus mendukung pengambil keputusan dalam pemilihan perangkat lunak sebagai alat untuk manajemen pengetahuan, Karakteristik ini berasal dari wawancara mendalam dan teori yang ada.

a. Classification 1: Generation of knowledge

| Generation of knowledge | | | |
|------------------------------|------------------------------|---|---|
| Dimension | Characteristic | Description | Example |
| Knowledge content generation | Authoring | Encompasses knowledge objects i.e. sources of explicit (e.g. documents, manuals, proposals, email messages) or implicit knowledge (e.g. people) | Supported by standard authoring tools like word processors and database management systems (DBMS) |
| | Knowledge creation | Refers to generation of new knowledge through thinking or reasoning | Brainstorming |
| | Knowledge objects | Knowledge is an object of structured information, un-structured information, insight, facts, practical and theoretical experience, as well as best practice to be stored and manipulated. | KMS will not appear radically different from existing IS, but will be extended toward helping in user assimilation of information. Role of IT involves gathering, storing and transferring knowledge. |
| | Content validation | Validation and auditing of knowledge objects when they are captured and resolution data and information conflicts | Knowledge object auditor validates submissions for knowledge repository before it is published |
| Knowledge discovery | Knowledge harvesting | Pro-active facilitation of harvesting and capturing of ideas, knowledge, expertise | Knowledge harvesting workshops and focus groups, defining tangible knowledge and capturing it |
| | Content evolution | Knowledge creation, combining new sources of knowledge, optimise feedback loops and re-apply, re-create | Data mining and learning tools |
| | Various distribution bearers | Ease of access and availability | SMS knowledge source to knowledge seeker |
| Data capturing tools | Externalisation | Refers to the connection of information source to information source and creating interrelationships; integration of organisational interdependencies | Focuses on explicit knowledge and provides a means to capture and organise this knowledge into a knowledge repository |
| | Maintenance and update | Ensures that knowledge objects stay valid and recent | Workflow enabled review indicator |
| | Storing | Support knowledge creation through exploitation, exploration and codification | Technology enabled store or knowledge repository that can support less structured information |
| | Content capture | Facilitates the capture of knowledge through different mechanisms | Keyboard, optical character recognition, bar code identification and real-time location sensors |



b. Classification 2: Storing, codification and representation of knowledge

| Storing, codification and representation of knowledge | | | |
|---|-------------------------------|---|--|
| Dimension | Characteristic | Description | Example |
| Technologies for storage | Archiving | Encompasses knowledge objects i.e. sources of explicit (e.g. documents, manuals, proposals, email messages) or implicit knowledge (e.g. people) | Supported by standard authoring tools like word processors and database management systems (DBMS) |
| | Capability | Knowledge is the potential to influence action, processing, decision-making, application. | Role of IT is to enhance intellectual capital by supporting development of individual and organisational competencies. |
| | Customisation | Configuration and set up of the system reflecting the specific organisation or user context | Organogram of organisation |
| | Flexibility | Solution should be able to handle knowledge of any form as well as different subjects, structures, taxonomies and media | If knowledge seeker wants to learn about gramophone records, it should supply knowledge on the technology as well as purchasing trends and examples of famous recordings |
| | Security | Have to address physical and logical security since knowledge is such a valuable asset | Implemented using inherent mechanisms in each tool or by using specific tools in addition to the existing system |
| | Hardware platform independent | Allows application setup to size and infrastructure of organisation | SMME applications |
| | Storing | Support knowledge creation through exploitation, exploration and codification | Technology enabled store or knowledge repository that can support less structured information |
| | Application scalability | Allows application setup to size of organisation | SMME applications |
| | Back-up and housekeeping | Handles all backups and housekeeping around knowledge repository | Relevant backup cycles |
| Human-readable knowledge | Heuristic | Solution should constantly learn about its users and the knowledge it possesses as it is used i.e. continually refine itself as a user's pattern of research is tracked by the system. Its ability to provide a knowledge seeker with relevant knowledge should therefore improve over time | If the solution responds to many requests on a particular subject, it should learn how to assist multiple users in more depth on that subject |
| | Content capture | Ensures that knowledge is committed to the knowledge repository based on certain rules | Organisation knowledge map and taxonomy |
| Knowledge organisation | Classification | Handles content management according to context of organisation | Corporate taxonomy as knowledge map supported by classifying and indexing tools |
| | Date and time stamp | Refers to the tagging of knowledge objects to track recency | Date and time linked to knowledge objects |
| | Indexing | Handles content management according to context of organisation, corporate taxonomy | Corporate taxonomy as knowledge map supported by classifying and indexing tools |
| | Internalisation | Refers to the connection of explicit knowledge to people or knowledge seekers | Involves extraction of knowledge from the external repository and subsequent filtering ensuring greater relevance to knowledge seeker |
| | Knowledge gap identification | Allows a knowledge user to identify areas of the knowledge repository that is utilised significantly vs. underutilisation, as well as to identify areas where more content can be uploaded and populated in the knowledge repository | Knowledge repository usage report |
| | Content upload | Identifies areas where more content can be uploaded and populated in the knowledge repository | Taxonomy elements without any references |
| | Taxonomy | Refers to the definition of how the knowledge is stored | Organisation knowledge map and taxonomy |

