

Knowledge Management Consulting Method

Part 4 – KM Development Plan

Module 4.3 – Analyse and Leverage the Technology

Contents

INTRODUCTION.....	3
AN OVERVIEW OF THE KM CONSULTING METHODOLOGY	3
PART 4 - DEVELOP THE KM ORGANISATION.....	4
SUMMARY OF ACTIVITIES PER MODULE	7
MODULE 4.3 - ANALYSE AND LEVERAGE THE TECHNOLOGY	9
1.0 ANALYSE THE TECHNOLOGY	9
1.1 <i>Purpose of module.....</i>	9
1.2 <i>Where to start from</i>	9
1.3 <i>Module Templates</i>	10
2.0 LEVERAGE THE TECHNOLOGY	23
2.1 <i>Purpose of module.....</i>	23
2.2 <i>The framework for ICT services supporting knowledge management</i>	23
2.3 <i>The technical architecture.....</i>	24
2.4 <i>Module Templates</i>	28
GLOSSARY.....	29

Introduction

An Overview of the KM Consulting Methodology

The KM Consultancy Methodology enables structured thinking and planning for a knowledge management project. The KM Consultancy Methodology is designed to be modular so that an organisation can choose to start at different levels depending on its readiness, needs and requirements.

The KM Consultancy Methodology is divided into 6 parts of learning and activity. Part 1 concentrates on KM Education, understanding what KM is, the terminology used and why it is important. Part 2 introduces the individual to the importance of KM frameworks, and more importantly, the framework used for the KM Consulting Methodology.

Parts 3, 4 and 5 focuses on the planning, developing and implementing KM within and organisation. This involves looking at the initial or the planning stage of the strategic planning for knowledge management, in Part 3. Part 4 looks at developing the knowledge organisation, looking at how to KM enable the organisation and the need to iteratively develop the KM initiative. Part 5 looks at implementing the KM initiative, from a small pilot project, to a organisation wide KM roll-out and then to an inter-organisation wide KM roll out.

Part 6 focuses on the knowledge and skills required to successfully conduct KM on a daily basis. This involves fundamental skills, such as utilising the KM system and working effectively as virtual teams through to understanding the new roles and responsibilities of the Chief Knowledge Officer, Knowledge Manager, Knowledge Administrator and the Knowledge Workers.

Part 7 introduces the 9 steps of the KM Process. The KM process enables organisations to introduce, implement and assess how an organisation can become KM enabled. This part will introduce the 9 Steps and describe their purpose and importance. A KM Maturity Model is introduced to allow users to start assessing how effectively they are KM enabling their organisation/process/project.

Part 4 - Develop the KM Organisation

Part 4 of KM Consulting Method concentrates on developing the KM organisation. There are six different modules as follows:

- Modules 4.1 are an audit-leverage pair that focuses on business processes.
- Modules 4.2 are an audit- leverage pair that focuses on organisational structures and networks of people.
- Modules 4.3 are an audit- leverage pair that focuses on technology issues.
- Module 4.4 focuses on the development of the underlying model for knowledge asset organisation and is essential for the customisation of KM System tool, such as Knowledger.
- Module 4.5 focuses on the knowledge assets measurements
- Module 4.6 is a module that synthesises and documents the changes that the organisation is implementing as a result of the knowledge management initiative.

The purpose of this Part 4 is that it is iterative in nature, where an organisation will constantly analyse and leverage the knowledge for continuous further improvements. Modules can run in parallel and can be repeated several times throughout the knowledge management initiative. Three simple steps underlie the proposed iterative approach. First, diagnose the most critical problems and opportunities facing the organisation with respect to knowledge management and sketch out a possible solution. Second, quickly, over a few months, translate the sketch of a solution into new work processes and systems; include new ways of working as well as new computer systems, and begin using both for real. If, for example, the problem at hand is customer knowledge management, use the new process to manage some important customers at several offices (or business areas). Given this real-world experience, determine where these new processes and systems succeed or fail, and quickly fix the failures. In other words: do it, then fix it. Third, scale up systems for rollout across the whole organization. Communicate the proven success of the trials in order to build momentum for change.

