From:

Knowledge Management Tools and Techniques Manual

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Dr. Ronald Young, United Kingdom, served as the volume editor.

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1-2-10 Hirakawacho, Chiyoda-ku, Tokyo 102-0093, Japan
Tel: (81-3) 5226 3920 • **Fax:** (81-3) 5226 3950
E-mail: apo@apo-tokyo.org • **URL:** www.apo-tokyo.org

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CONTENTS

FOREWORD

Knowledge Management Tools and Techniques documents and provides an easy-to-understand approach to the common methods, tools, and techniques often used in knowledge management (KM). In particular, it attempts to provide trainers and facilitators in national productivity organizations, small and medium enterprise owners, and other users with practical, in-depth understanding of the core tools and techniques widely used in undertaking KM in an organization. This volume also includes useful Web site references, video links, templates, and instructions to provide answers to frequently asked questions concerning the tools and techniques needed for KM implementation and which have been brought up numerous times by participants in APO projects as well. It is hoped that the easy to follow guidance provided will be helpful to all organizations venturing into KM and make a useful addition to the literature on the subject.

This manual can best be read in conjunction with *Knowledge Management: Facilitator's Guide* published by the APO in 2009. Both publications were made possible by the collaborative endeavours of experts and practitioners engaged in KM from around the world including the USA, UK, Japan, Singapore, and the APO Secretariat who first met at an expert group meeting in Singapore in August 2009 and subsequently remained in contact virtually by utilizing some of the KM tools mentioned in this volume. Notably, the group used free Wiki technology during the production of this manual, which can be accessed at http://sites.google.com/site/apokmtools/home/.

I am very grateful to Dr. Ronald Young and his colleagues for this new APO publication.

Shigeo Takenaka
Secretary-General

Tokyo
August 2010

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The *Knowledge Management Tools and Techniques Manual* and Courseware was prepared by the following persons/authors:

Mr. Ronald Young, expert team lead, Knowledge Associates International Ltd, United Kingdom
Mr. Praba Nair, Knowledge Drivers International, Singapore
Mr. Naoki Ogiwara, Knowledge Dynamics Initiative, Fuji Xerox, Tokyo, Japan
Mr. Andy Burnett, KnowInnovation Ltd, United Sates and United Kingdom

Significant input and guidance were given throughout the preparation of the manual and courseware by Mr. Kamlesh Prakash, Asian Productivity Organization (APO), Tokyo, Japan.

As the team was spread across Asia, Europe, and United States, several of the knowledge and virtual collaborative team tools described in this manual were used throughout the development phase to ensure effective virtual knowledge team working, and to create this manual and accompanying courseware. These included, at least, collaborative authoring tools, web-based video conferencing, and the development of a wiki/knowledge base.

The APO would like to record its appreciation to all contributors for their inputs and perseverance in finalizing this manual and courseware.

INTRODUCTION

This *Knowledge Management Tools and Techniques Manual* is the first release of a description of some of the key Knowledge Management (KM) methods, tools, technologies, and techniques to be considered for selection within a KM Implementation initiative, especially in small and medium-sized enterprises.

A key objective for the Asian Productivity Organization (APO) has been to develop a training manual on KM Tools and Techniques that will give in-depth knowledge in order to assist the National Productivity Organizations (NPO) trainers to make the leap and become "KM Consultants".

However, this manual 'stands alone' also to provide valuable advice and assistance to small and medium-sized enterprises who wish to embark on KM themselves.

For best results, this manual accompanies the *Knowledge Management Facilitators Guide* and the *Knowledge Management Case Studies for Small and Medium Enterprises*, obtainable at www.apo-tokyo.org.

How to Use This Manual

First of all, this manual commences with a categorized list that illustrates and suggests how the key KM methods and tools, described later in the manual, support the overall process of more effective KM (The Five-Step APO KM Process).

There then follows, for each KM method or tool, a description and, where possible, further video links, website references and, where appropriate, some templates, instructions, and measurement criteria for evaluation and implementation.

KM is a rapidly developing discipline and, as new KM processes, methods, tools, and techniques are emerging rapidly, this manual is considered to be a good basic essential platform to start from. KM consultants and practitioners are advised, therefore, to continually share their experiences with using these KM methods and tools, and also to keep abreast of new developments.

Aim

The aim of this manual is to provide the KM consultant, KM practitioner, and those organizations, large and small, who are about to embark on a KM initiative, with a framework and some very practical tools to get started, to assist with a successful KM implementation.

The Manual as a Wiki

This manual is also available on a website, as an example of a 'living knowledge base', in other words, as a wiki, for you to input and share your experiences, and to receive your feedback and comments at http://sites.google.com/site/apokmtools/home/.

A growing community of APO KM students, practitioners, consultants, and educators can also be found at http://km-oneworld.ning.com/.

Links

This manual contains many links to useful videos, books, articles, websites, etc. We have taken every precaution to ensure the accuracy and usefulness of these links and valuable content at the time of publication. Of course, we cannot be responsible for any changes that may be made by content owners in the future.

Linking the KM Tools to the APO Five-Step KM Process

This section provides a 'big picture' of the Knowledge Management (KM) methods and tools. It shows how they can directly map onto the Asian Productivity Organization (APO) Five-step KM process. This five-step KM process is concerned with five key steps:

1. Identifying the knowledge
2. Creating knowledge
3. Storing knowledge
4. Sharing knowledge
5. Applying knowledge

For each step in the APO five-step KM process, a list of suggested KM methods and tools is provided below. The number (alongside each method and tool) represents the number of the method or tool as described later in this manual.

Therefore, as a first action, the KM consultant and/or practitioner must identify which of the five steps he or she wishes to deal with in the KM implementation initiative, and then immediately refer to a list of KM methods and tools to consider applying, based on best KM practice across the world. The team that developed this list comprised of experienced KM consultants and practitioners that are based in Asia, Europe, and United States.

This is a very practical way to gain a 'quick win' within the organization implementing KM. Although this is a very good practical start, remember that KM methods and tools have been developed primarily to better support key business processes and business projects. So make sure you gain a healthy balance between the business process/project-driven approach, and the KM methods and tools-driven approach.

Step	KM Methods and Tools to Consider (Guide Only)
1. Identifying the Knowledge	8. APO Knowledge Management Assessment Tool
	9. Knowledge Cafés
	10. Communities of Practice
	17. Advanced Search Tools
	18. Knowledge Clusters
	19. Expert Locator
	20. Collaborative Virtual Workspaces
	22. Knowledge Mapping
	23. KM Maturity Model
	24. Mentor/Mentee
	Ethnic Visions Case Study

2. Creating Knowledge	1. Brainstorming
	2. Learning and Idea Capture
	4. Learning Reviews
	5. After Action Reviews
	7. Collaborative Physical Workspaces
	9. Knowledge Cafés
	10. Communities of Practice
	13. Knowledge Bases (Wikis, etc.)
	14. Blogs
	16. Voice and Voice-over-Internet Protocol (VOIP)
	17. Advanced Search
	18. Knowledge Clusters
	19. Expert Locator
	20. Collaborative Virtual Workspaces
	24. Mentor/Mentee
	25. Knowledge Portal
	26. Video Sharing
	Ethnic Visions Case Study

3. Storing Knowledge	4. Learning Reviews
	5. After Action Reviews
	9. Knowledge Cafés
	10. Communities of Practice
	11. Taxonomy
	12. Document Libraries
	13. Knowledge Bases (Wikis, etc.)
	14. Blogs
	16. Voice and VOIP
	18. Knowledge Clusters
	19. Expert Locator
	20. Collaborative Virtual Workspaces
	25. Knowledge Portal
	26. Video Sharing
	Ethnic Visions Case Study

4. Sharing Knowledge	3. Peer Assist
	4. Learning Reviews
	5. After Action Reviews
	6. Storytelling
	10. Communities of Practice
	7. Collaborative Physical Workspaces
	9. Knowledge Cafés
	10. Communities of Practice
	11. Taxonomy
	12. Document Libraries
	13. Knowledge Bases (Wikis, etc.)
	14. Blogs
	15. Social Networking Services
	16. Voice and VOIP
	18. Knowledge Clusters
	19. Expert Locator
	20. Collaborative Virtual Workspaces
	25. Knowledge Portal
	26. Video Sharing
	24. Mentor/Mentee
	Ethnic Visions Case Study

5. Applying Knowledge	3. Peer Assist
	7. Collaborative Physical Workspaces
	9. Knowledge Cafés
	10. Communities of Practice
	11. Taxonomy
	12. Document Libraries
	13. Knowledge Bases (Wikis, etc.)
	14. Blogs
	17. Advanced Search
	18. Knowledge Clusters
	19. Expert Locator
	20. Collaborative Virtual Workspaces
	21. Knowledge Worker Competency Plan
	24. Mentor/Mentee
	25. Knowledge Portal
	Ethnic Visions Case Study

I.

20 Essential KM Methods and Tools to Consider

20 ESSENTIAL KM METHODS and TOOLS

This list of Knowledge Management (KM) Methods and Tools was compiled and agreed by the Asian Productivity Organization (APO) KM methods and tools expert team in Singapore in August 2009. It represents those methods and tools implemented by the most successful organizations around the world, within their KM implementation initiatives. Please note carefully that the methods and tools are not listed in any particular order of importance or hierarchy but are listed as, firstly, Non-Information Technology (IT) Methods and Tools and, secondly, as IT Methods and Tools. They are all considered important methods and tools.

In no particular order, therefore, the 20 KM methods and tools compiled are

Non–IT Methods and Tools

1. Brainstorming
2. Learning and Idea Capture
3. Peer Assist
4. Learning Reviews
5. After Action Review
6. Storytelling
7. Collaborative Physical Workspace
8. APO Knowledge Management Assessment Tool
9. Knowledge Café
10. Community of Practice
11. Taxonomy

IT Methods and Tools

12. Document Libraries leading to a Document Management System
13. Knowledge Bases (Wikis, etc.)
14. Blogs
15. Social Network Services
16. Voice and Voice-over-Internet Protocol (VOIP)
17. Advanced Search Tools
18. Building Knowledge Clusters
19. Expert Locator
20. Collaborative Virtual Workspaces

For each KM method or tool described, the following structure has been used:

1. What is the title of the KM method or tool?
2. Why use this tool?
3. How to use this tool?
4. When to use this tool, and when not?
5. Where to use this tool?
6. Examples

7. Any notes on facilitation
8. Web video links for further information and teaching
9. Other useful websites, books, references

1. Brainstorming

What is Brainstorming?

Brainstorming is a simple way of helping a group of people to generate new and unusual ideas. The process is actually split into two phrases: divergence and convergence. During the divergent phase, everyone agrees to delay their judgment. In other words, all ideas will be treated as valid. During the convergent phrase, the participants use their judgment but do so in a 'positive' manner—that is, they look for what they like about the ideas before finding flaws.

Why Use This Tool?

Brainstorming is appropriate whenever you need to generate a range of options that goes beyond the immediately obvious set. Examples might include

- All the places one could gain customer insights from,
- Different ways to learn from competitors,
- New ways to use emerging internet tools to support our customers, and
- Different ways to reward employees for knowledge capture.

Brainstorms can be organized very quickly and require very little in the way of material. The instructions (below) describe one method, but the tool is actually very resilient and the basic principles can be applied in many different ways.

How to Brainstorm

1. Agree who will facilitate the activity.
2. Make sure everyone is aware of the basic guidelines (see Guidelines for Brainstorming).
3. Ideally, give everyone sticky notes and pens so that they can write their ideas down.
4. Write the problem on a flip chart—or piece of paper, if you do not have a flip chart—so that everyone can see it all the time.
5. Ask everyone if they understand the problem, and whether there is anything that needs clarification. Deal with any information needs, if required.
6. Potentially, have a group discussion about the criteria that will be used for idea selection.
7. Ask everyone to start writing down their ideas—one idea per sticky note—and hand them to the facilitator, who then sticks them on the flip chart. If there are no sticky notes, ask people to shout out their ideas—one idea at a time—and the facilitator can write them down.
8. When the group has finally run out of ideas, take the flip chart page(s) and ask the group to
    1. Look for duplicates, and combine them.
    2. Vote (by putting dots, tick [check mark], or some other symbol) on their favorite X ideas (the number is determined by the requirements of the situation), based upon the criteria that were identified in the previous step.

3. Pick the highest rated ideas and have the group discuss how the ideas would be implemented—typically this involves identifying the critical next steps.

Guidelines for Brainstorming

Divergent stage

1. Defer judgment
2. Go for quantity
3. Seek wild and unusual ideas
4. Combine and associate
5. Write everything down

Convergent stage

1. Improve ideas as you go
2. Use affirmative judgment
3. Be deliberate
4. Seek novelty
5. Check with your objectives

When to Use Brainstorming (and When Not)

Brainstorming is useful when there is a need to generate a relatively large number of options or ideas. It is not appropriate when a problem is known to have a single correct solution that requires careful analysis to determine. For example, brainstorming about possible solutions to a mathematical problem would probably be a poor use of time.

Where to Use Brainstorming

Brainstorming can be used in almost any situation where a group (consisting of two or more people) can find a space to work together. This can be as simple as a shared desk with some blank pieces of paper.

Useful Links

This wikipedia entry contains quite a good summary of the technique:
http://en.wikipedia.org/wiki/Brainstorming
An online resource for creative thinking tools can be found at
www.mindtools.com/brainstm.html.

Videos

What not to do and what to do. Some YouTube videos at
www.youtube.com/watch?v=ttWhK-NO4g8&feature=player_embedded#
www.youtube.com/watch?v=W1h5L_0rFz8&feature=player_embedded#

2. Learning and Idea Capture

What is Learning and Idea Capture?

A key aspect of knowledge management (KM), at the personal and team levels, is to more 'collectively and systematically' capture the learning and ideas that are taking place. Learning and idea capture is a guide on how to do this.

Why Use This Tool?

Many organizations would like to be more creative, generate more ideas, learn faster, and turn their new learning into better knowledge to share, apply, and exploit.

However, if you observe individuals and teams in most organizations, you will readily see that they are continually coming up with new learning and new ideas much of the time, especially in team conversations and collaborative work.

'The problem is not a shortage of new learning and ideas, but we do not effectively capture these learning and ideas—and systematically do anything with them!'

We need to find better methods, tools, and techniques to do this collectively and systematically.

Imagine two organizations in the same competitive business. One organization does not capture learning and ideas, as they happen in the workplace—collectively and systematically—but does this 'episodically' from time to time. We know this is ineffective because most of the good new learning and ideas occur at the beginning of projects, and become forgotten over time.

The other organization collects learning and ideas as they happen in the workplace—'continuously'—and submits them to people who are able to appraise them and turn them into better applicable knowledge each month.

It does not require much imagination to see that the second organization will definitely learn faster, take smarter decisions, and create new innovative products and services faster.

The other key reason for capturing learning and ideas is also very powerful.

'The very process of writing down explicitly what you think you have learned, or a new idea, is a fundamental process of knowledge organization that will develop further and refine the tacit knowledge in the individual to the next higher level.'

If you have written a book or article/paper yourself, you will know intuitively that you are not just merely 'dumping what you know' on paper. The very process of writing is a creative process that forces and disciplines the individual to develop and organize his/her knowledge faster.

So there is a very good reason why every individual knowledge worker needs to learn how to better capture new learning and ideas.

How to Use Learning and Idea Capture

There are many ways to capture new learning, ideas, and insights. As new technologies emerge, even more possibilities will exist. For example,

Personal capture tools

- Own Memory (vulnerable as the only method)
- Notepad (useful but can be fragmented)
- Personal paper-based organizers (adding more structure)
- Personal digital assistant (PDA) notes and do not forget (more structure and electronic storage and dissemination)
- Personal computer (PC) – email, notes, documents, databases (more structure and electronic storage and dissemination)
- Blogs and K-logs (Knowledge Blogging) – a very powerful way to capture both spontaneous and structured learning, ideas, and insights
- Camera (pictures to add more information and context)
- Camcorder (videos to add more information and context)
- Voice recorder (to capture speech)
- Scanner (to capture documents to computer)
- Google Knols (units of knowledge) for writing and sharing articles

Collective capture tools

- Corporate Communities of Practice, Network Forums, and discussion forums
- Electronic chat rooms
- Corporate Intranet(s)
- Internet and Websites
- Team (Collective) K-logs (team blogs)
- Wikis
- Social Networks (Facebook, Linkedin, etc.)
- Corporate telephone system
- Audio conferencing
- Video conferencing (and PC-based video conferencing)

Ideally, personal capture tools should be integrated with corporate capture tools, e.g., a PDA (or say an Apple iPhone or Blackberry), synchronized with a PC and a Corporate Intranet/ Knowledge Portal.