c. Classification 3: Knowledge transformation and knowledge use

| Knowledge transformation and knowledge use | | | |
|--|-------------------------|---|--|
| Dimension | Characteristic | Description | Example |
| Knowledge transformation | Search and retrieval | Primarily concerned with enhancing the interface between the user and information / knowledge sources, user-friendliness and learning agility | Help users better understand the information and knowledge available by providing subject-based browsing and easy navigation |
| | Access to information | Encompasses the transformation of end-user collected data and information before it is committed to the knowledge repository | Knowledge object auditor validates submissions for knowledge repository before it is published |
| Knowledge reconstruction | User sensitive | Solution should be able to organise the knowledge in the way most useful to the specific knowledge seeker | Should give knowledge relevant to knowledge seeker's current knowledge level, facilitating easier understanding |
| Knowledge use and retrieval | Application | Timeous availability of organisational and individual memory, just in time learning. Inter-group knowledge access | Expert systems, rapid application of new knowledge through workflow systems |
| | System learning agility | Refers to the ease of learning and teaching how to utilise the knowledge management system | Guided e-learning and assessment module |



d. Classification 4: Transfer, sharing, retrieval, access and searching of knowledge

| Transfer, sharing, retrieval, access and searching of knowledge | | | |
|---|--|---|---|
| Dimension | Characteristic | Description | Example |
| Knowledge access and transfer | Content delivery | Personalisation involves gathering of user-information and delivering appropriate content to meet specific user needs aligned to user profile | Electronic bulletin boards, through portals is knowledge distributed as needed by different applications |
| | Access to information | Encompasses the transformation of end-user collected data and information before it is committed to the knowledge repository | Knowledge object auditor validates submissions for knowledge repository before it is published |
| | Multi-language support | Refers to language setting of user interface or translation feature to support knowledge seeker | User interface language configuration |
| | User-friendly user interface | Encompass ease of use of user interface | Context-sensitive in-line help facility |
| Person to person and team collaboration | Collaboration | Support the knowledge sharing process through a social network analysis and collaborative tools; collective insights across operations and different geographical locations; multi-dimensional collaboration | Facilitate communication between users, collaboration among users and workflow management |
| | Expertise applying process | Knowledge is a process of applying expertise. | Role of IT is to provide link among sources of knowledge to create wider breadth and depth of knowledge flows. |
| | Workflow enabled | Encompasses workflow enablement of knowledge requests, content update notification and knowledge object validation requests | Email information knowledge seeker that knowledge object has been updated |
| Knowledge sharing | Intermediation | Refers to the connection of people to people i.e. bring together those who are looking for a certain piece of knowledge and those who are able to provide this piece of knowledge | Primarily positioned in the area of tacit knowledge based on its interpersonal focus |
| Search and find | Accessibility | Knowledge is a condition of access to information via different mechanisms (e.g. web based) and locations. | Role of IT is to provide effective search and retrieval mechanisms for locating relevant information. |
| | Appropriateness | Refers to display of suitability indicator based on keywords specified by knowledge seeker | Appropriateness scale 1-15 where 1 is very relevant and 5 least relevant |
| | Context sensitivity | Solution should be able to understand the context of the knowledge requirement and tailor response accordingly | Should be able to understand and respond differently between animal reproduction and document reproduction |
| | Heuristic | Solution should constantly learn about its users and the knowledge it possesses as it is used i.e. continually refine itself as a user's pattern of research is tracked by the system. Its ability to provide a knowledge seeker with relevant knowledge should therefore improve over time | If the solution responds to many requests on a particular subject, it should learn how to assist multiple users in more depth on that subject |
| | Multi-language support | Refers to language setting of user interface or translation feature to support knowledge seeker | User interface language configuration |
| | Suggestive | Solution should be able to deduce what the knowledge seeker's knowledge needs are | Suggest knowledge associations the user is not able to do |
| | Relevance | Indicates the significance of knowledge objects retrieved | Result set includes direct keyword retrieval and well as context specific retrieval set |
| | Search and retrieval | Primarily concerned with enhancing the interface between the user and information / knowledge sources, user-friendliness and learning agility | Help users better understand the information and knowledge available by providing subject-based browsing and easy navigation |
| | Timeliness | Knowledge is available whenever it is needed. | Eliminates time-wasting distribution of information just in case it might be required |
| Responsiveness | Encompasses almost immediate retrieval and presentation cycles | Query response time | |

III. KESIMPULAN

Sistem pengelolaan pengetahuan sebagai alat bantu dalam pengembangan pengelolaan pengetahuan yang dapat bermanfaat bagi kelangsungan hidup organisasi pada dasarnya merupakan modal keunggulan kompetitif. Dasar teoritis konsep manajemen pengetahuan utama yang dimiliki organisasi adalah modal Intelektual. Berbagai teknologi yang dikembangkan memberikan nilai tambah untuk meningkatkan dan memperkuat *Knowledge*



Management. Sistem KM yang baik harus difokuskan pada tujuan bisnis inti dan memungkinkan organisasi untuk melayani pelanggan dengan lebih baik dan untuk meningkatkan tingkat kepuasan mereka. Beberapa alat teknologi yang telah dikemukakan pada dasarnya yaitu bagaimana kita memilih tool yang sesuai dengan kebutuhan organisasi baik pemerintah maupun non pemerintah. Hal ini dapat menjadi pedoman bagi organisasi dalam mengembangkan KMS yang dapat mengacu pada penggunaan teknik menemukan masalah , membangun Infrastruktur pengetahuan, dan penggunaan perangkat lunak sebagai kelayakan proyek dari KMS.



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