The essence of the iterative prototyping approach is rapid learning from doing. Speed ensures that change is always relevant, it forces trade-offs so that limited resources are devoted to pursuing goals of real value, it allows top people to participate in change, and it builds unstoppable momentum. Trying out new ideas in the real world allows their shortcomings to be rooted out by the harshest of tests - real-world experience - and their successes to be proven beyond challenge from the most cynical critics. By stressing speed of change and using the real world as a laboratory to learn from, the iterative prototyping approach makes change and improvement a constant fact of corporate life.

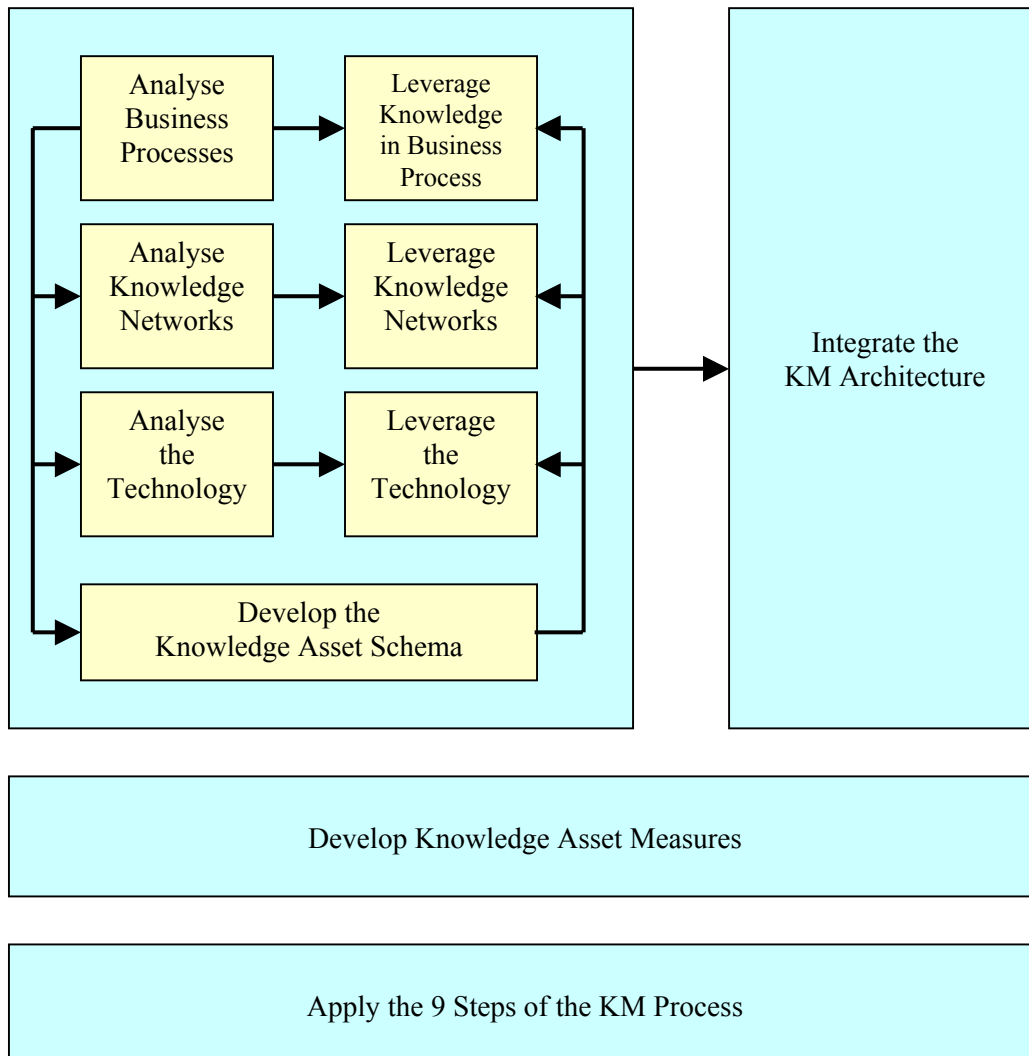


Figure 1 – Develop the KM Organisation

Summary of Activities per Module

Module		What is it used for?	Who is involved?	What are its prerequisites?	Comment
4.1	Analyse Business Processes	This module helps you audit the knowledge requirements of business processes.	Consultant and employee that 'governs' BUSINESS process. Additional interviews with employees involved in process.	High-level identification of key knowledge assets and key business areas of the organisation.	This module is useful: in relatively structured environments when there is a need to better manage knowledge in specific business processes
	Leverage Knowledge in Business Processes	To design and implement additions / modifications in business processes to improve knowledge management within process	Consultant and employee that 'governs' business process. Additional interviews with employees involved in process.	An analysis of the existing process; Knowledge Asset Schema	
4.2	Analyse Knowledge Networks	This part of the module helps you understand the informal flow of knowledge within networks of people in the organisation.	Consultant and Change Agent. Additional interviews with people in knowledge networks.	High-level identification of key knowledge assets and key business areas of the organisation.	This module is to be used only in environments that there already exist informal networks of people that focus on a specific knowledge asset or business area
	Leverage Knowledge Networks	This part of the module helps you design and moderate Knowledge Networks within the organisation.	Consultant and Change Agent. Additional interviews with people in knowledge networks.	Knowledge Asset Schema	This module is used by organisations that wish to build communities that will be collecting, storing and advancing key knowledge assets of the organisation. Particularly important for dispersed organisations.

Module		What is it used for?	Who is involved?	What are its prerequisites?	Comment
4.3	Analyse the technology	Asses the current state of IT in the organisation and identify existing information sources	Consultant, Change Agent, CIO, IT director or similar		This module supports the integration with existing enterprise systems.
	Leverage the technology	Present the technology element in knowledge management	Consultant, Change Agent, CIO, IT director or similar	Ideally Modules 4.2 and 4.3	
4.4	Develop the Knowledge Asset Schema	Design the knowledge asset schema, knowledge objects and attributes, and ontology	Consultant with Change Agent		This module provides essential input for the design of the knowledge repository.
4.5	Develop the knowledge asset Measures	To measure, track and report on the organisations knowledge assets	Consultant with Change Agent	Knowledge Asset schema	This module is essential for knowledge accounting
4.6	Implement the KM architecture	Helps integrate people, process and technology changes into one holistic solution	Consultant with Change Agent		Practical tips on integrating the people. process and technology changes. Addresses cultural issues.