New learning, ideas, and insights can be captured onto simple document formats/templates, capturing, for example,

- Date and time
- Person capturing the learning/idea
- Situation
- Project or work (code)
- Client or customer (code)

- Location
- Context
- New learning or idea or insight
- Next step/action

A Note on Facilitation

Discuss with the group how people are too preoccupied with being driven and measured by performance activities,

e.g., 'What tasks have I performed/not performed today?'

Conduct a class exercise to enable participants to get a direct experience of 'personally capturing new learning and/or ideas'. For example, ask the participants to consider a typical working day, or session, or recent meeting, or even this course itself.

Ask the group to think for a few minutes, personally, about 'What have I learned today?' and to write it down. Discuss with the group how these two different approaches feel doing and learning.

Discuss with the group how 'learning' is 'doing' for knowledge workers.

Discuss the old Industrial paradigm of work ('what have I done') and the new knowledge working paradigm ('what am I learning').

When to Use Learning and Idea Capture (and When Not)

Naturally, electronic tools are much preferred to paper-based tools for less risk of omission, speed, and accuracy. However, the key step is to **capture** learning and ideas manually or electronically.

Where to Use Learning and Idea Capture

Capturing learning and ideas—systematically and collectively—is a new way of working for many people. It is a new discipline to learn. Apparently, approximately 10% of the working population automatically likes to work this way, and many do so, naturally. This means that 90% of us need to learn how to work this way.

Useful Link

More information on effective capturing of learning and ideas may be found at http://en.wikipedia.org/wiki/Personal_knowledge_management.

3. Peer Assist

What is a Peer Assist?

- It is a technique used by a project team to solicit assistance from peers and subject matter experts regarding a significant issue the team is facing.
- Peer Assists are part of a process of what British Petroleum (BP) calls 'learning before doing', i.e., gathering knowledge before embarking on a project or piece of work.
- The Peer Assist meeting usually lasts from half a day to 2 days. Both the project team and the peer discuss the project and potential issues/concerns and provide solutions.
- The team gains project insights from their peers in the meetings. The peers gain as well, learning from the project and from each other.

Why Conduct a Peer Assist?

- The purpose of a Peer Assist is to shorten the learning curve of the project team. Normally, the team members struggle to solve new and complex project issues based on their existing knowledge and resources. This very often leads to suboptimal solutions at best and or failures at worst.
- Peer Assist provides an avenue for project teams to surface project issues with outside expertise. Teams can identify real underlying issues, and new approaches and solutions.
- The ability of the Peer Assist to tap into the experience and knowledge of peers makes it a valuable tool that yields immediate insights and results.

How to Conduct a Peer Assist

The project leader normally initiates the assistance when he or she thinks peers could assist them in their project.

- There is no fixed timetable as to when peers can be called in. Some Peer Assists are called early on in a project while some are called later. It depends on the needs of the project team and the complexity of the project.
- The project leader sets the meeting agenda. It could include some of the following items:
    - Introduction of participants
    - Objectives for the meeting and the schedule
    - Presentation of project details and issues
    - Recommendations and discussion

  It is important to provide time for the peer raters to think through the issues and recommendations on their own before reconvening again to discuss the recommendations. It is preferable that the meeting is scheduled as two parts, either on the same day or over 2 days.
- Teams who call for a Peer Assist are not obligated to use the suggestions provided by the peers. However, most find the insights of their peers valuable in their ongoing project work.
- It is not necessary for the project team to decide on the recommendations during the meeting. The project team can discuss the recommendations at a later project meeting.

Who Should be Invited as Peer Assists?

- Limit the number of Peer Assists to not more than six. It is difficult to have an in-depth discussion if the group is large.
- Invite only those who have expertise and knowledge regarding the situation the team is facing in the project.
- The project leader can get suggestions from the team members regarding the possible invitees to the meeting.

Guidelines on Conducting a Peer Assist

- The project team needs to think through the objectives of the Peer Assist meeting. The more specific and clear the objectives, the more successful the meeting will be. The project leader is the one who initiates the meeting and, thus, is at liberty to redirect the meeting if the discussion deviates from the objectives.
- The project leader or a skilled facilitator can facilitate the meeting. A leader who has a tendency to dominate the meeting should refrain from facilitating the meeting.
- Providing the peers with background information of the project and the objectives of the meeting will be helpful. This will ensure that the peer raters can contribute effectively in the meeting.
- Have all the project team members (or their representatives, if the team is large) to attend the meeting. This will provide an opportunity for each participant to ask questions pertaining to their area.
- The leader or facilitator should provide an opportunity for the project team members to respond and participate in the discussion.
- The project team needs to convene a meeting in order to review what team members have learned from the Peer Assist meeting.

Video

A good video on Peer Assist can be found on YouTube at
www.youtube.com/watch?v=ObmQyW3EiiE&feature=player_embedded.

Other Useful Resources

www.kstoolkit.org
Collison, Chris and Parcell, Geoff. 2001. *Learning to Fly.* Milford: Capstone Publishing.

4. Learning Reviews

What is a Learning Review?

- It is a technique used by a project team to aid team and individual learning during the work process.
- A Learning Review is different from an Active Action Review (AAR). An AAR is usually conducted at the end of a formal project.
- It can be conducted after any identifiable event. An event can be either an entire small action or a discrete part of a larger action, e.g., a project-planning meeting.

Why Conduct a Learning Review?

- The purpose of a Learning Review is for team members to continuously learn while carrying out the project. Team members need to be able to learn quickly, and adapt in order to improve the project.
- Normally, the team members carry on with a project or an assignment without reflecting until the completion of the project. It is not good enough to wait for the end of the project for the review to draw out the lessons learned.
- Learning while doing enables both the individuals and the teams to learn immediately from both successes and failures, regardless of the duration of the project.

How to Conduct a Learning Review

1. Conduct immediately

- Learning Reviews are carried out immediately after every team meeting while all of the team members are still available and their memories are fresh.
- It is important to build in the Learning Review within the allotted time for the meeting so that it is not seen as an afterthought activity. It should be included in the agenda of the meeting.

2. Appoint a facilitator

- Anyone from the team can be appointed as a facilitator. A project leader who has a tendency to dominate the meeting should refrain from facilitating the meeting.
- The role of the facilitator is to help the team to learn. Team members must be drawn out for their own learning and for the team's learning.
- The facilitator should also set the ‘climate’ for the meeting in order to ensure that the meeting is open and that there will be no 'finger pointing'. The ideal climate for a Learning Review is one of openness and commitment to learning. Learning Reviews are an avenue to facilitate learning rather than a platform for critique. It should not be treated as a performance evaluation process.
- The facilitator has to ensure that the learning process is owned by the participants. Everyone on the meeting participates, and all have the right to contribute in the Learning Review.

3. Meeting format

- The Learning Review revolves around the following four simple questions:
    - What was supposed to happen?
    - What actually happened?
    - Why was there a difference?
    - What have we learned?
- The discussion begins with the first question, 'What was supposed to happen?' A shared common understanding of the objective and plan is crucial. This will ensure that there are no misunderstandings among team members.
- The facilitator needs to focus on how team members actually felt about what happened rather than simply stating what happened.
- The real learning begins when the team members compare the plan to what actually happened in reality. Successes and setbacks are identified and discussed. Action plans are identified in order to sustain success and improve the setbacks.
- The facilitator could ask each team member to identify one key learning that will help the team in the future. It is useful to capture a record of the learning points and agreed actions to remind the team of the lessons that were identified. The lessons captured are highlighted at the start of the next project meeting.

4. Lessons Learned Workshop – Suggested Format

1. Introduction and Agenda
   Present the agenda for the day, and remind the team of some of the key events and issues encountered during the project.
2. Creation of New Learning
   Divide the team into smaller groups and ask them to brainstorm and capture their personal learning, ideas, and insights onto sticky notes. Group all the learning and issues on sticky notes into natural clusters or categories.
3. Discussion and Review
   Discuss these key clusters, and ask the following questions:
    - What could we do better next time?
    - What else can we capture for the benefit of all future teams?
4. Rotate the Groups
   Allow other groups to comment and add to each group's findings.
5. Final Discussions
   The workshop, as a whole, conducts a final discussion to allow project team members to draw up a summary of findings and agree on future actions.

Useful Resource

Collison, Chris and Parcell, Geoff. 2001. *Learning to Fly*. Milford: Capstone Publishing.

5. After Action Review

What is an After Action Review?

- After Action Review (AAR) is a technique to evaluate and capture lessons learned upon completion of a project. It allows project team members to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses.
- It is structured as an informal discussion with the main team members of the project.
- An AAR can also be conducted upon completion of the project or upon achievement of any key milestones of a long-duration project.
- It is not a critique or a complaint session. AAR maximizes learning by offering a platform for leaders and members to honestly talk about the project. It is not a full-scale evaluation report.

Why Conduct an After Action Review?

- The purpose of an AAR is to review the project outcomes vis-à-vis the intended outcomes of a project.
- The AAR is the basis for learning from project success and failures. It is the starting point for improvements in future projects. Team members can identify strengths and weaknesses and determine how to improve performance in the future by focusing on the desired outcome and describing specific observations.
- The project team can document the lessons learned and make it available to the rest of the organization to improve decision-making.

How to Conduct an After Action Review

- An AAR can be conducted as soon as possible upon completion of project or upon achievement of major project milestones.
- Generally, the following discussion questions are used to build consensus on the lessons learned:
    - What was expected to happen?
    - What actually happened?
    - What went well, and why?
    - What can be improved, and how?
    - What are the lessons that can be used in the future?
- At the start of the AAR, the facilitator should review the purpose and sequence of the AAR to ensure that everyone understands what an AAR is and how it works. The introduction should also include some ground rules for conducting and managing the discussion. The role of the facilitator will be explained during the introduction.
- Some pointers for facilitators:
    - It is permissible to disagree.
    - Encourage members to provide honest opinions.
    - Use open-ended questions to guide the discussion.
    - Paraphrase and summarize key discussion points.

- The focus of the AAR is on learning, i.e., identifying lessons learned rather than blaming individuals for wrong decisions or performance evaluation. Mistakes or poor decisions can be translated into learning opportunities.
- In order for this to happen, there must be an atmosphere of trust and openness.
- The discussion should ensure that specific issues—both positive and negative—are revealed. Skillful facilitation will ensure that the AAR does not gloss over mistakes or weaknesses.
- In some projects, other stakeholders can provide useful insights and ideas to the review process. Before the review session, the facilitator or designated team member should consult with these outside stakeholders and then summarize the input for the AAR.
- The lessons learned are captured on a flip chart or electronically. This depends on who uses the information and how it is used. Flip charts are a convenient tool to make notes visible to all participants, ensuring a common understanding of and agreement to what has been discussed.
- Electronic capturing in the intranet enables reference later on and dissemination to relevant parties who are involved in similar projects.

Who Should Conduct an After Action Review?

- An independent facilitator can be used to conduct the AAR. A trained, independent facilitator may be able to ensure participation from everyone. The facilitator will also be able to draw out insights and issues through probing questions.
- While an independent AAR facilitator could maintain objectivity throughout the review, it may be useful to enlist someone who is somewhat knowledgeable about the subject or topic of the review. That would minimize the learning curve and enable technical discussions to be carried out and recorded clearly.
- Alternatively, a project team member could facilitate the AAR. The team leader must ensure that all background materials—reports, surveys, planning documents, or other input—are considered. This will ensure a complete, thorough, and appropriate AAR.

Useful Links

www.gurteen.com/gurteen/gurteen.nsf/id/km-tools
www.skyrme.com/tools/index.htm

6. Storytelling

What is Storytelling?

Readers may wonder why storytelling is categorized as one of Knowledge Management (KM) tools/techniques. Storytelling itself can date back to the origin of our social life; it is not just for KM, indeed. Storytelling is conveying of events in words, images, and sounds often by improvisation or embellishment. Stories or narratives have been shared in every culture and in every land as a means of entertainment, education, preservation of culture, and in order to instill moral values.

In the context of KM, since its inception, storytelling has been used as a powerful way to share and transfer knowledge, especially experiential and tacit knowledge. It is literally about telling a story: a person who has valuable knowledge tells stories of his/her experience in front of people who want to gain knowledge. Though the method is quite simple, storytelling—when it is appropriately done—is able to share much deeper level of knowledge than just sharing information. Storytelling has a strong power to share one's experience and lessons learned since effective stories can convey rich contexts along with contents.

The World Bank, which established one of the most classic and famous KM cases, used storytelling as one of key activities and added storytelling on the global map of KM.

According to Mr. Stephen Denning, former Program Director of Knowledge Management at the World Bank and current independent consultant on KM and organizational storytelling, the bank utilized the power of storytelling not only to share knowledge but to promote KM. In 2000, when he had to obtain strong understanding on KM from senior managers, he used a Madagascar story:

A team leader of World Bank in Madagascar leading a comprehensive review of the country's public expenditures was at the center of a mounting controversy over introducing value-added tax. Instead of considering just by himself, he sent an email to his colleague practitioners in the community of practice on tax administration built through the KM program. Within 72 hours, he received many responses from staff members from Jakarta, Moscow, Middle East, and the development research group, as well as a retired staff member and an expert at the University of Toronto. Based on the advices from these people, he was able to resolve the difficult problem.

Mr. Denning told the story to the senior managers and successfully not only gained strong understanding on KM but brought out enthusiasms from them.

As the World Bank's case indicates, appropriate storytelling has a strong power to share knowledge and even affect people's mindset and behavior.

Why Use Storytelling?

If you can share any knowledge through information technology (IT) systems, probably you do not have to consider storytelling. It is more time-consuming for both storytellers and

audiences than just using IT systems. Storytelling has strong and unique benefits that most other KM tools/techniques rarely have.

1. Storytelling **transfers tacit part of knowledge:** Because it conveys much richer contexts through stories than other means of KM, storytelling by a vastly-experienced person in any field has the power to transfer his or her experiential knowledge.

2. Storytelling **nurtures good human relationship:** When someone tells his/her story, the action also conveys significant volume of the storyteller's personal information through the story itself, facial expressions, tone of voice, gesture, etc. This aspect nurtures trust between the storyteller and audiences that often becomes a seedbed for a community of the practice, which enables further sharing and creating of knowledge.

3. Storytelling **brings out passion of audiences:** A great part of storytelling is that it is able to address the logical, as well as emotional, part of the brain. As a result, good storytelling can change people's mindset and behavior to share and create more knowledge than before.

When to Use Storytelling

This question has already been partially answered in the preceding description. Many organizations utilize storytelling to transfer experts' knowledge to younger people. Some organizations use storytelling to share lessons learned from project to colleagues who were not participating in the project. Since storytelling session may rouse participants' interest and let audiences find other people with common interest, designing follow-up systems to discuss the topic, such as communities of practices or virtual collaboration spaces, will help sustain and increase the advantage created through the storytelling session.

How to Use Storytelling

Basically, holding a storytelling session is quite simple: find a person with knowledge in a certain area, assemble audiences with common interest, and let the person tell stories in front of those people.

Gaining expected results from storytelling, however, is not that easy. Here are the basic steps, including tips, for successful storytelling:

Step 1: Identify key area of knowledge you wish to transfer and share in your organization. Do not choose unimportant knowledge area; it does not only waste your time but will send a wrong message to your organization.

Step 2: Find the right person who has rich experience and ask him/her to tell the story. Eagerness and eloquence of the storyteller are the keys for successful storytelling. Therefore, you may want to prepare the story together with the speaker. The order of Steps 1 and 2 can be reversed.