4.7	Applying the 9 Steps of the KM Process	To KM enable the organisation/process/project. To monitor and measure the progress of KM enabling your organisation.	Consultant with Change Agent	A clearly defined area to be KM enabled	This module supports integration of the KM process within an organisation.

Module 4.3 - Analyse and leverage the Technology

1.0 Analyse the Technology

1.1 Purpose of module

- To survey the existing ICT infrastructure of the organisation from the knowledge management perspective.
- To assess the complexity of the integration of existing ICT systems with the new knowledge management technological infrastructure.

1.2 Where to start from

This module provides for a comprehensive review of the following areas of information and communication technologies:

- Technology direction.
- Computing infrastructure.
- Communications infrastructure.
- Systems and applications.
- Computer usage.

For each area you are invited to complete the questionnaires of this module. Addressing all above area. Meanwhile the consultant conducts workshops with IT professionals of the organisation in order to gain an understanding of the business /IT objectives and environment. These sessions are essential to gain the greatest benefit from the exercise because they assure the quality of the results.

The self-assessment material in the templates adopts three techniques:

- Information collection of systems and applications.
- Questionnaires.
- Effectiveness profiles, asking you to match the organisation's profile against five levels of effectiveness from 1 to 5 (1: little recognition of the issue, 2: recognition of the issue, 3: approach to issue formalised, 4: tailored approach defined based on judgement, 5: best practice).

1.3 Module Templates

A. Technology direction

Select the strategy best describes your current hardware strategy.

	Hardware Strategy The process of determining the overall hardware strategy within the organization.
1	No formal hardware strategy. Hardware strategy «evolves» largely at the dictate of the experience of individual managers in IS and the business. Purchasing autonomy creates «technical anarchy».
2	Recognitions of the need for a more consistent, planned approach to hardware, typically owing to dissatisfaction with inter-machine communication, diversity of reliability and support. «De facto strategy» in some areas driven by application systems portfolio.
3	Periodic review by IS specialists to assess long-term hardware strategy. Competitor/market trends assessed. Strategy addresses mainly central hardware (e.g. mainframe, disks, controllers); legacy diversity causes non-compliance in many areas. Focus on achieving technical benefits.
4	Regular, formal, documented study by IS management/specialists to assess long term hardware strategy. Competitor/market trends assessed. Strategy addresses central/distributed/desktop platforms; legacy diversity causes non-compliance in some areas. Focus is achieving pragmatic business benefits.
5	Regular, formal, documented study by IS management/specialists to assess long term hardware strategy. Competitor/market trends assessed. Goals and transition strategy defined. Ongoing monitoring of technology trends, evolving standards and competitive edge opportunities by R&D function. Strategy addresses all platforms; compliance with strategy in all areas. IS and business work together to sustain optimal hardware strategy in support of business goals, balancing potential benefits and risks.
Comments	

Select the strategy best describes your current software strategy.

	Software Strategy The processes of determining the overall strategy within the organization.
1	No formal systems software strategy. Software strategy «evolves» largely at the dictate of the experience of individual managers. IS reactive to systems software problems/opportunities.
2	Recognition of the need for a more consistent, planning approach to systems software, typically owing to dissatisfaction levels with inter-machine communications, diversity of skills needs, diversity of reliability and support. De facto strategy in some areas driven by applications systems portfolio.
3	Periodic review by IS specialists to assess long-term systems software strategy. Competitor/market trends assessed. Strategy addresses mainly central software (e.g. mainframe operating systems, languages, databases, network); legacy diversity causes non-compliance in many areas. Focus is achieving technical benefits.
4	Regular, formal, documented study by IS management/specialists to assess long-term systems software strategy. Competitor/market trends assessed. Strategy addresses core software distributed/desktop software (e.g. MVS vs. OS/400, TCP/IP vs. SNA vs. OSI, FDDI vs. Ethernet vs. Token Ring, Windows vs. OS/2 vs. Unix); legacy diversity causes non-compliance in some areas. Focus is achieving pragmatic business benefits.
5	Regular, formal, documented study by IS management/specialists to assess long term systems software strategy. Competitor/market trends assessed. Goals and transition strategy defined. Ongoing monitoring of technology trends, evolving standards and competitive edge opportunities by R&D function. Strategy addresses all platforms; compliance with strategy in all areas. IS and business work together to sustain optimal software strategy in support of business goals, balancing potential benefits and risks.
Comments	

Select the strategy best describes your current Internet/Intranet/Extranet strategy.

	Internet / Intranet / Extranet Strategy Organisational approach to the exploitation of open systems platforms
1	No formal objective approach to Internet technologies. The organization focuses on non-Internet technologies predominantly from a single vendor.
2	Recognition of the potential for benefits from Internet technologies. Initial investigation of Internet technologies in specific IS/IT areas (e.g. Networking, Web site). Focus is achieving technical benefits and reducing costs through competitive tendering.
3	IS/IT «policy» on Internet technologies defined based primarily on a formal assessment of the technical benefits and costs reduction. Internet technologies strategy defined addressing primarily external connections and networking.
4	Enterprise policy on computer platforms defined based primarily on a formal assessment of business benefits (e.g. Facilitation of joint ventures, divestment, diversification, information exchange with trading partners, etc.), technical benefits and cost. Internet technologies strategy addresses primarily external Web site existence, and external networking (no intranet / extranet consideration).
5	Enterprise policy on Internet technologies defined based on a formal assessment of organization benefits, technical benefits, costs and risks (e.g. Standards obsolescence, change/problem management complexity, product compliance validation, security, etc.). Internet technologies strategy addresses networking, computer platforms, data management, data structures, data distribution, user interfaces, methodologies and security.
Comments	

B. Computing Infrastructure

Select the infrastructure which best describes your current computing infrastructure.

	Infrastructure Definition The process of defining hardware/software product infrastructure.
1	No technology infrastructure other than that implicit in primary vendor's products (e.g. IBM 370, SAA).
2	Recognition of need for more formal approach to overall hardware/software infrastructure, typically in response to hardware/software incompatibility problems. Infrastructural frameworks defined to address some problem areas (e.g. PC configurations).
3	Infrastructural scope broadened and defined for both hardware platforms and software platforms. Ad hoc responsibilities defined for periodic reviews of infrastructural needs/opportunities and compliance with agreed strategy.
4	Regular review of technology architecture to identify needs and exploit developments. Specific roles and responsibilities defined for reviews and strategy compliance. Infrastructure documented.
5	Ongoing process to maintain optimal technology infrastructure in compliance with strategy. Comprehensive scope to infrastructure spanning mainframes, mini computers, PCs, peripherals, networking, operating systems, TP monitors, DBMSs, CASE tools, languages and user interfaces. Infrastructure documented.
Comments	

C. Communications Infrastructure

Select the network design which best describes your current communications infrastructure.