Step 3: Market the storytelling session to candidate participants.

Step 4: Hold the session. It is may be effective to create a more informal atmosphere

than regular meeting environment by changing layouts, serving refreshments, holding icebreaker session, etc. You may want to hold a small social gathering after the session to help networking among the participants and the storyteller.

Step 5: Leverage the output of the storytelling session. This step is critical to maximize the effectiveness of storytelling. Here are some tips to leverage it:

- Capture the session on video and post the video on intranet to share the session among all employees.
- Form a community of the topic among the storyteller and participants who have strong interest. The storyteller often becomes the owner of the community.
- Hold a storytelling session regularly to give employees opportunities to both participate and tell a story.

Video

Storytelling Theory and Practice at
www.youtube.com/watch?v=UFC-URW6wkU&feature=player_embedded

References

Brown, J. S., S. Denning, K. Groh, and L. Prusak. *Storytelling in Organizations*. www.amazon.com/dp/0750678208
Stephen Denning's website at www.stevedenning.com/site/Default.aspx
Wikipedia. "Storytelling". Available at http://en.wikipedia.org/wiki/Storytelling.

7. Collaborative Physical Workspace

Why Use Physical Workspace as KM Tool/Technique?

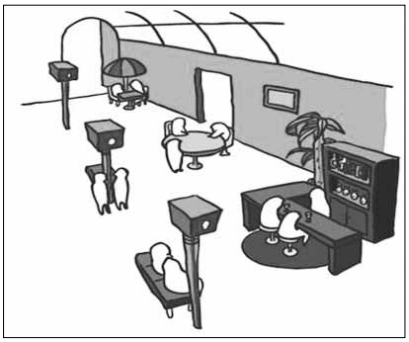
Readers may wonder why physical workspace is selected as one of top Knowledge Management (KM) tools/techniques. Physical workspace, in this context, literally means the settings in which we actually work—or simply the physical aspects of our office.

When we share or create knowledge, we usually interact with other people through face-to-face communication—we discuss, dialogue, or simply just ask a question. The physical workspace is where such human interactions take place—and it can support knowledge sharing/creation if it is well-designed. You may think, "We have desks for everyone, meeting rooms for internal meetings, and space for business talk. What else do we need?" Actually, physical workspace works much more than that.

How would you describe the atmosphere of the meeting room above? Dynamic or static? Creative or ritual? Do you think you can have creative discussions in the room?

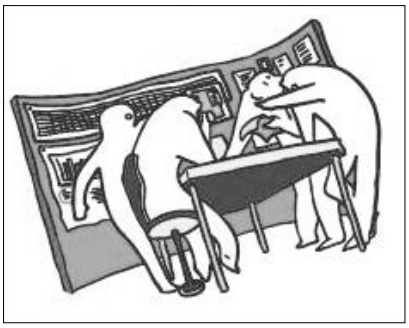
How about this one? Good physical workspace does not mean luxury office that small and medium-sized enterprises rarely afford. Instead, it is about understanding how people interact—or create and share knowledge, and designing physical environment to support such human activities.

☐ Examples of physical workspace settings for KM



The design of good physical workspaces to support knowledge sharing and creation varies a great deal, depending upon what kind of interactive scenes that an organization needs. Here are some examples of workspace designs to support knowledge-related activities:

• Open space for ad-hoc/informal interactions



Working people naturally interact when needed; it is quite reasonable. Sometimes, however, unexpected interactions generate unexpected (good) results. Good open space encourages such ad-hoc, informal interactions among employees, or even between staff and customers. The key to encouraging such ad-hoc interactions through physical space is to create reasons for employees to come to commons—could be coffee and snacks, magazines and books, or mailboxes and printers to pick up letters and copies.

• Space for team collaboration

Most companies have meeting rooms; however, a meeting room is not necessarily a good place for team collaboration. Any good collaborative space has a lot of small but well-thought devices. For instance, the walls of a room can support collaboration significantly: information and data can be placed on walls to help visualize contexts of the project. You do not have to invest in IT; simply use papers and magnets to turn walls into collaborative tools. Walls can also work as whiteboard on which discussions can be directly written. If you need to share one room by multiple teams, you can use a movable board to put everything (paper, sticky notes, graffiti, etc.) on to keep what you discussed, and then stow it away. Playful tools, or even toys, would help produce a creative atmosphere.

• Space for prototyping

Ideas can only turn into value when they are put into actions. Does your organization have a physical space for that? Space for prototyping is where people can experiment their ideas. If you are in the manufacturing industry, probably you need some equipment for quick and dirty prototyping in the room.

How to Design

Producing a creative workspace does not always lead to knowledge creation unless members who use the space understand, and become enthusiastic about, the concept of how to work in the environment. Thus, you need to discuss (i) how they want to work, and (ii) how physical space can support the manner of work among members who use the space. One good start: Observe how employees are actually working to find opportunities to support their behaviors that can lead to more knowledge creation and sharing.

8. APO Knowledge Management Assessment Tool

What is the APO Knowledge Management Assessment Tool?

It is a survey questionnaire designed to help organizations conduct an initial and rapid assessment of its readiness for Knowledge Management (KM). The assessment is carried out in the beginning of the KM program. Before starting on the KM journey, the organization needs to know its strengths and opportunities for improvements. The organization can then focus on its KM programs to address the gaps identified through the assessment.

The APO KM Assessment Tool is based on the APO KM Framework as shown in Figure 8.1. The questions in the tools are based on seven of the elements in the Framework.

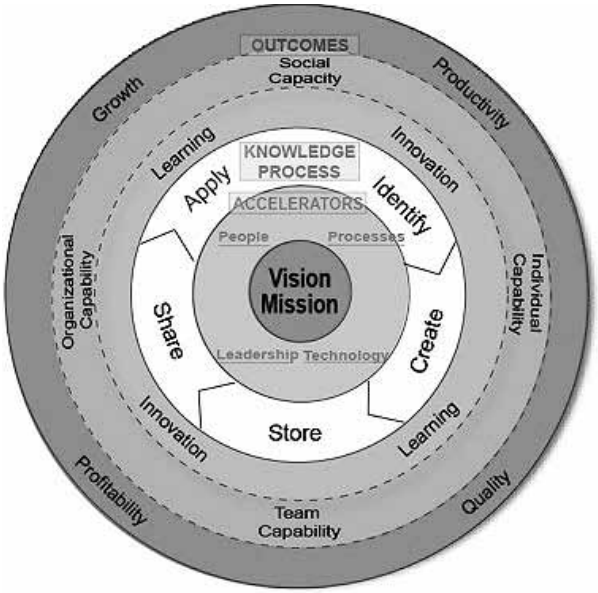


Figure 8.1: APO KM Framework

The starting point of the APO KM Framework is the understanding of the organizational vision, mission, business goals, and strategic directions. These help the organization to identify and analyze core competencies and capabilities that it has and need to develop. The four accelerators (people, processes, technology, leadership) can help the organization understand to what extent these drivers and enablers are prevalent in the organization, enabling a successful KM implementation. The five core knowledge processes (identify, create, store, share, apply) provide an initial assessment of existing practices related to KM that can be leveraged on during implementation. Organizations, sometimes, can already be practicing KM without realizing it. The outcomes of KM efforts measure the effectiveness of the knowledge processes supported by the critical success factors (accelerators, vision, and mission). The outcomes must be able to demonstrate enhancement of learning and innovation that build individual, team, organizational, and societal capabilities and, ultimately, lead to improvements in the quality of products and services, productivity, profitability, and growth.

There are seven audit categories in the APO KM Assessment Tool based on the key elements of the Framework:

1. KM Leadership
   This category evaluates the organization's leadership capability to respond to the challenges of a knowledge-based economy. The KM leadership is assessed in terms of KM policies and strategies that are in place within the organization. The leadership is also assessed in terms of efforts to initiate, guide, and sustain KM practices in the organization.

2. Process
   The process category assesses how knowledge is used in managing, implementing, and improving the organization's key work processes. It also assesses the extent to which the organization continually evaluates and improves its work processes to achieve better performance.

3. People
   In the people category, the organization's ability to create and sustain an organizational knowledge-driven and learning culture is assessed. The organization's effort to encourage knowledge sharing and collaboration is evaluated. The development of knowledge workers is also assessed.

4. Technology
   The technology category reviews the organization's ability to develop and deliver knowledge-based solutions, such as collaborative tools and content management systems. The reliability and accessibility of these tools are also assessed.

5. Knowledge Processes
   The organization's ability to identify, create, store, share, and apply knowledge systematically is evaluated. Sharing of best practices and lessons learned to minimize reinventing of the wheel and work duplications is also assessed.

6. Learning and Innovation
   This category determines the organization's ability to encourage, support, and strengthen learning and innovation via systematic knowledge processes. Management's efforts to inculcate values of learning and innovation and provide incentives for knowledge sharing are also assessed.

7. KM Outcomes
   The KM outcomes category measures the organization's ability to enhance value to customers through new and improved products and services. The organization's ability to increase productivity, quality, and profitability, and sustain growth through the effective use of resources and as a result of learning and innovation is evaluated.

There are a total of 42 questions covering the seven audit categories with a maximum score of 210 points. Each category has a maximum score of 30 points. Each of the questions can be rated from 1 (Doing poorly, or none at all) to 5 (Doing very well).

Why Use This Tool?

The APO KM Assessment Tool provides a means to identify areas the organization should focus its KM initiatives. The assessment results highlight the organization's strengths and areas for improvement. Specifically, the objectives of the APO KM Assessment Tool are to

- ☐ Determine if KM is already being practiced in the organization and to what degree it is being applied;
- ☐ Determine if the organization has the right conditions for building and sustaining systematic KM processes; and
- ☐ Identify the organization's strengths and opportunities for improvement in managing knowledge.

How is This Tool Used?

The assessment questionnaire is to be answered by 70%–80% of employees in the organization, covering all levels and all departments. Respondents should be in employment with the organization for at least 6 months. This is to ensure that respondents are familiar with the organization and thus are able to answer most of the questions in the questionnaire.

The average score for each category is then tabulated and presented in the form of a radar chart as shown in Figure 8.2.

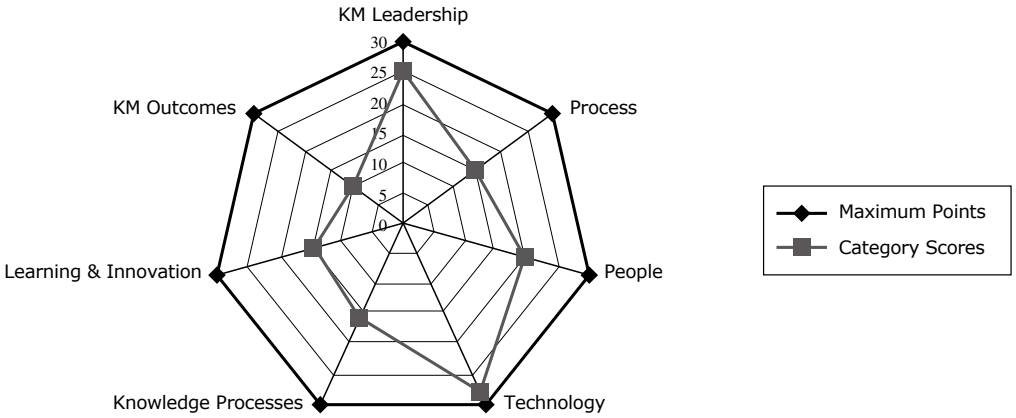


Figure 8.2: Radar Chart of KM Assessment

The chart shows the actual scores obtained for each category versus the maximum score for that category. The scores show categories that are healthy and those that require improvements. Based on the assessment results, the areas of strengths and opportunities for improvement are identified (Figure 8.3). The opportunities for improvement highlight the areas where the KM initiatives should focus.

KNOWLEDGE STRENGTHS AND OPPORTUNITIES FOR IMPROVEMENT MATRIX		
CATEGORY	STRENGTHS	OPPORTUNITIES FOR IMPROVEMENT
CAT 1.0 KM LEADERSHIP		
CAT 2.0 PROCESS		
CAT 3.0 PEOPLE		
CAT 4.0 TECHNOLOGY		
CAT 5.0 KNOWLEDGE PROCESSES		
CAT 6.0 LEARNING & INNOVATION		
CAT 7.0 KM OUTCOMES		

Figure 8.3: KM Strengths and Opportunities for Improvement

The total score of the assessment is then compared against the KM Maturity model shown in Figure 8.4. This will show the KM maturity level of the organization.

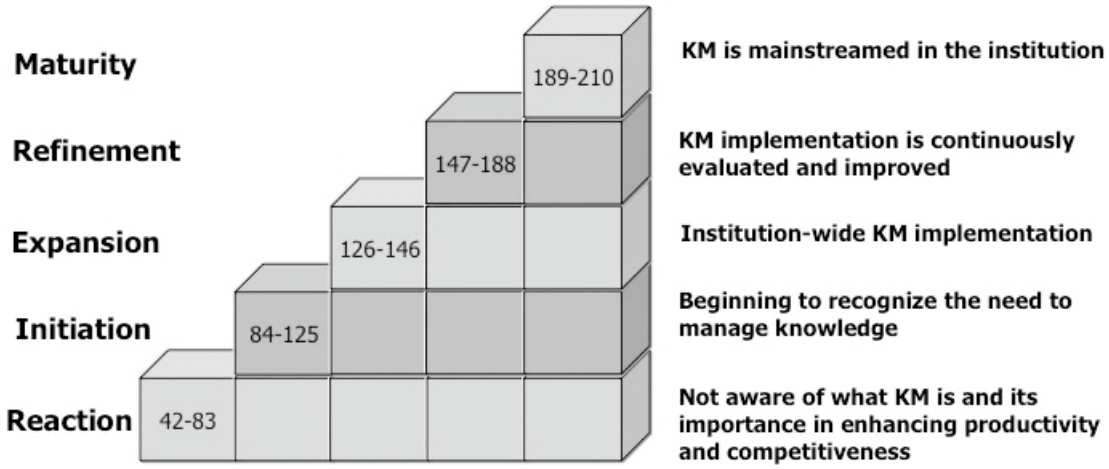


Figure 8.4: KM Maturity Levels

The results of the assessment provide an understanding of the level of KM readiness in an organization. This may range starting from the "reaction" level at its lowest and up to the "maturity" level at its highest. The conditions describing each of these levels are actually related to the presence, absence, or weakness thereof of the four KM accelerators, learning and innovation, and the KM outcomes in the organization.

There are five levels in the framework:

Level 1: Reaction Level
The organization is not aware of what KM is and its importance in enhancing productivity and competitiveness.

Level 2: Initiation Level
The organization is beginning to recognize the need to manage knowledge or may already be initiating a pilot KM project.

Level 3: Expansion Level
KM is fully implemented and deployed.

Level 4: Control Level
Implementation of KM is continually evaluated for continuous improvement.

Level 5: Maturity Level
KM is fully mainstreamed within the organization.

When to Use the Tool

The APO KM Assessment tool is used before the organization starts the KM initiative. It helps the organization identify the KM gaps that it should focus on.

Link

The website www.apqc.org/km contains a KM Assessment Tool (KMAT) developed by the American Productivity and Quality Center (APQC) and Arthur Andersen.

9. Knowledge Café

What is a Knowledge Café?

A Knowledge Café is a way to have a group discussion, to reflect, and to develop and share any thoughts and insights that will emerge, in a very non-confrontational way. A Knowledge Café suspends all judgment and normally leads to developing deeper insights and sharing than usual.

Running a Knowledge Café requires a process to make it work effectively. One of the pioneers of the Knowledge Café is David Gurteen (www.gurteen.com). He recommends the following process, as discussed on Wikipedia (see links on page 34).

"The knowledge café begins with the participants seated in a circle of chairs (or concentric circles of chairs if the group is large or the room is small). It is led by a facilitator, who begins by explaining the purpose of knowledge cafés and the role of conversation in business life. The facilitator then introduces the café topic and poses one or two key open-ended questions. For example, if the topic is knowledge sharing, the question for the group might be: 'What are the barriers to knowledge sharing in an organisation, and how do you overcome them?'