	Network Design The design aspects of the communications infrastructure.
1	No dedicated communications infrastructure in place. Disparate networks exist for a range of different applications. No integration between networks. Separate voice and data services.
2	Recognition of the need for increased integration between range of corporate communications systems. Separate voice and data services.
3	One integrated data network. Separate voice and data services. Clear management responsibility for communications infrastructure design exists.
4	Partially integrated voice and data network. Clear management responsibility for communications infrastructure design exists.
5	Fully integrated voice and data network. Clear management responsibility for communications infrastructure exists; designed, sized and costed to meet user requirements.
Comments	

Select the network capabilities which best describes your current communications infrastructure.

Network Capabilities The intrinsic capabilities of the communications infrastructure.	
1	Infrastructure cannot be configured to allow all users to intercommunicate by voice or data. No coherent communications services in place. Perceived poor user service availability and response times; no targets or measurement of service.
2	Infrastructure can be configured to allow many users to intercommunicate by voice and data. Limited communications services supported. Perceived acceptable user service availability and response times, but no targets or measurement of service.
3	Infrastructure can be configured to allow all users to intercommunicate by voice and data. Standard and non-standard communications services supported. Service availability and response time targets in place, but not measured.
4	Infrastructure can be configured to allow all users to intercommunicate by voice and data with a range of user specific facilities. Full standard and non-standard communications services supported. User service availability and response time targets measured and often achieved.
5	Infrastructure can be configured to allow all users to intercommunicate by voice or data with a comprehensive range of user specific facilities. Complete range of standard and non-standard communication services supported. User service level objectives, targets, service levels in place, measured and met routinely. Full costing information available.
Comments	

Select the network support which best describes your current communications infrastructure.

	Network Support The extent of the communications infrastructure support and operational processes.
1	No dedicated support for voice and data services. Support and maintenance is only available from equipment supplier. No operational or fault escalation procedures in place.
2	Recognition of need for more formal support capability for voice and data services. Bulk of support and maintenance is provided by equipment supplier. Basic operational procedures in place.
3	Formalised support for both voice and data services. Responsibilities defined for first line support and maintenance with assistance from equipment supplier. Basic operational and fault escalation procedures in place.
4	Formalised support for both voice and data services. Responsibilities defined offering «help desk» and first line support and maintenance with assistance from equipment supplier. Detailed operational and fault escalation procedures in place.
5	Infrastructure has a comprehensive level of support for both voice and data services. An experienced team in place offering help desk, fault escalation and comprehensive support and maintenance to all users. Comprehensive operational and fault escalation procedures in place.
Comments	

E. Systems and applications

Which of the facilities listed below do management/staff in your department

- a) use;
- b) require; and
- c) consider the relative importance of having this facility (thus there should be a spread of importance ratings over the 8 facilities).

Please use the scoring key set out below.

SCOPE	USE	REQUIRE	RELATIVE IMPORTANCE
1	Not Used	Not Required	Not Important
2	Little Used	Little Required	Minor Importance
3	Some Use	Some Requirement	Fair Importance
4	Considerable Use	Considerable Requirement	Important
5	Extensive Use	Extensive Requirement	Essential

SERVICE/EQUIPMENT	USE (1-5)	REQUIRE (1-5)	RELATIVE IMPORTANCE (1-5)
1. Facsimile			
2. Teleconferencing			
3. Videoconferencing			
4. Electronic Mail / Diary			
5. Voicemail			
6. Desktop Publishing (e.g. word processing)			
7. WEB Publishing (e.g. HTML)			
8. Groupware (e.g. Lotus Notes)			

Please assess the relative importance/impact of office systems support (i.e. services listed above) compared with main computer information systems.

%

A. Office systems	
B. Information systems	
	100

Please list the most significant operational application systems available to the business/enterprise and allocate a unique System ID of up to three alphanumeric characters for each. For each application one Information Profile should then be completed. The System Name should be that commonly used across the IS and user communities.

System ID	System Name	Primary Users (Departments & Individuals)	Processor eg. IBM 3090, IBM PC, DEC VAX	Operating Systems Eg. MVS VME

Application information profile

System ID	System Name	Primary information output	Is output Web enabled?	KM system connectivity (to be completed by consultant)

F. Computer usage

Please give your overall assessment of the user communities' experience of computing. Where there are variations between user departments you may wish to complete separate profiles for each department.