When the introduction session is complete, the group breaks into small groups, with about five people in each group. Each small group discusses the questions for about 45 minutes. The small group discussions are not led by a facilitator, and no summary of the discussion is captured for subsequent feedback to the large group.

Participants then return to the circle, and the facilitator leads the group through the final 45-minute session, in which people reflect on the small group discussions and share any thoughts, insights, and ideas on the topic that may have emerged.

A knowledge café is most effective with between 15 and 50 participants. Thirty is an ideal number of people. If there are more than 50 participants, it is usually necessary to employ microphones for the large group conversation, and this tends to inhibit the flow of the conversation. One to two hours is required for a worthwhile knowledge café. The only hard and fast rule is that the meeting is conducted in such a way that most of the time is spent in conversation. Presentations and feedback sessions have no place in knowledge cafés."

Why Use a Knowledge Café?

In an organization, especially in a hierarchical organization, people are not often given the opportunity to 'reflect' on discussions. People are normally tied to performance pressures. Therefore, much of the value that could be gained from good discussion, dialogue, and reflection is lost.

Periodic Knowledge Cafés provide the opportunity for people to better discuss and reflect. Normally, people leave Knowledge Cafés more motivated and inspired. Often, people find that they have received some valuable insights.

When to Use Knowledge Cafés

There are no hard and fast rules about when to use, and when not to use, Knowledge Cafés. It depends on the culture of the organization or the community. Knowledge Cafés are situational. What is most important to state is that you cannot, and must not, enforce people to attend and participate in a Knowledge Café. For best results, a Knowledge Café must be a natural, voluntary, and participatory act of the individuals involved.

Video

Here is an example of a Knowledge Café.

Halifax theatre makers got together to meet face to face and to share space, ideas, and things they are working on. Here is a video document of the event.
www.youtube.com/watch?v=NTZ0vf0Tmi4&feature=player_embedded

Links

http://en.wikipedia.org/wiki/Knowledge_Cafe
www.youtube.com/watch?v=NTZ0vf0Tmi4
www.gurteen.com

10. Communities of Practice

What are Communities of Practice?

Origin: Dr. Etienne Wenger and his team of social scientists were one of the early pioneers to establish the concept of Communities of Practice (COPs) through their study on apprenticeship as a learning model. They found that complex set of social relationships in apprenticeship that enabled learning effectively and named them Communities of Practice. COPs became one of the central focuses of knowledge management after their first book on COPs, *Communities of Practice – Learning, Meaning, and Identity*, was published in 1998. Since then, COPs have played an important role in the context of Knowledge Management (KM) especially for sharing common knowledge beyond formal divisions/departments and, indeed, as a tool to break down the barriers to knowledge flow across organizations.

Definition: COPs are groups of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly. In the context of KM, COPs are formed—intentionally or spontaneously—to share and create common skills, knowledge, and expertise among employees.

Characteristics: COPs can exist in a division or department in an organization, across departments in an organization, or beyond boundaries of multiple organizations, depending upon its objective. COPs are usually for sharing and developing common skills, knowledge, and expertise, such as a group of engineers working on similar problems, a network of surgeons exploring novel techniques, or a gathering of first-time managers helping each other. There are also some COPs that focus on generating new knowledge and innovation. The size of COPs varies from 2–3 people to thousands of people, and members of expertise could be either homogeneous or heterogeneous. For example, a Community of Practice (COP) for effective/efficient problem solving on a certain technological domain would have engineers in the same area, whereas a COP for improving quality of a certain product would have members from various areas, such as developers, marketers, and maintenance staff.

The following three elements are crucial when one designs COPs.

- **The Domain:** A COP is not merely a club of friends or a network of connections between people. It has an identity defined by a shared domain of interest. Membership, therefore, implies a commitment to the domain and, therefore, a shared competence that distinguishes members from other people. The domain is not necessarily something recognized as "expertise" outside the community. They value their collective competence and learn from each other, even though few people outside the group may value or even recognize their expertise.

- **The Community:** In pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. A Platform that enables such activities is essential for a COP. It is based upon a relationship of trust between members that encourages frequent interactions to share and develop common knowledge.

- **The Practice:** COPs are not merely a community of interest—people who like certain kinds of movies, for instance. Members of a COP are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short, a shared practice. This takes time and sustained interaction.

It is the combination of these three elements that constitutes a COP. And it is by developing these three elements in parallel that one cultivates such a community. COPs can be either non-IT or IT-based, depending on geography considerations of the members.

Why COPs for SMEs?

COPs could have various reasons for small and medium-sized enterprises (SMEs) to apply, but the simplest and strongest reason is probably to effectively share and develop skills and knowledge among employees without huge investment (if COPs are well designed). The greatest benefit from an effective internal COP is that it will encourage knowledge to flow across the community, which often spans across several divisions in the company. This means that COPs will open up knowledge sharing and break down knowledge silos that can often occur in hierarchical organizations.

COPs usually do not require significant investment: you can form a COP as long as you have a certain domain and people who have passion on the domain. This is quite appealing for SMEs that usually cannot afford expensive skills development programs for employees.

Many companies have COPs in which the company encourages participants to help each other. For instance, one raises his/her facing problem and then another advises or shares his/her own experience. Other COPs merely give opportunities to exchange best practices on a common subject.

In addition, a relationship of trust between employees nurtured through COPs would contribute to increased employee satisfaction and, eventually, help retain valuable workforce that is often one of key issues for SMEs. You can even form COPs to share common skills and knowledge across your company: among workers at various SMEs to create Knowledge Cluster. Sometimes, COPs are also formed for accelerating innovation. In this case, people from various backgrounds get together to discuss and experiment certain ideas.

How to Nurture COPs

Because COPs are essentially gathering of people, vigor among COP participants is very important. However, we cannot force people to be actively involved or to design active communities artificially. As a practical matter, the largest reason why COPs fail is the lack of vigor to attract and keep participants actively involved. Many successful COPs, instead, nurture the seedbed of activities through artful and flexible design although COPs themselves are spontaneous and organic. The following steps show the basic principles of designing and sustaining active COPs.

1. Find opportunities around strong needs

COPs usually work well when strong need for sharing common interest/passion/skills/knowledge exists: for example, common technological expertise among maintenance

engineers or success/failure experiences of designing a common machine among designers. You have to find such key opportunities to connect people and share knowledge that can make a difference. In other words, this is pre-setting of the domain of the COP that attracts people with common interest or needs.

2. Invite passionate people and take in their thoughts

To design a good COP, you need key people (2–3 people are quite enough to start) who will play the role of steward in the COP. They are usually very passionate (and often knowledgeable) on the subject that is the central focus of the COP. Then you discuss the COP design with them with the following focuses:

- What is the strategic context of the COP?
- What is the key knowledge to share and create?
- Who are potential participants benefiting from and contributing to the COP?
- What are key activities that sustain vigor of the COP?
- Where can community members physically (and virtually) interact?
- What are key values for both the organization and participants?

These key questions are closely connected to the three elements of COPs: domain, community, and activities.

3. Launch the COP with socializing events

The development of any COP always starts at people's social relationship. If you do not build trust between participants, the COP will not work even if it has rationale for sharing common knowledge. One easy way is to use existing social network, which often becomes a core group of the COP, and expand it through face-to-face meeting.

4. Create results through activities and share the stories

After launching the COP, you need key activities that produce results, as well as sustain vigor of the community. The activities vary: these could be codifying tacit key knowledge shared among veteran workers or sharing good experience through storytelling sessions. The important part is that you need to establish the first small result from the COP in order to prove its value. Then you can expand the activities and attract more people by telling the success story.

Key Enablers

Key enablers of COPs depend upon the three elements of COPs: domain, community, and activities. For instance, if one of the key activities is to share success/failure real experience among engineers across various SMEs, probably passionate stewards and physical space for gathering together become very important. If you want to share daily activities among sales managers in different branches, you may need collaborative virtual workspaces. The following are distinctive enablers for COPs:

- **Stewards:** Key people—who have passion for the area and are willing to take care of the COP—are the most important component of any COPs.

- **Incentives:** In general, you do not need artificial incentive, such as money or promotion. Instead, spontaneous motivation for continuous participation is essentially needed to sustain active COPs. Answers to problems that participants face, growth opportunities, or just intellectual fun would be important.

- **Physical/virtual spaces:** Since COPs are social, they need spaces where members can interact. It does not necessarily mean that COPs require exclusive rooms. It could be even virtual space if it can meet participants' needs. The important aspect is that the center of COPs is human relationship built upon trust, and COPs require spaces where they can nurture such relationship.

- **Information Technology:** Some COPs do not require any IT, whereas IT is key platform to share knowledge and do key activities for other COPs. Again, it depends on the three elements of COPs (domain, community, and activities).

- **Management's support:** If a COP has strong strategic purposes for an organization, management's support is an important enabler. The support not only allows participants to understand the importance of COP activities but also gives sufficient resources. If a COP has more spontaneous nature, too strong management support sometimes even harms motivation of members as they might think it is too controlled. In this case, the best support from management would be "hidden sponsorship" that accepts activities of COPs.

Video

Here is a short video from the National Association of Agricultural Educators and it explains what a COP means for them. The principles they explain will apply to any COP. The video is on YouTube at www.youtube.com/watch?v=be_k4BH2EvU&feature=player_embedded.

Link

Etienne Wenger's website on COPs at www.ewenger.com/theory/
CPSquare (the COP on COPs) at http://cpsquare.org/

References

Wenger, E. *Communities of practice: Learning, meaning, and identity*.
www.amazon.com/dp/0521663636/
Wenger, E., R. McDermott, and W. M. Snyder. *Cultivating communities of practice.*
www.amazon.com/dp/1578513308/

11. Taxonomy

What is a Taxonomy?

- A taxonomy is a technique that provides the structure to organize information, documents, and libraries in a consistent way. This structure assists people to efficiently navigate, store, and retrieve needed data and information across the organization. It builds a natural workflow and knowledge needs in an intuitive structure.
- Taxonomy can be considered as a classification system, i.e., 'The Table of Contents' for an organization's knowledge capital. Taxonomy also provides pointers to human-based expertise and knowledge.
- A taxonomy typically includes
    - o A navigable hierarchy of concepts and terms, and
    - o Information "tags" that further identify and categorize content elements.
- Taxonomy can also include labeling of metadata, which allows the primary data or information to be systematically managed and manipulated. This metadata results in a hierarchical structure, which if done correctly, not only allows mapping by word pieces but also allows mapping by concept and inference.

Why is Taxonomy Important?

- Traditionally, the company intranet has quite often been the starting point for taxonomy solutions. Organizations have discovered how mission-critical information can be better classified, stored, and retrieved.
- An organization saves an enormous amount of time when staff are able to quickly search and retrieve information necessary for their work.
- A search engine cannot provide relevant content or context for a search. It does not conclusively tell users they have all and everything they need. A search engine is most effective in targeted searches against known content or when combined with a taxonomy.
- Taxonomy facilitates effective retrieval, capturing, and recognition of content that is important to target users. Taxonomy helps users navigate from need to resource consistently and quickly. It provides context for information needs of the users. Taxonomy also provides a common frame of reference for employees.
- Many organizations are building and implementing taxonomy structures as governance over their knowledge assets and to build a collaborative workforce. Taxonomy can also be used to build consensus, understandings, and shared vision and to help break down functional silos of the organization. Organizations are now beginning to realize the importance of the link between taxonomy and corporate culture and of having a common language to speak about mission-critical information.

Guidelines for Building Taxonomy

- Taxonomies cannot be all things to all people. If the taxonomy structure is too detailed, the content is not easily retrievable. If there is not enough detail, the taxonomy is not useful.
- Pick a business objective and limit the scope of the taxonomy. Scale the effort and the taxonomy to the size of the need.

- Conduct a knowledge audit to map how information is generated, located, and used across business processes in the organization. Taxonomy development processes must be adapted to communities, business needs, and solutions.
- Draft high-level taxonomy architecture initially to address all the information needs of the organization.
- Develop an initial proof-of-concept taxonomy. All possible content contribution should have a place in the classification scheme. Each dimension and subcategory should be distinct. Terms should be clear and well understood by the user community.
- Bring together all users and stakeholders and build consensus on the proof-of-concept taxonomy. Refine the taxonomy based on their inputs.
- Add detail to the taxonomy and examine logical relationships to make sure all items are at the same level of abstraction. Content depth should be relatively uniform. Content should have relatively even distribution across dimensions and categories within dimensions. Even distribution of content helps the user filter out what is irrelevant.
- Evaluate technology and tools in the implementation of the content management system based on the taxonomy.
- Establish a maintenance and governance system to refine and update the taxonomy on a regular basis.

Dimension (Level 1)	Management Domain			
Description of Dimension	This a repository of all knowledge assets relevant to management			
Level 2	**Level 3**	**Level 4**	**Level 5**	**Comments**
Knowledge Management				Contains all reference materials relating to KM
	General Concepts			
		KM Frameworks		Contains all reference materials relating to KM Frameworks
		Implementation Approaches		Contains all reference materials relating to Implementation Approaches
	Tools & Techniques			
		COP		Contains all reference materials relating to COP
		Storytelling		Contains all reference materials relating to Storytelling

Figure 11.1: Example of Taxonomy Structure

Video

A useful video on Taxonomy is available on YouTube at
www.youtube.com/watch?v=qGymV0ZCme4&feature=player_embedded

Useful Links

http://drupal.org/project/modules
www.apqc.org

12. Document Libraries Leading to a Document Management System

What Do We Mean by 'Document Libraries Leading to Document Management'?

From the Information Management science, and from the Library sciences, we have always been interested in better information and document management. Efficient and effective access to documents is the antidote to 'information overload'. Maintaining a 'document repository' with good categorization and/or taxonomy and metadata (link to these later) is paramount to filing and, subsequently, searching and finding the right information at the right time.

Why Use This Tool?

So what has document libraries leading to document management got to do with Knowledge Management (KM)? And why use this tool in the KM context?

'Information is the lifeblood of knowledge...
Our knowledge will be developed as good as our information allows.'

Furthermore, for KM, we are concerned with developing our knowledge assets. Ideally, we should plan to identify what our key knowledge assets are, and then we should identify and develop information assets to support them. A good, well-planned document library, leading to a document management system, will pay dividends as part of any knowledge portal or KM system.

How to Use Document Libraries

The first step is to select the Document Library system that you will use. There are many proprietary systems, some are expensive and very sophisticated while some are low cost and less sophisticated. Increasingly, we are now seeing free and open source (link later) document libraries.

The following are the key ingredients for an effective document library system:

- A library system that can be backed up easily and regularly
- A library system that is automatically indexed and uses a good search engine
- A library system with effective security of access and usage
- A library system that can be accessed in a corporate intranet and/or from mobile laptops, etc.
- The documents can be organized, searched, and listed by several categories
- Documents can be cross-referenced, hyperlinked, and stored in relational databases
- The document history of revisions is maintained and can be reinstalled at any stage, if required
- Each document contains a 'life cycle' period of relevance and is automatically archived at a specified date

- Documents can be
    - managed overall by owners,
    - edited by selected editors,
    - authored by selected author, and
    - viewed by selected groups (or open to all).
- Documents can contain metadata and/or keywords for effective searching
- Documents can be of different types, multimedia embedding, etc.
- Document statistics record the number of views, duration of viewing, etc.

A Note on Facilitation

The APO KM Methods and Tools wiki website is a good example of a knowledge base comprised of a categorized series of documents. It is a free software application from Google 'Google Documents' or Google Docs, and is widely used around the world.

The best way to start to demonstrate a meaningful document library—in the context of a knowledge base, as a part of an effective KM system—is to 'walk' participants through each component section of the APO KM methods and tools wiki website. It contains

- text documents,
- spreadsheets,
- calendars,
- embedded pictures and video,
- PowerPoint template (PPT) presentations,
- links and cross indexing, and
- search engine.