Please answer the questions by circling as appropriate using the following key:

- 1 = none at all, low, badly**
5 = a great deal, high, well
(as appropriate to the question)

A Experience		
Please assess		
1	Overall levels of computing experience	1 2 3 4 5
2	The amount of computing training delivered during the last three years	1 2 3 4 5
3	How well you think the department would cope should a new information system be implemented in the department in the near future.	1 2 3 4 5

B Use of Computing		
Please indicate the extent to which		
4	The department uses computers, computer printout, etc.	1 2 3 4 5
5	Information systems help departmental managers in making necessary day to day decisions	1 2 3 4 5
6	The department uses the Internet (including Internet access availability to users)	1 2 3 4 5
7	The department initiated changes to information systems in the last year	1 2 3 4 5
8	These changes were viewed as successful	1 2 3 4 5

C Involvement in computer systems						
Please assess department management/staff participation in the following computer activities:-						
9	Information systems feasibility and justification studies					
	A How much they participate	1	2	3	4	5
	B How much you feel they should participate	1	2	3	4	5
10	Approval to proceed to full system development					
	A How much they participate	1	2	3	4	5
	B How much you feel they should participate	1	2	3	4	5
11	Functional design (i.e. determining what the system should achieve)					
	A How much they participate	1	2	3	4	5
	B How much you feel they should participate	1	2	3	4	5
12	Technical design (i.e. determining how the system should work)					
	A How much they participate	1	2	3	4	5
	B How much you feel they should participate	1	2	3	4	5
13	System testing, user acceptance testing and system implementation					
	A How much they participate	1	2	3	4	5
	B How much you feel they should participate	1	2	3	4	5

D Computing Service Levels						
Please indicate your view of the user's overall satisfaction with the service you deliver from the central computing department (i.e. helpful, can be reached when needed, quick to resolve problems, etc.) in the areas of:-						
14	Computer operations and running of systems	1	2	3	4	5
15	Systems maintenance, i.e. correcting us	1	2	3	4	5
16	Systems development, i.e. carrying out requests for enhancements or for new systems	1	2	3	4	5
17	Please indicate your view of the user's overall satisfaction with the service you deliver	1	2	3	4	5

E Potential of Computing	
Please give your opinion	
18 More use could be made of computing in the department	1 2 3 4 5
19 Computing support for the department has improved over the last year	
A as provided centrally	1 2 3 4 5
B as provided locally	1 2 3 4 5

F Computer Security	
Please give your view of departmental awareness in the following computing security related areas	
20 General security policy	1 2 3 4 5
21 Procedural responsibilities with respect to security	1 2 3 4 5
22 Responsibilities with respect to data security	1 2 3 4 5
Comments	

2.0 Leverage the technology

2.1 Purpose of module

- To demonstrate how available technology can support knowledge management within the organisation
- To build on the organisation's existing technology infrastructure.

2.2 The framework for ICT services supporting knowledge management

In an effort to provide a framework that is generic enough to support any organisation but at the same time provide clear and concrete directions for the implementation of a KM initiative the KM Consulting method defines the *core services* that need to be offered for systematic knowledge management. A KM architecture should comprise of the following key services (figure 2.1):

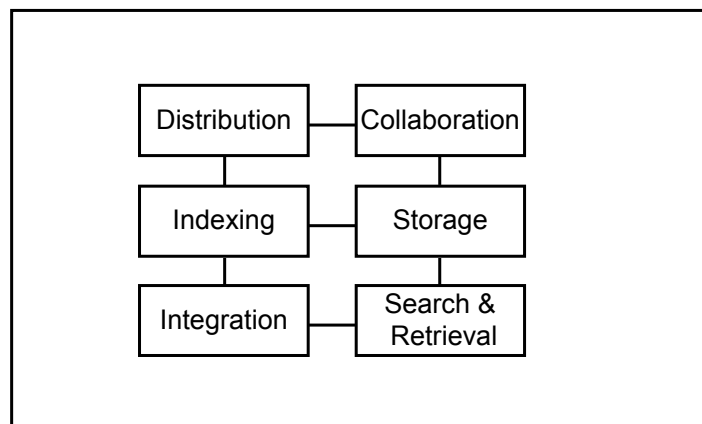


Figure 2.1 The Framework of ICT services for knowledge management

An information map defines the channels available for use by individual employees or the enterprise at large and describes the mechanisms available for information processing and knowledge formulation. When put to work, the information map will provide a representation of available knowledge (knowledge bases, topics, sources, narrative summaries, higher-level descriptions, etc.). This will help ensure that employees know "what they know". Automated indexing routines can be facilitated in order to ensure complete synchronisation of indices and data sources and thereby ensure that employees know "where is what they want".