This is an example of putting a good document library to good use to support the development of a meaningful knowledge base that will demonstrate, teach, and give template examples of creating, sharing, and applying knowledge

When and Where to Use Document Libraries (and When Not)

It is difficult to imagine instances where and when document libraries are not to be used, apart from small, one-off information activities. Well-organized documents are the first step to effective KM. Document libraries can start simple and use free tools, such as Google Docs, and gradually develop into sophisticated document management systems.

But please remember to also take a look at 'Knowledge Bases' in this manual and the difference between information and knowledge.

Example

Walk through the APO KM methods and tools website and look at the different types of document and document libraries and, if you have access rights, take a closer look at the underlying document repositories in Google Docs.

Useful Link

More useful information on Document Libraries, leading to Document Management, can be found at http://en.wikipedia.org/wiki/Document_management_system

13. Knowledge Bases (Wikis, etc.)

What is a Knowledge Base?

General

To understand what we mean by a Knowledge Base, we have to first realize that there are two types of knowledge: tacit knowledge and explicit knowledge. Tacit knowledge, the most valuable knowledge, is 'internal' personal knowledge. It is contained within our heads and is constantly being refreshed and updated through learning. Explicit knowledge is the knowledge that needs to be 'externalized' in some suitable form.

In the context of organizational knowledge management (KM), we should externalize the important or critical knowledge that needs to be accessed, shared, applied, and developed by others. But KM should certainly not be about externalizing and codifying as much knowledge as possible. That would simply be impossible and ineffective. We should consider codifying the knowledge that is considered 'critical' to develop and apply in the organization and that would make 'a big difference' to the organization's performance. This is where we can effectively create explicit 'knowledge bases'.

It is certainly a good idea to first identify the 'key knowledge areas' in the organization that, if better managed, would truly make a big difference to performance. As a guideline, for each key knowledge area identified, it is good KM practice to develop a knowledge base (to maintain the critical explicit knowledge) and also a community of practice/interest or knowledge network around this key knowledge area (to surface and transfer the tacit knowledge).

What is the Difference between a Knowledge Base and a Database?

A database contains information that is structured in records, so that it can be sorted, categorized, and accessed. Typically, a database is updated and maintained, centrally, by a database manager(s) or administrator(s). A database is typically centrally controlled and the information is 'one way', that is, from owner to user.

Databases first contained simple structured records of text and numbers. They then became more able to link to corresponding records as 'relational databases'.

In the 1980–90 period, with the development of information management as a science, it became possible to populate databases with pictures and graphics, videos, tables, spreadsheets, and powerpoint presentations, etc. The information became richer, even though it was still typically centrally managed and controlled. However, instead of calling them information bases—a term that never really caught on—we still tend to call them databases.

In the 1990–2000 period, with the development of collaborative team working tools, it became possible to create databases with far more collaborative team input, feedback, and collaborative authoring. Centralization gave way to more 'participative development'. Furthermore, we learned how to better capture and store new learning and ideas within these spaces, so that the knowledge base became more alive with 'continuous learning and ideas' and even 'continuous innovation'.

Unlike a database, a knowledge base will typically develop knowledge as follows:

1. Create new knowledge for a topic
2. Expand the knowledge by discussions and feedback, new learning and ideas
3. Edit the expanded knowledge into better new knowledge
4. Maintain history of revisions

In the context of KM, these tools enable us to create knowledge bases, which are collaborative and participative databases that are structured to answer, for a given knowledge topic, the 'what, why, where, when, who, and how' (the six components of knowledge).

What is the Difference between a Wiki and a Knowledge Base?

A wiki is one special type of knowledge base with very powerful uses in an organization. A wiki typically contains a page for each knowledge topic (a discussion page and an editing page for each knowledge topic, and a page to capture history of changes and revisions). A wiki tends to be open to many/all to collaborate, develop, and access new knowledge. The best example of a wiki is Wikipedia, the encyclopedia created by mass collaboration throughout the world. Notice the four sections article, discussion, edit this page, and history below.

For all types and sizes of organization, the wiki is an extremely powerful KM tool for creating, maintaining, and accessing knowledge bases. Since the introduction of the wiki technology in the early 2000s, many organizations have adopted the wiki for many of their knowledge bases. For small and medium-sized enterprises (SMEs), in particular, the wiki is a key KM tool.

Structured and Unstructured Knowledge Bases

Some knowledge bases can be quite 'unstructured', and the wiki is a good tool for this, with people adding knowledge topics freely, as they think fit. Many organizations find that the use of wikis can spread rapidly throughout the organization.

Some knowledge bases need to be structured. Examples are a knowledge base for standard operating procedures in an organization, or a knowledge base for knowledge on good practices in the health sector, or legal topics, or customer knowledge, etc. For structured knowledge bases, a process needs to be set up and responsibilities assigned for people to capture new learning and ideas, as new knowledge nominations, for people to filter and edit these nominations, and for people to edit the knowledge topics. Some organizations even develop very complex knowledge bases based on their own innovative knowledge base processes.

Knowledge bases can be simple or complex; structured with simple or sophisticated knowledge processes; or unstructured, freely available on the web as wikis, for example, or developed as expensive proprietary software, depending on the needs of the organization.

Why Use This Tool?

- Before KM tools and collaborative workspaces were available, people had to access centrally managed and controlled databases. New knowledge creation and knowledge sharing were based on the productivity of a few people in a central team which, by comparison, is a slow process.
- Knowledge bases now enable many more people in the organization to create, collaborate, develop, and access new knowledge, more often as participants, to rapidly feed back and even create and edit new knowledge, where appropriate.
- Knowledge bases give a full context for a knowledge topic by structuring the 'what, why, who, where, when, how'.
- Knowledge bases, especially wikis, do not normally require the involvement of the IT department, although their support is to be welcomed. This means that knowledge bases can be created rapidly by the users themselves.

How to Use a Knowledge Base

Step 1 *Identify what key area of knowledge you wish to better manage in a knowledge base*

Ideally, knowledge bases are most effective when they are used to better manage key knowledge areas.

Key knowledge areas can be identified by

- Examining the organizational/business/project objectives that you wish to achieve; and
- Asking the question, 'What knowledge area(s), if we could better manage it, would make a big difference to our performance?

However, knowledge bases can, equally, also be very effectively used for each new project or process undertaken by the organization.

Step 2 *Decide if the knowledge base is to be managed or open*

Decide if this knowledge base needs to be managed by a knowledge base manager or subject matter expert to edit feedback and suggested knowledge improvements, or if it can be open to a wider audience to directly participate and edit themselves.

Step 3 *Appoint a knowledge base manager*

If it is to be a managed knowledge base, appoint a knowledge base manager and develop the process to receive feedback, new learning, new ideas, suggestions for improvement, measurements, etc.

Step 4 *Create the knowledge base*

Consider using wikis wherever possible, and the development of proprietary knowledge bases wherever there is a special need beyond wiki functionality.

A Note on Facilitation

- The concept of a knowledge base needs to be taught in a presentation of about 1 hour duration maximum.
- It is a good idea to introduce the notion of a simple process to improve a simple knowledge base from everyday life experience. For example, the construction of a travel checklist, and how that can improve with time and experience, and the benefits of new travellers having immediate access to this knowledge. You may also quote, as an example, an airline pilot's checklist that has been developed over many years of experience in flight safety.
- A good way to teach and illustrate an example of a knowledge base that many people will understand and relate to, in their daily practical work, is to demonstrate this knowledge base, which was used by an international team of experts to initially collaborate and create new knowledge of KM tools and techniques, as a team, and then open it up for further feedback, comments, and suggested improvements to a larger international APO community.
- Refer to the example below as a possible demonstration.

When to Use Knowledge Bases

This question has already been partially answered in the preceding description. Basically, wherever the need is to create new explicit knowledge and apply it, preferably as a team or collaborative community, collectively, there is a need for a knowledge base.

Where to Use Knowledge Bases

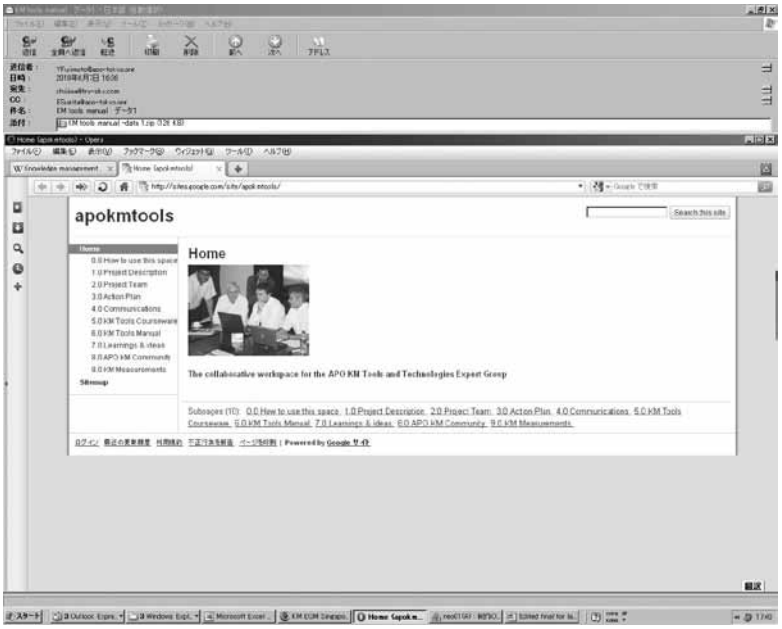
Knowledge bases can be used anywhere in the organization. However, be cautious of 'overusing' knowledge bases. Think about the benefits of a knowledge base versus the costs, in financial terms, and in time and effort terms. Think about the possible audiences and possible contributors.

Example

This website may be considered as an example of a typical knowledge base. (If you are reading this manual only, you may gain access to the website at http://sites.google.com/site/apokmtools.)

1. What, Why, Who, Where, When, How

Firstly, a quick glance at the navigation menu (Click Home) shows that the website answers the 'What, Why, Where, When, Who, and How' of the project, the key components of knowledge, as follows:



- What – Project Description
- Why – Project Description and attached APO Project Implementation Plan (PIP)
- Who – Project Team and APO KM Community
- Where, When – Action Plan and Communications schedule if video meetings, meeting minutes, project blog, etc.
- How – KM Tools Courseware, KM Tools Manual, KM Measurements, How to use this space

2. Capturing New Learning and Ideas

The navigation section 'Learning and ideas' is an example of a place where individuals can capture and record their new learning and ideas, as they occur through the project life. Many of the best new learning and ideas can occur in the beginning phase of a project, and often become forgotten at the formal end review of a project.

In addition to 'volunteered' individual learning and ideas, the project team leader can conduct a formal 'learning review', perhaps on a weekly basis, to ask of the team what new learning and ideas occurred. The project team leader can then enter them into the shared workspace.

At the end of the project, a final 'after action/learning review may be conducted.

3. Feedback, Discussion, Collaboration, Editing, Creating New Knowledge

At the bottom of each page is the ability for users to enter comments and feedback to the knowledge base manager. For the users, a 'discussion forum' has been set up, under

Communications, to enable them to discuss, share, ask questions, post answers, etc. This facilitates the better surfacing and sharing of tacit knowledge.

If users are made 'Authors' by the knowledge base administrator, they can collaborate even more so by entering and editing knowledge topics themselves.

4. Community of Practice

Within the APO KM methods and tools space, as an example, a Community of Practice has been set up for the international KM practitioners to meet, network, communicate, collaborate, learn, and share together at the 'APO KM Community'.

Video

This video on YouTube simply explains the powerful concept of a wiki.
www.youtube.com/watch?v=-dnL00TdmLY&feature=player_embedded

Reference / Source

Wikipedia.org

Links

Sign up for your own wiki at
www.pbwiki.com
www.wetpaint.com
www.wikispaces.com

14. Blogs

What is a Blog?

A Blog is a very simple 'journal style' website that contains a list of entries, usually in reverse chronological order. The entries are typically short articles or stories, often relating to current events. However, the entries do not have to be just plain text. They could also be photographs, videos, audio recordings, or a mixture of all the types.

The content of a blog may be created by a single author or, in the case of some of the more popular blogs, a whole collection of writers. Although any website could call itself a blog, there are several features that are generally found in blogs. These are

1. The content is essentially linear. Stories, and items, are added to a growing list, and readers can scroll through the list to see how the author(s) thoughts have developed.
2. The blog has a focus. This is interpreted very liberally—people's blogs wander across a whole range of topics—but even when stretched to the limit, there is usually some sense that the blog is about something.
3. The blog has a mechanism through which readers can comment on items. Some blog sites choose not to enable this feature. However, discussion is definitely one of the most useful aspects of blogging, although allowing it also tends to place a greater burden on the authors because comments normally need to be 'moderated'.
4. The blog publishes an electronic index that allows people to automatically be aware when something new has been added.

Why Use This Tool?

Blogging offers at least three distinct benefits:

1. The software used to host blog sites is usually very easy to use. This means that people can create simple websites in just a few minutes.
2. The process of writing blog entries is one of the easiest ways of engaging in knowledge capture and sharing.
3. The simplicity of the blog sites, coupled with the ability for readers to be automatically notified of new entries, makes the process of knowledge distribution very simple.

In essence, blogs offer an easy way for individuals, teams, and entire organizations to capture and publish information about specific topics and to make this information available, automatically, to as wide an audience as they want.

How to Use

The details of how to establish a blog differ between the various providers of blogging software. However, the basic principles remain the same:

1. Decide who you are writing for, and what tone you wish to adopt. For instance, do you wish to be very formal, or more informal? It is well worth reading a number of blogs to see the range of ways in which people communicate.
2. Decide what topic(s) your blog will cover.
3. Agree who will write entries.
4. Decide how you wish to promote your blog. One of the simplest ways is to start adding relevant comments on other people's blogs, with links back to your own articles.
5. Create the blog – If you are in a larger organization, you may wish to discuss the options with your IT department.
6. Create your first entries.
7. Keep going – Blogs are all about the ongoing creation of useful content.

When to Use Blogging (and When Not)

Blogging is a useful and appropriate tool for communicating with a wider audience. They have also been used as personal journals without any intended audience beyond the author. However, the real value of blogging lies in the ability to create simple vehicles for the communication of new and interesting information. Over time, the contents of a blog can build up to become a very useful, searchable, knowledge base.

A blog should not be used for information that needs to be revised frequently. A Wiki is a more appropriate tool for that problem.

Example

There are, quite literally, millions of blogs. Try looking at some of the entries listed in All Tops (see links) to get an idea of the different range of blogs that are popular.

Video

A useful video on YouTube on 'What is a Blog' is at
www.youtube.com/watch?v=NN2I1pWXjXI&feature=player_embedded

Links

All Top brings together entries from many of the top blogs at http://alltop.com/.
What is a blog reader video at www.youtube.com/watch?v=0klgLsSxGsU

15. Social Network Services

What are Social Network Services?

A social network is a group of people who share a common area of interest. Social network services are online systems that support social networking. The core services they offer usually include

1. Finding people who have similar interests or needs;
2. Aggregating people into groups, or subgroups, and being able to communicate with those groups; and
3. Sharing content, such as documents links to relevant websites, or even streaming video.

Why Use This Tool?

Social networks can be very powerful knowledge-sharing tools. A well-targeted network can provide its members with access to highly relevant knowledge, connections, and advice. In a business setting, knowledge sharing allows companies to have a much closer relationship with customers, and potential customers. Internet-based social networking has opened up a totally new way of managing customer relationships.

How to Use

There are, quite literally, millions of social networking sites. In fact, any website that allows people to register and hold discussions with other members could qualify as a social network. At its simplest, even an email distribution list can be quite an effective networking tool. The first challenge for anyone who wishes to gain the benefits of belonging to a network is to decide whether there is an existing network, which they can join, or whether they need to create a new one.

The benefit of joining an existing network is that you will find a collection of like-minded people, and be able to have useful conversations immediately. However, if the topic you are interested in is poorly served, it is certainly possible to create a new network cheaply and efficiently. The steps for getting involved in a social network would, therefore, look like this:

1. Identify the topics you wish to network on.
2. Search the major social networks to see if there are any existing groups. We recommend exploring Facebook and LinkedIn as good starting points (see links on page 53). If you want to use social networking as part of your strategy to service your customers more effectively, you are likely to both join relevant existing networks, and to start a new one specifically dedicated to your business.
3. Join a network, and read through some of the previous discussions, in order to understand the tone and level. Many social network sites have different discussion areas depending upon, for example, people's level of expertise.
4. Once you feel comfortable in a network, join in the discussions and start to make connections.

5. If you want to start your own network because your specific areas of interest are not being well covered, it is often easiest to simply propose the new network within the discussion areas of your existing network. If enough people share your interest, it is usually very simple to create a new space.
6. Content is king. Your new network needs to be valuable to its members. This means that you and your colleagues need to work hard at finding relevant content, encouraging discussion and welcoming new members.

When to Use Social Networks (and When Not)

Social networks offer cheap and effective tools for knowledge sharing. If knowledge is important to your organization, there is almost certainly a network that you should be part of. In addition, the networks offer new ways to build deeper relationships with current and future customers. However, social networks, by their very nature, are designed to encourage discussion. If customers like your products, they will talk about them, and if they don't, they will probably shout about them. Many companies have been shocked at the strength of feeling that can be generated through social networking sites.

Example

The Ecademy was one of the earliest social networks dedicated to business and business relationships. The network provides a useful example of what can be achieved through professional networks.

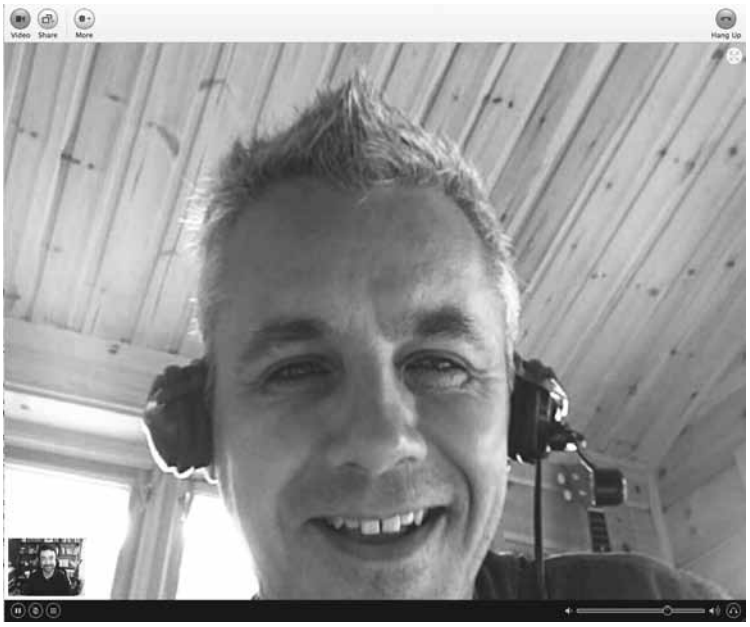
Video

'Social Networking in plain English' video on YouTube at
www.youtube.com/watch?v=6a_KF7TYKVc&feature=player_embedded

Links

- www.ecademy.com/
- www.facebook.com
- www.linkedin.com
- www.twitter.com
- www.ning.com

16. Voice and VOIP



What is VOIP ?

In very simple terms, the internet is now capable of sending both audio and video signals between computers, using nothing more than a broadband connection and some low-cost equipment, such as a webcam and a headset. This capability is often referred to as Voice-over-Internet Protocol (VOIP).

The adoption of broadband has led to the creation of a number of companies that offer various VOIP services. In general, they all offer instant messaging and voice transmission; many of them provide video calls as well. The cost of the service varies from company to company. However, almost all of the providers offer free computer-to-computer audio; many of them provide free one-to-one video calls.

Why Use This Tool?

VOIP offers a free or very low cost means of calling people anywhere in the world—provided that they have a suitable Internet connection. When combined with video calling, the service offers a significantly richer form of communication. The addition of screen sharing allows people to deliver presentations and e-learning at very low cost and with surprisingly high levels of interaction.

How to Use

1. Select the service you wish to use. www.Skype.com is probably the most popular provider at the moment and is available on many different operating systems and devices. It is certainly possible to be subscribed to several different services at the same time.
2. Make sure that your computer is suitable. Typically, this means having a web camera and a pair of headphones. Webcams that support 640 by 480 pictures provide significantly better image quality and are recommended.
3. Register with your selected service(s). This is normally no more than a few minutes' work.
4. Download and install the software.
5. Make a test call.
6. Publicize your new service to your colleagues.

As a side note, there is an emerging standard of behavior that people typically adopt when using a VOIP system that supports instant messaging. In general, it is considered poor manners to 'call' people without warning—if they are on their computer, they are probably working on something—so people usually send an instant message, asking to speak. If the other party agrees, a voice call is set up, and that might then move to a video call, if necessary.

When to Use VOIP (and When Not)

Given the cost advantages of VOIP, combined with the benefits of video calling, the key question should probably be, "When wouldn't one use VOIP"? There are times when it would make sense to use an existing telephone or video conferencing system.

1. Legality – There are a number of countries in the world that are currently protecting the existing—government-owned—telephone provider. In those countries, it may be illegal to use VOIP services.
2. Call quality – In general, the quality of calls via the Internet is at least as good as those via the traditional telephone system, and often significantly better. The improvement in call quality is due to the fact that the calls are usually in stereo, and that the voice is less compressed. However, in order to achieve this high quality, it is usually necessary for the software to make use of the power of your computer. If you are running on a less powerful computer, or your computer is running a number of different programs at the same time, you may notice degradation in the call quality. In order to guarantee the quality of your call, you may choose to use a traditional telephone system.
3. Video quality – The quality of the image shown via these VOIP systems can vary dramatically. At the highest level, the images are sharp and free from distortions. However, because video images require a relatively fast broadband connection, any congestion on your network connection can result in video images degrading quite noticeably. If image quality is important to you, for instance, if you are giving a presentation to a large audience, you may choose to use one of the dedicated videoconferencing systems that can guarantee image quality—for a price!
4. Firewalls – Your organization may use firewalls to limit the access of software both into and out of your organization. It is, therefore, possible that the VOIP software may not work at all.

5. Mobility – In general, VOIP is associated with computers. If you are choosing to travel without a computer, or you do not have Internet access, you will need to fall back on traditional telephone service. However, even this is now changing. Various products are available on mobile telephones, taking advantage of both wireless data and the ability to route voice calls over existing telephone networks.

Links

You can read more about VOIP at
http://en.wikipedia.org/wiki/Voice_over_Internet_Protocol

The following organizations represent a subset of companies that offer VOIP services:

- www.skype.com
- www.ooVoo.com
- www.apple.com
- www.google.com
- www.yahoo.com

17. Advanced Search Tools

What Do We Mean by Advanced Search Tools?

Almost everyone who has used the World Wide Web will, at some point, have used a search engine. However, very few users take advantage of the advanced search tools that are offered by most of the search engines. Understanding these tools can result in a significant improvement in the quality of search results.

Why Use Advanced Search Tools?

Getting the right information can be a hit-and-miss affair. Knowing how to use the search tools to narrow down the options is an important skill for any knowledge worker.

How to Use

The advanced commands will differ between search engines. However, the basic principles are common. For simplicity, we are using Google to demonstrate the main tools that we recommend.

1. To search for the exact phrase, put the text in double quotes. For example, "Association of South East Asian Nations" will only find documents with that exact phrase.
2. To limit your search to a specific website, use the word **site:**. For example, to search for GDP figures within the ASEAN site, you would enter **GDP site:aseansec.org**
3. To exclude certain words from a search, put a minus sign in front of the word. For example, if you want to search for Lotus, but not lotus cars, you would enter **lotus -cars**
4. You can search for phrases that contain some words you are not worried about, by replacing them with the * symbol. The * will then match any word. For example, a search for **How to * a car** will produce information on how to drive, wash, sell, make, or donate a car.

When to Use Advanced Search Tools (and When Not)

Advanced search tools are powerful and easy to use. You should consider using them if

1. You are having difficulty finding the information you are looking for, and
2. You want to make sure that you are retrieving as complete a set of data as possible.

Links

Google guide to searching at
www.google.com/support/websearch/bin/answer.py?hl=en&answer=134479
Yahoo guide to searching at
http://help.yahoo.com/l/us/yahoo/search/basics/basics-08.html

18. Building Knowledge Clusters

What is a Knowledge Cluster?

Throughout history, organizations have grouped together in various types of cluster to be able to be more effective. Guilds, societies, associations, networks, etc. continue to help support and develop their members.

However, since the birth of the 'Knowledge Economy', there has been far more emphasis on the knowledge contained, developed, and applied within organizations. There is much more interest in the different types of Knowledge Network. The Knowledge Economy and the primary knowledge management (KM) processes, in turn, have been newly enabled, in radical and fundamentally new ways, by communication, information, and collaborative working technologies based on the Internet and World Wide Web.

The term 'Knowledge Cluster' is a term given to a group that—as a result of coming together in this new way—create, innovate, and disseminate new knowledge. In other words, different individuals, teams, and organizations can now come together, virtually, on the Internet, to better communicate, collaborate, learn, and share knowledge through the cluster.

The term is used, for example, to represent a group of companies in the same industry sector, e.g., high technology knowledge cluster, biotechnology knowledge cluster.

There are Regional Knowledge Clusters where groups of organizations come together, regardless of their size, around specific topics. Often, there is a high incidence of innovation centers linked to local universities.

At the center of the cluster, there is usually a research and development (R&D) topic and core public research institutions with high research potential. The system can also involve the participation of organizations and other groups from both inside and outside the locality or region.

A Knowledge Cluster may be viewed as a type of Community of Practice (COP). A Knowledge Cluster is a more focused COP, normally with the aim of combining knowledge resources to create new innovative products and services and/or organize and compete in new ways to win larger business contracts.

Why Use This Tool?

There are many good reasons to form and/or join a Knowledge Cluster. Of special importance is the use of Knowledge Clusters for small and medium-sized enterprises (SMEs). This enables them to gain access to, and participate in, new knowledge networks with new knowledge resources. SMEs can now communicate, collaborate, learn, share, and apply their knowledge much faster and at a much higher quality than ever before.

Most importantly, SMEs are able to create a Knowledge Cluster that, in many ways, can effectively compete with large organizations. For example, small regional legal firms have

formed successful national legal Knowledge Clusters. As a result of the Internet, they can maintain lower operating overheads, compared to the higher overheads of large organizations. As a result, SMEs are quite often more price competitive, more resource flexible, and often are able to respond and act much faster than larger organizations.

But also, even very large organizations have formed collaborative Knowledge Clusters to produce products and services that would be impossible to produce individually. A good example of this is Airbus Industries who formed a collaborative knowledge cluster in the Aerospace Industry to build the fundamentally new Airbus 380.

Furthermore, Knowledge Clusters can stimulate regional development. More specifically, for example, the Advancement Center for Science and Technology (NOASTEC) Knowledge Cluster Headquarters in Japan highlights the strategic importance of Knowledge Clusters and refer to them as human networks that will promote beneficial feedback between the "seeds" of innovative technology possessed by public research organizations and other groups forming the core and corporate needs for practicality. This creates a chain reaction of technical innovation which, eventually, results in the creation of new industries. By expanding the regions that have this sort of system, it is possible to achieve world-class technical innovation.

Example

Migakiya Syndicate, a local consortium consisting of more than 40 small metal-polishing companies at a countryside in Japan, is another example of a Knowledge Cluster. The small companies used to produce most of the metallic western tableware in Japan, but the industry has faced serious decline over the last two decades. Managers of the companies, along with representatives from the Chamber of Commerce and Industry, started discussions to find ways to revive the structurally-depressed industry. They then realized that their core skills and knowledge was not manufacturing tableware but polishing anything—for which they have strong technical skills. Based on the finding, they formed the knowledge cluster to market their capability of polishing, receive orders from any industries, and work together on the orders. The knowledge cluster received orders amounting to more than 150 million yen in 3 years, and the once-declining industry achieved its revitalization through sharing and improving their core knowledge and skills.

SMEs can now both compete with larger organizations, through forming competitive Knowledge Clusters, and have more opportunity to join the value chain of large collaborative Knowledge Clusters, regionally and internationally. Thus, Knowledge Clusters are considered to be the new 21st century model for both competitive and collaborative knowledge-driven organizations.

How to Use Knowledge Clusters

Step 1 Become aware of the knowledge clusters that exist in your industry sector and join them. Contact your local university for Knowledge Cluster initiatives. If none exists, then consider forming a new knowledge cluster, e.g., a 'ceramics knowledge cluster.' In any case, understanding key knowledge areas for the organization is one of the most critical successful factors.

Step 2 Become competent in participating in Web-based collaborative knowledge working. Consider developing the competencies for effective personal and team virtual knowledge working.

Step 3 Understand and become active in the knowledge cluster by applying the principles of working in a Community of Practice. Building trusting relationships with other players is essential for successful knowledge clusters.

Step 4 Consider knowledge clusters as a key strategic resource and competitive tool within your business strategy.

Links

Knowledge Clusters Initiative, Japan Ministry of Education, Culture, Sports, Science and Technology (MEXT) at
www.it-cluster.jp/english/index.html

Knowledge Management: Case Studies for Small and Medium Enterprises (contains case of "Migakiya Syndicate") at
www.apo-tokyo.org/00e-books/IS-40_APO-KM-for-SMEs.htm

19. Expertise Locator / Who's Who

Why Need an Expertise Locator for SMEs?

It is often true that knowing who knows what is more valuable than knowing how to do. It is why Expertise Locator has been one of the key tools for Knowledge Management (KM). Expertise Locator has fit typical problems that large corporations with thousands of people have faced: Can't find the right knowledge that should exist somewhere in the organization or somebody's head. It often leads the organization to reinventing the wheel in order to solve the same problem just because they do not know whom to ask what.

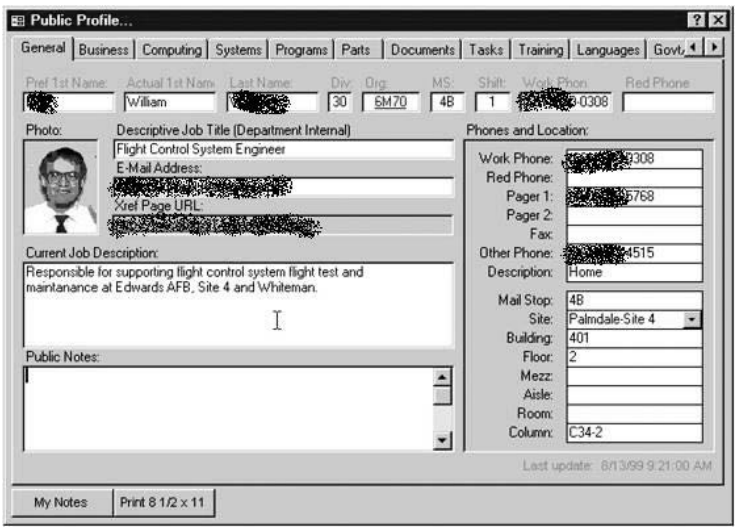
Readers may wonder why there's a need for Expertise Locator for small and medium-sized enterprises (SMEs). If we just focus on sharing who knows what in one small firm, probably we do not need Expertise Locator. You can be familiar with all other employees' skills, experience, and knowledge, if the number of your colleagues is small. However, how about knowledge sharing among people at many SMEs, or what we call "Knowledge Cluster"? (For more information, refer to "Knowledge Cluster" section.)

In a Knowledge Cluster, you cannot know all people's skills, experience, and knowledge in all SMEs, but it is strongly needed to connect to a whole range of expertise to achieve the objectives of the Knowledge Cluster. This situation is similar to that of large corporations that requires Expertise Locator. It supports finding the right people with the right knowledge at the right time among many SMEs to effectively and efficiently do business together.

What is Expertise Locator?

Expertise Locator (Expert Locator, Who's Who) is an information technology (IT) tool to enable effective and efficient use and/or share of existing knowledge by connecting people who need particular knowledge and people who own the knowledge. Sometimes, the system helps building new teams/projects by finding various expertise needed.