Search and retrieval services should provide transparent access to multi-platform, heterogeneous sources, including Internet/ WWW / intranet sites, file servers/ databases, popular proprietary formats, legacy IS. Various types of search services should be accommodated, i.e. hierarchical (e.g. traversing hyperlinks), attribute (query-type searching), and content (e.g. crawler-type searching of popular WWW search engines).

Distribution and publication services can include: subscription-based approaches on internal (such as bulletin boards) and external (such as WWW sites) information sources; and push and “smart-pull” approaches coupled with intelligent, selective mechanisms of content relevance assessment that will provide useful knowledge while preventing information overload.

Integration with: application and tools that are currently used within the organisation (e.g. word-processors, spreadsheets, databases, etc.) This way, the infrastructure will tap into the flow of information that is already happening in the organisation, and therefore will improve acceptability by the users.

This is a core service, that is being facilitated by the use of technologies that span from relational database management systems and document management systems to AI-based corporate memories. No matter the technology being used, such services should allow access to existing applications, services and databases, have layered storage capabilities that provide different abstraction levels, and provide intelligent assistance to users for the execution of knowledge organisation processes. Metadata services should define and insert new knowledge elements into the different layers of the storage system.

This is a group of services offered by technologies providing rich, shared, virtual workspaces in which interactions occur between people who share a common goal. Indicative collaboration services include email, messaging, on-line discussions, electronic scheduling and meeting, video and audio conferencing, virtual workshops, just-in-time workgroup alerting, etc.

2.3 The technical architecture

This section outlines the range of technologies you will want to consider for the knowledge management project. The module presents a generalised technical architecture based on several layers that may alternatively be considered by the consultant.

The knowledge technical architecture in general, is a federation of technologies running on top of existing networks and IT systems. You may think of these components as layers of technology.

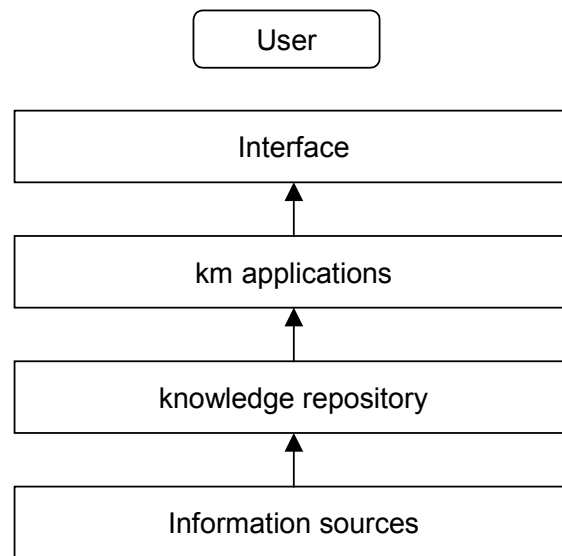


Figure 6.2 Layers of the knowledge technical infrastructure

The interface or portal is the first level aiming to present simplicity to the user. As knowledge management software brings together the resources of the corporate memory, the interface becomes a portal to those resources. Although many of these resources may lay outside the knowledge management architecture, it is the knowledge management software that provides the organisation, indexing and search capabilities. The interface is the universal “view” of the organisation – a window to the repository of organisational knowledge.

Technically speaking the interface will typically be based on Web technology, allowing the widest possible access and greatest integration of services.

- The interface should provide universal access to disparate sources, including structured, unstructured, and tacit knowledge.
- Establish organisation-specific, uniform and consistent navigation.
- Factor in usability testing and scalability.
- Understand the underlying applications, search and results. Knowing the format in which information is presented will help immensely the interface design.

Knowledge-enabling applications provide users with productivity enhancements and improved ways of doing their jobs. This layer includes authoring and publishing tools, document management, discussion databases, competitive intelligence knowledge bases, calendars, employee yellow pages, sales force automation, and executive “balance scorecard“ applications. This list of applications provides just a starting point for the kind of functionality that the organisational infrastructure should provide in order to meet the specific needs of the organisation and the people and teams within it.