Expertise Locator can be simple electronic yellow pages, more sophisticated systems to automatically search expertise, or even a mixture of IT and people (often called Knowledge Brokers) who support finding and connecting the person who wants the knowledge and the person who has the knowledge.



The picture above is an example of Expertise Locator. It usually contains general information of experts, such as name, photo, title, and phone number, etc., and key knowledge, such as project experience, key knowledge domain, and connections with customers, etc. The indices of key knowledge depend upon what kind of people/knowledge users want to find; it can focus on technological, operational, or relational knowledge.

How to Design and Use Expertise Locator

The usage of Expertise Locator is quite simple. When you want to find someone who has certain knowledge or experience, you access the Expertise Locator, and insert key words of the knowledge to find the right person. To make the system work, however, is not that simple.

1. Define Objectives of KM

Expertise Locator is, eventually, just a tool to connect people with knowledge to people who need it. Before building Expertise Locator, you have to define the objectives (or goals) of KM and to position Expertise Locator as one of the tools only when it fits the objectives of KM.

2. Designing User's Interface

Like all other IT tools for KM, Expertise Locator needs an easy and friendly user's interface to let people buy in. Especially, the design of indices of knowledge will be the key for users. To avoid no-way-out situation, you have to keep flexibility to change the indices and other interface based on user's feedback because you cannot build a perfect system from day one.

3. Registering User's Expertise

This would be the most difficult part of building and utilizing Expertise Locator; there are many well-built Expertise Locators that could not attract users well to registering their expertise. You can provide incentives for registering, the best of which are probably the real stories of benefits from registering and using the system. For instance, if one person (or small firm) received a business transaction or get involved to a new project based upon the registered expertise, such a story will spread out over users and let them voluntarily register their expertise and use the system.

4. Maintain the System

Somebody has to watch the usage and reaction of users to improve the system, as well as to increase the effectiveness of the system. Maintaining the system to attract and sustain people who use it is more important than building it.

When to Use Expertise Locator (and When Not)

If you know who knows what, there is no reason to build Expertise Locator. Just ask the right questions to the right people at the right time. When one of the key problems in your organization is that you do not know who knows what or to whom to ask what questions, it may be the opportunity to consider Expertise Locator. Again, to find the right people in Knowledge Cluster with many SMEs would be a good opportunity to use Expertise Locator among SMEs.

Video

A useful video to introduce an Expert Locator, on YouTube, is at
www.youtube.com/watch?v=8ZSnlQ8h0Ss

20. Collaborative Virtual Workspaces

What is a Collaborative Virtual Workspace?

The essence of a collaborative virtual workspace is that it enables people to work together, irrespective of where they are physically located. In practical terms, this means that it has to involve a combination of document sharing, collaborative editing, and audio/video conferencing. Although suppliers offer software packages that contain all these elements, many users assemble their own collection of tools that meet their specific needs.

Why Use This Tool?

There are many reasons for using a virtual workspace, including

1. It allows organizations to access the best skills anywhere in the world;
2. It can dramatically reduce travel costs; and
3. It allows people to work when and where is most effective for them, as well as giving them access to information when they need it.

How to Use

Given the market's constantly evolving range of tools, it is difficult to recommend any particular suite. However, it is possible to talk about the general principles that should guide the development of a workspace.

1. Start with people. The tools will tend to amplify existing work practices. Therefore, before introducing virtual tools, any work group or team needs to review its work practices and reflect on how it would work ideally.
2. Make sure the technology is up to the job. Poor quality equipment, e.g., slow internet links or poor quality audio/video, will create a negative experience for users and will discourage them from future use.
3. Train users at the appropriate time. Training is important for successful implementation. However, it should be provided as close to the intended use of the tools as possible.
4. Start with human-centred tools. Audio and video conferencing build on natural human behavior. They also offer immediate benefits that—if the quality is good enough—save people time and stress.
5. Introduce collaborative content creation in association with the audio/video conferencing so that it builds on top of the existing experience and allows the more experienced users to offer immediate assistance to their colleagues.

When to Use Collaborative Virtual Workspaces (and When Not)

Virtual workspaces are rapidly becoming an essential part of many organizations' work practices. And this trend is likely to continue. It is, therefore, important to identify the situations where this approach may be inappropriate. The key situations would include

- Poor internet connections. Various software tools enable people to work in poorly

connected environments. However, if the connection proves to be too much of a barrier, the frustration caused to the users may outweigh the benefits of virtual working.
- The task requires direct physical collaboration. Although fashion design is increasingly being supported through virtual tools, there will be a range of tasks that genuinely require physical co-location.
- Security and privacy are paramount. In situations where privacy is absolutely essential, for example, the relationship between doctor and patient, co-location may be essential.

Example

A powerful collaboration suite can be assembled through combining Skype (for audio/video conferencing) with the Google Docs collaborative editing system. The resulting combination allows teams to jointly author documents, discuss action plans, and capture their key knowledge in a wiki. The total package is available for free and needs relatively low-speed internet connections.

Moving up one level, in both cost and capabilities, takes us to Adobe Connect Pro. This integrated suite enables teams to create documents and discuss their decisions, but also offers additional features, such as screen sharing, team break-out rooms, voting, and meeting management. The entire system runs on the Flash plug-in and is, therefore, available on the vast majority of personal computers without any further installation required.

Teleplace is an example of state-of-the-art virtual collaboration. The system provides a very powerful three-dimensional world that supports the full range of collaboration in an immersive environment. Although the system is very simple to use, it is also likely to require more training for the users to fully exploit the power.

Some Virtual Collaborative Software Suppliers

- Google Docs at www.google.com/apps/intl/en/business/index.html
- Adobe Connect Pro at http://tryit.adobe.com/us/connectpro/webconference/?sdid=FBFLM
- Teleplace at www.teleplace.com

II.

Six Further Highly Recommended Tools

Six Further Highly Recommended Tools

This further list of six highly recommended Knowledge Management (KM) methods and tools was compiled and agreed by the Asian Producting Organization (APO) KM methods and tools team in Singapore in August 2009.

The 20 essential KM methods and tools described earlier are those that are recommended to consider as part of starting the KM initiative.

This list of six further KM methods and tools are recommended to be considered once the KM initiative has started. However, each organization has its own unique needs and preferences, and it may be the case that your organization will wish to consider the use of these remaining six methods and tools immediately at the start of the KM implementation initiative. There is no one absolute implementation solution.

Please carefully note that the methods and tools are not listed in any particular order or hierarchy. They are all considered important. In no particular order, therefore, the six further KM methods and tools compiled are

Non-IT Methods and Tools

21. Knowledge Worker Competency Plan
22. Knowledge Mapping
23. KM Maturity Model
24. Mentor / Mentee Scheme

IT Methods and Tools

25. Knowledge Portal
26. Video Sharing

21. Knowledge Worker Competency Plan

What is a Knowledge Worker Competency Plan?

A Knowledge Worker Competency Plan is a personal competency plan for individuals to develop the critical skills required to become an effective knowledge worker.

This is also known as a 'Knowledge Scorecard' in some organizations.

Why Use This Tool?

The purpose of the Knowledge Competencies Plan is to allow Team Leaders and Managers the ability to track the development of critical knowledge working skills, and to allow for individuals to identify current levels of competence and to be better rewarded and recognized in terms of competence levels.

An individual must achieve certain levels of competence to become a proficient knowledge worker.

The three basic levels of competence are as follows:

- **Level 1** – Awareness and understanding of the knowledge worker skill
- **Level 2** – Applied practice of the knowledge worker skill (but still not yet consistent)
- **Level 3** – Demonstrated consistent competence in the practice of knowledge worker skill

Some knowledge-driven organizations have introduced a fourth level of competence:

- **Level 4** – Able to teach others in this competence

This additional level of competence helps to recognize and create a culture of 'teachers' in the organization. After all, teaching is 'knowledge sharing'.

Some organizations have introduced higher levels of competence in recognition of thought leadership and even 'world class competence'.

When to Use a Knowledge Worker Competency Plan

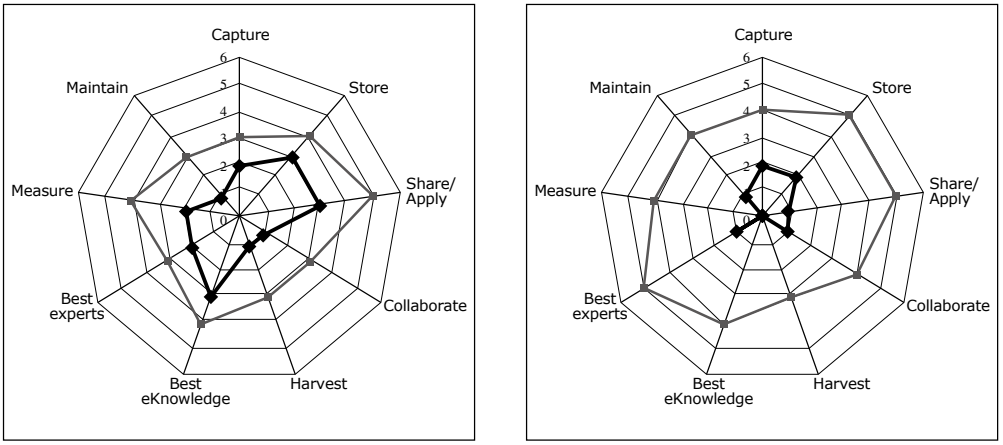
The ideal way to use Knowledge Worker Competency Plans is to integrate them into an existing Organizational Competency framework. If the organization has an existing Competency framework, then it can be extended and knowledge worker competencies can be included in the appraisal system. This then gives a direct link between knowledge working levels of competence and the rewards and recognition system.

If the organization does not have a Competency framework, then the knowledge worker competencies can still be set up as a separate exercise.

Some organizations operate 'Balanced Scorecards', and knowledge competencies can be integrated into these systems. Furthermore, knowledge competencies can be integrated into Business Excellence models. We are now starting to see the emergence of 'Knowledge Excellence' models and awards.

Example

The following Competence Maps are typical examples of an individual's progress—starting initially at low levels of competence (bold line) and moving outwards to higher competence levels (light line). The Competence Map on the left shows that of an individual, and the one on the right shows the overall competence of all individuals within the organization.



Link

www.knowledge-management-online.com/Knowledge-competencies.html

22. Knowledge Mapping

What is Knowledge Mapping?

Knowledge Mapping is a process by which organizations can identify and categorize knowledge assets within their organization—people, processes, content, and technology. It allows an organization to leverage the existing expertise resident in the organization, as well as identify barriers and constraints to fulfilling strategic goals and objectives. It is constructing a road map to locate the information needed to make the best use of resources, independent of source or form.

Thus, the form of knowledge map varies, depending upon the knowledge strategy of the firm. If it focuses on codifying and reusing explicit knowledge, the map will be filled with explicit knowledge, such as core documents, contents on the intranet, and transaction data with customers, etc. On the other hand, if the firm focuses on increasing individuals' capabilities, the map will consists of much tacit knowledge, such as know-how and social network, etc.

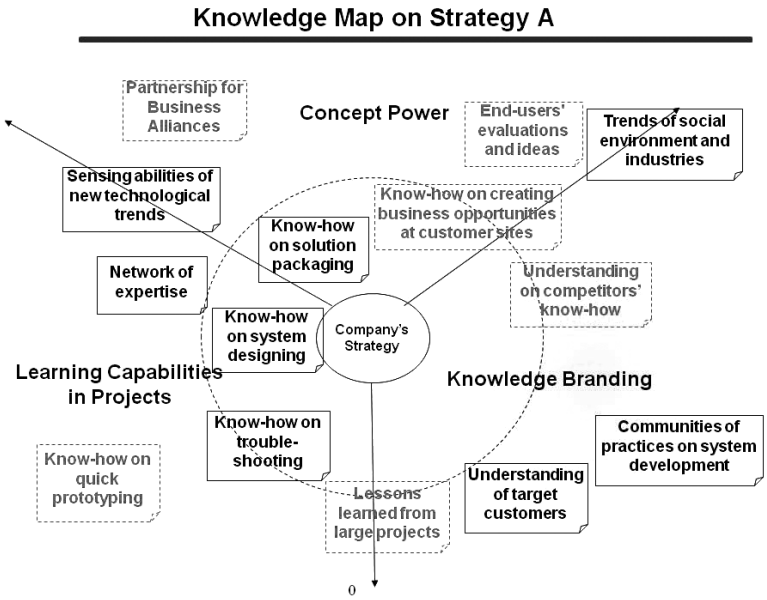
Knowledge Mapping includes all the processes and tools to portray a perspective of the players, sources, flows, constraints, and sinks of knowledge within an organization. It is a navigation aid to both explicit and tacit knowledge, showing the importance and the relationships between knowledge stores and the dynamics. The final map can take multiple forms, from a pictorial display to yellow pages directory, to linked topic or concept map, to inventory lists or a matrix of assets against key business processes.

Why Use Knowledge Mapping?

- To find key sources, opportunities, and constraints to knowledge creation and flows
- To encourage reuse and prevent reinvention, saving search time and acquisition costs
- To highlight islands of expertise and suggest ways to build bridges to increase knowledge sharing and exchange
- To reduce the burden on experts by helping staff find critical solutions and information quickly
- To improve customer response, decision-making, and problem solving by providing access to applicable information, and internal and external experts
- To highlight opportunities for learning and leverage of knowledge through distinguishing the unique meaning of 'knowledge' within that organization
- To garner support for new knowledge initiatives designed to improve the knowledge assets

How Does a Knowledge Map Look Like?

The following chart shows an example of a knowledge map.



This is just one example of Knowledge Mapping, and any company has to create its own map based on its knowledge strategy. One of the typical mistakes on Knowledge Mapping is starting at creating extraordinary lengths to map existing information and knowledge flows at great cost. It is not just expensive but also difficult to use with too many information. A good way to start Knowledge Mapping is to skim a surface of the current important knowledge first, and if that is not adequate, then to go deeper. It tends to save much time and cost for better outcome.

Reference and Link

http://kmwiki.wikispaces.com/Knowledge+mapping
http://ezinearticles.com/?Knowledge-Mapping&id=9077

23. KM Maturity Model

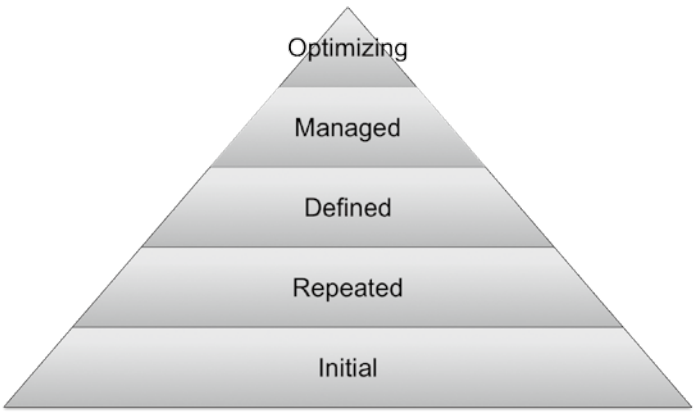
What is a KM Maturity Model?

A Knowledge Management (KM) Maturity Model helps an organization assess its relative progress in KM implementation at a more detailed level. It can be described as a structured collection of elements that describes the different levels of KM maturity in an organization.

The Software Engineering Institute (SEI) at the Carnegie Mellon University coined the phrase maturity model in developing the Capability Maturity Model Integration (CMMI). Several KM Maturity Models have been developed:

- American Productivity and Quality Center (APQC) KM Maturity Model
- Seimen's KM Maturity Model
- KM Self Assessment – Learning to Fly
- KM Assessment – David Skyrme Associates
- 5iKM3 KM Maturity Model – TATA Consultancy Services

Most KM Maturity models copy the spirit of the CMMI of SEI with five levels of maturity—initial, repeated, defined, managed, and optimizing—as defined in CMMI.