Groupware is a core technology to be used for KM applications. Knowledge management collaborative software must support the creation of knowledge networks,

communities of interest within the organisational network, and beyond. This requires an environment that supports knowledge sharing and capture. While groupware products provide an informal environment for collaboration, there exist products that create more formal collaboration applications. Workflow and document-management systems provide greater control to processes that require many people to work on them. However, large-scale collaboration, involving document management or workflow systems are expensive to implement and difficult to roll-out to the organisation.

Another core technology that should be exploited in KM applications is information retrieval. The information retrieval component of KM architecture provides:

- Basic search techniques for finding resources in a distributed, heterogeneous environment
- More advanced requirements for classifying and analysing large volumes of information.

The keyword searches provided by most Internet search engines are a simple way of providing easy access to a wide range of documents. The effectiveness of such searches is inherently restricted to a relatively simple statistical analysis of the searched document based on the occurrence of those key terms. Specialised information retrieval products provide some improvements on keyword search. The most common addition is elementary linguistic analysis that enables words to be ‘stemmed’ (so that the search includes both the singular and plural forms of a word). A further refinement is to provide thesaurus capabilities, so that search terms can be expanded to cover a series of related terms. Other techniques used to extend the power of the search engine include pattern matching.

Consider the exploitation of the following general groups of applications and the integration of them within the KM infrastructure under development.

- Document management.
- Decision support.
- Collaborative tools.
- Document sharing / white-boarding.
- Collaborative space for team work.
- Integrated workflow.

The knowledge repository is a key component of any knowledge management framework. It provides for the administration, management and manipulation of the knowledge being captured. The basic functions of the knowledge repository include:

- classification and indexing of sources stored in the repository as well as external sources, such as websites or other databases and file systems,
- a corporate thesaurus – so that common definitions can be defined, accessed,

- and automatic substitutions can be made,
- metadata management – including simple metadata such as author, last edit date, annotations and comments on documents.

A repository can be implemented in a number of ways; in a RDBMS, in a Lotus Notes database, or in a document management system, for example. The knowledge repository does not have to store all the items included in the corporate memory, it should rather act as an ‘umbrella’ keeping them all connected and making them available to the KM applications. A knowledge repository may sit on top of several existing databases and file systems; the knowledge repository provides in indexing and metadata management but usually does not stores the actual information in it – just the links. Metadata are information on information. Metadata can be many-levelled. For example, a document may have some basic metadata on the author, time of last edit, current version number and so on. More complex metadata might include annotations on the value of the document or keywords that are used to identify the document with particular topics.

2.4 Module Templates

Please consider the aforementioned technologies for enhancing knowledge organising and sharing within the organisation / department. For each technology consider the pros and cons of its utilisation for the management a specific knowledge assets and to support specific knowledge processes and networks.

Technology	Knowledge Asset / Process / Network	Pros	Cons	Comment
Videoconferencing (example)	Subject Mater Expert Network	Rich communication compared to teleconferencing	Inability to capture knowledge exchanged. High bandwidth required.	
Community-ware environments (such as Lotus Team Room. ICQ rooms, Yahoo Clubs) (example)	Subject Mater Expert Network	Structure communication. Excellent integration with km roles (such as network facilitator)	Not very rich communication. Can be laborious / imposes overhead on spontaneous communication.	

Glossary

Knowledge The ideas or understandings, which an entity possesses that are used to take effective action to achieve the entity's goals.

Knowledge management The ways to create, retain, share, account for, and leverage knowledge - at all levels, from the personal level to the team level, the organisational level, the inter-organisational level, and the global level.

Knowledge Asset A resource that an organisation wants to cultivate and manage. Human assets are people and networks of people, structural asset could be an automated sales process and market asset could be a corporate brand.

Business case A document describing the business issues driving the project, the project objectives, the project scope, the approach and time frame for achieving results, the budget and the project team.

Critical Success Factors The most important activities and processes the organisation has to make right to reach the goals outlined in the strategy. Examples include: product development, inventory reduction, time to market, customer service and so on.

Vision The dream of a future state for the organisation.

Change Agent The person responsible for the process of change and incorporating the principles and tools of change management into an organised and systematic plan of implementation.