The Five Maturity Levels of Knowledge Management

Ehms and Langen (2002) provide a useful definition of the five levels in the KM Maturity Model:

Maturity Level "initial"
Processes are not consciously controlled; "successful" knowledge-related activities are seen as a strike of luck and not as the result of goal setting and planning.

Maturity Level "repeated"
Organizations have recognized the importance of KM activities for their business. Organizational processes are partly described as KM tasks and, by virtue of ideas from individual "KM pioneers", pilot projects on KM typically exist.

Maturity Level "defined"
Stable and practiced activities that effectively support the KM of individual parts of the organization. These activities are integrated in the day-to-day work processes, and the corresponding technical systems are maintained.

Maturity Level "managed"
Indicators relating to the efficiency of these robust KM activities are regularly measured. The activities are secured in the long term by organization-wide roles and compatible socio-technical KM systems.

Maturity Level "optimizing"
The measuring instruments combine with other instruments for strategic control. There are no challenges left that cannot be solved with the established KM tools.

Why Use a KM Maturity Model?

The KM Maturity Model provides an understanding of the KM maturity level of an organization based on adherence to a set of standard KM practices. The model provides an objective assessment of the current level of KM activities in an organization. It provides valuable information on the suitable actions the organization should take for reaching the next maturity level in terms of KM development. The model provides a natural progression for the organization to reach its KM maturity levels. In a way, the KM Maturity Model provides a foundation to build on a KM road map. The model does not show the length of duration for each maturity level. The duration that an organization stays in a particular level may differ from organization to organization.

When to Use a KM Maturity Model

The KM Maturity Model is to be used when an organization wants to understand the level of maturity of its KM practices. The model should be used after the organization does a KM assessment. The APO KM Assessment tool can be used for this purpose. The tool identifies areas of strength and areas for improvement of an organization's KM practices. The assessment results will provide information for the organization to understand its KM maturity level relative to the model. Thus, the KM assessment tool and the maturity model provide useful information in assessing the state of KM in the organization and identify specific steps to develop its KM practices.

Useful Links

www.kmmm.org
www.tcs.com/

24. Mentor / Mentee Scheme

What is a Mentor / Mentee Scheme?

Mentoring is a work relationship between a senior and junior organizational member with an intentional agenda designed to transfer experience and learning. The mentor has experience and seniority in the organization, and personally advises, counsels, coaches, and promotes the career development of the mentee.

Mentoring is an intervention that has proven highly effective and has become especially popular in recent years. Mentoring is an excellent vehicle for general corporate career development.

Mentoring is a form of knowledge sharing. It builds a caring, trusting culture. In terms of the knowledge-creation cycle, it creates a space for people where they can internalize explicit knowledge through reflection on their experiences, throw ideas around in a safe socialization space, and work to verbally express what they know (to externalize). The self-reflection that can result from a mentoring relationship can be a powerful growth experience and can give you new insights about yourself. This applies both for the mentor and the mentee.

Why Use a Mentor / Mentee Scheme ?

The basic purpose is to provide a mechanism for an informal interchange of knowledge and expertise between senior and junior staff, in which help and advice for other than the normal day-to-day tasks and activities can be sought and suggestions and solutions offered.

Some businesses start a program to help newcomers adjust; others use it as a recruitment tool or a method of leadership grooming.

A mentor can help to “jump-start” an employee's capability and ability to contribute enormously to the organization.

When to Use a Mentor / Mentee Scheme

It is often used in organizations to prepare lower-level and mid-level managers to move up the ladder. It is a leadership training program that goes beyond the training class to teach and model the desired skills/knowledge and behavior.

Mentoring can served two distinct needs:

- functional, technical, and professional skills
- soft skills

Key employees—by virtue of either their position in the company or their expertise—serve as mentors for the skills element of the program. Senior management serves as coaches to assist employees in the development of soft skills, as well as to provide career guidance.

Resources

www.mentoringgroup.com/

The Mentor's Guide: Facilitating Effective Learning Relationships
by Lois J. Zachary. 2000. Jossey-Bass Inc.

25. Knowledge Portal

What is a Knowledge Portal?

There is often much confusion between the terms ‘information portal’ and ‘knowledge portal’.

An information portal is often described as a gateway to codified and digital information, normally held in documents and databases, to enable the user to have one more simplified way of navigating toward the desired information. Normally, the information is structured and planned.

However, a ‘knowledge portal’ is far more than an information portal. A knowledge portal builds on an information portal. If information represents the providers knowledge, made external and explicit to communicate to others in a structured way, it remains as information until the seeker/reader processes it (the learning process) and integrates it into the seeker's tact knowledge (within the head).

Why Use a Knowledge Portal?

A knowledge portal speeds up this process of learning and facilitates more effective transfer between tacit and explicit knowledge forms. A knowledge portal, as well as containing structured information, contains knowledge networks and communities, discussion forums, and collaborative workspaces to better encourage, surface, and transfer a more 'spontaneous' exchange of tacit knowledge.

A knowledge portal also normally contains an 'expert locator'—a sort of 'Who's Who' directory to help people find and connect with experts.

A good knowledge portal is 'knowledge asset centric'. That is to say, it is designed for knowledge workers to easily locate and work on the key knowledge assets within the key knowledge areas of the organization.

A knowledge portal supports the key strategic question that knowledge-driven organizations must ask:

'What are the key areas of knowledge, and what are our key knowledge assets that, if we managed them better, would make a big difference to achieving our objectives?'

When to Use a Knowledge Portal

When the organization makes the realization and wants to make the transition from being just information driven to becoming knowledge driven and, importantly, knowledge led, it requires a knowledge portal to support that strategy.

Example

In explaining the principle of becoming knowledge asset driven, supported by an effective knowledge portal, consider the example of a Container Port in Asia that achieved world class excellence over 25 years in container logistics.

They could load/unload container ships more effectively than most competitors. They proudly implemented better knowledge management (KM) activities by developing a knowledge portal that was designed around automating the processes of container logistics. Knowledge working certainly improved as a result.

But the senior management found it difficult to sleep. Mainland China was copying the container logistics processes and was able to offer the same services at almost half the price.

A KM consultant assisted the senior management by asking, 'What areas of knowledge, if you really could manage them better, would make a big difference to achieving your vision and objectives in 5 years' time?' The answer came from the senior management immediately. 'World Class logistics is a given discipline, and we must continue to strive to provide these services as best we can. But what we really need to know, during the next 5 years, starting now, is

Why our customers will want to continue to use containers?

What will our customers put in them?

Who will our customers be?

How must we engage with our customers?

The management agreed. 'We need to develop customer knowledge as our key strategic knowledge area for the future. Only then can we survive and grow. Our customers contain the key knowledge and that will be our key asset for the future. This is the knowledge recipe for our future.'

The knowledge portal was immediately redesigned around customer knowledge assets and, immediately, all the knowledge workers were focusing, developing, and navigating the portal to produce and apply customer knowledge as a first priority.

The mentality became 'What can we learn from our customers, our key stakeholders?' Secondly, logistics processes were continually improved. The organization, by identifying and prioritizing its key knowledge assets required during the next 5 years, developed a customer-focused KM strategy to transform from being logistics-led into becoming a 'customer knowledge'-led service.

The knowledge portal acted as a catalyst, supporting and facilitating the transition for the organization to become customer knowledge led.

Links

Knowledge Portal at UNESCO at
http://portal.unesco.org/en/ev.php-URL_ID=15075&URL_DO=DO_TOPIC&URL_SECTION=201.html
Institute for Information Management at the University of St. Gallen, Switzerland. Knowledge Portals at
www.isoc.org/inet2000/cdproceedings/7d/7d_2.htm

26. Video Sharing

What is Video Sharing?

In its simplest form, video sharing is the ability to publish video content, either to a specific audience or the entire world. In addition to sharing the content, most of the hosting sites also allow some level of discussion.

Why Use Video Sharing?

Video is an incredibly powerful medium for capturing, sharing, and consuming knowledge. The recent availability of cheap video cameras and PC-based editing software has meant that it is now practical for almost anyone to create videos ranging from simple 'how to...' instructions, through to recording the presentations of complete conferences. Video sharing allows anyone anywhere to experience the next best thing to being there.

How to Use Video Sharing

1. Establish who your audience is
2. Work out what you want to communicate. For example, is it technical 'know-how' or broad concepts?
3. Find examples of people who are communicating that type of content. Ideally, find a style you like, and try to adapt it for your content.
4. Rehearse! Although your videos do not have to be Bollywood standard, rehearsing what you want to say, or the workflow you want to capture, makes a huge difference.
5. Use one of the simple video capture tools (see Links listed on next page).
6. Create your first few videos; publish them appropriately, i.e., on your internal network if it is only meant for your colleagues, or on a service, such as Youtube, if it is meant for the wider world.
7. Solicit feedback, and revise your content accordingly.

When to Use Video Sharing (and When Not)

Video is an appropriate medium to use whenever you need to 'show' something. The 'thing' you are showing might simply be the expressions on a person's face, or it could be the correct way to use a complex piece of software. In general, the maxim, 'Show us, don't tell us' is an important rule for communication, and video is the obvious way to do this.

However, there are some situations where using video may be inappropriate. For instance,

1. Video files are significantly larger than audio files. This means that people on low bandwidth connections will have difficulty watching a video stream.
2. Video is, essentially, a serial medium. It can be clumsy to try to flick back and forth between scenes in a video. Therefore, if your audience needs to have easy access to all the content, it may be more appropriate to provide the information in text form—for example, the instructions for repairing a machine are probably best given in the form of a manual.

3. Even with very simple editing tools, creating video is still a time-consuming process. Therefore, if the information is likely to change frequently, it may be more cost effective to leave it in textual form.

Video Example

YouTube.com allows its users to create channels. A channel is a way of grouping a collection of videos. The link, in this section, demonstrates how this can be used to create an interesting collection of stories around the common theme of greater performance in Indian businesses. Short business-related videos at www.youtube.com/user/pitstop4performers#g/u

Links

- Flip video camera at www.theflip.com/fr-fr/
- Video Cue (Mac) at www.telestream.net/video-cue/overview.htm
- Visual Communicator (Windows) at www.adobe.com/products/visualcommunicator/
- Youtube at www.youtube.com

III.

Appendixes

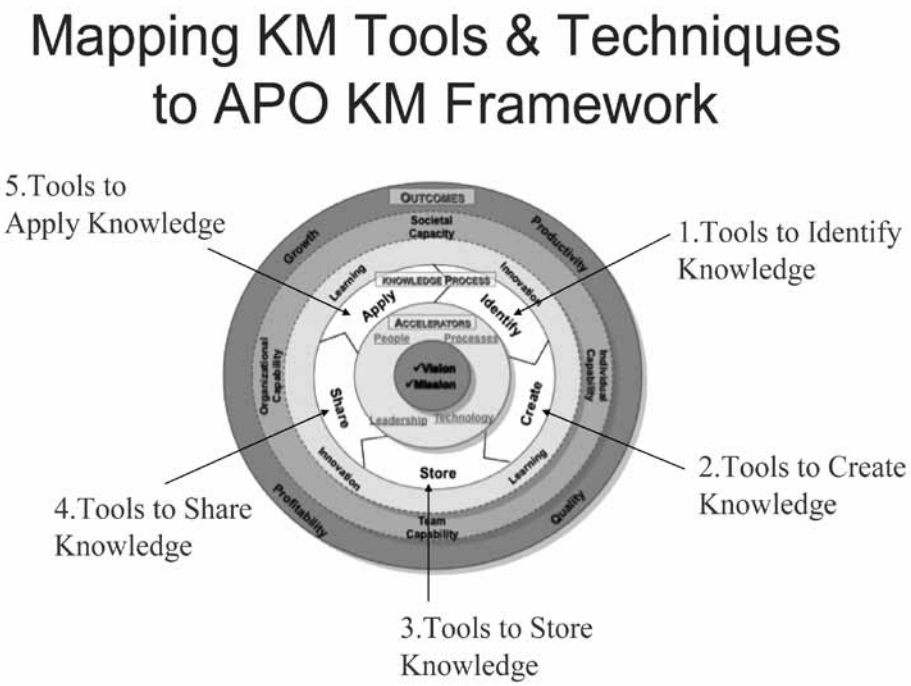
Appendixes A
KM TOOLS and the APO KM FRAMEWORK

Mapping to the APO KM Framework

Earlier in this manual, we described how the Knowledge Management (KM) methods and tools can be linked to the Asian Productivity Organization (APO) Five-Step KM Process to

1. Identify,
2. Create,
3. Store,
4. Share, and
5. Apply Knowledge.

This Five-Step Process is a key part of the overall APO KM Framework illustrated below and is embedded within the Framework (shown below, in white).



More detailed information about the APO KM Framework can be found in the description of Tool 08, KM Assessment, in this manual.

Furthermore, the implementation of the APO KM Framework can be found in the APO publication:

Knowledge Management: Facilitators' Guide, 2009, ISBN 92-833-2402-1 at www.apo-tokyo.org

Appendixes B
A Solution for the Ethnic Visions Case Study

Ethnic Visions Inc. is a fictitious Asian case study company used in the APO KM Courseware 'Implementing Knowledge Management' and is Appendix 2 of the APO *Knowledge Management: Facilitators' Guide*.

Participants in this KM Program use the Ethnic Visions case throughout, in the workshop exercises, to learn how to implement the KM Consulting and Implementation Methodology.

Naturally, there will be many different solutions that course participants will develop for Ethnic Visions during their teamwork. (The participants are arranged in several small consulting teams and are asked to compete for the best KM solutions.)

Even though there is no one definite and/or perfect solution, we include a brief scenario using the KM methods and tools described in this manual, and how they might be applied to Ethnic Visions. We hope this will be a useful guide to inspire and educate consultants and educators who are new to KM.

We assume, in this proposed solution, that the KM consulting and implementation methodology described in the Facilitators Guide and program has been applied. For example, at the beginning of the KM implementation, the APO Knowledge Assessment Tool was used to determine the KM readiness and maturity of the organization.

We also assume, for the purposes of this exercise, that the owners of Ethnic Visions have now obtained trademark protection for their tribal logos and product designs to mitigate the risk of copied designs.

Please read the Ethnic Visions case study first, and then the proposed solution.

Note that the proposed solution contains the proposed KM methods and tools described in this manual, referenced by method/tool number in brackets.

For example, Knowledge Café (09).

The Case of Ethnic Visions

(1) As in all Asian countries, taking care of the children becomes THE career for most married women. Retirement for them begins with the first paycheck for the youngest child. This was not the case for Digna D. After going through years of early morning chaos of getting the children to school on time, holding their hands through crises of fights with friendly friends and breakups with those less friendly, sitting up late with them while they wrote up resumes meant to impress the recruitment gods, and sharing the ecstasies of landing "dream" jobs, she woke up one morning to find that the sometimes whining and more often chuckling kids have mutated into adults living lives separate from her own. Having been a single parent for some time, it was only then that reality hit her hard in the face—she was ALONE! But she was not lonely! She went back to her ancestral home in the highlands and, with the comforting music of the wind rustling among the trees, spent a busy period of soul-searching on what to do next. High on the list of her priorities was that she wanted to do something for her tribe. It was 1995 and she was 55 years old.

(2) **Ethnic Visions** was born out of the desire of a housewife to preserve the culture of her tribe and, at the same time, for the world to know and to appreciate this culture. Thus, she ventured into the production of crafts based on ancient ethnic designs that have been treasured by the tribe. Of equal importance was providing livelihood to a number of tribal craftspeople who otherwise would have been unemployed.

(3) The original products of the company were baskets and wall decors, but it has since diversified into garments and linens. All of these products feature symbols unique to the tribe. These have been stylized to attract the attention and meet the requirements and standards set for local, as well as exported, products. Ethnic Visions designs are a result of research on tribal culture, the creative styling of the artists of Ethnic Visions and craftspeople who painstakingly worked in production. From a revenue base of USD100,000, it has since grown to a USD3million venture supplying products in the local and global markets. With the enterprising housewife still at the helm of the company, it now has grown from three to 20 employees and 200 tribal craftspeople who still produce the products manually to ensure consistent quality. Revenue and employee data of the company are shown in Figures 1 and 2.

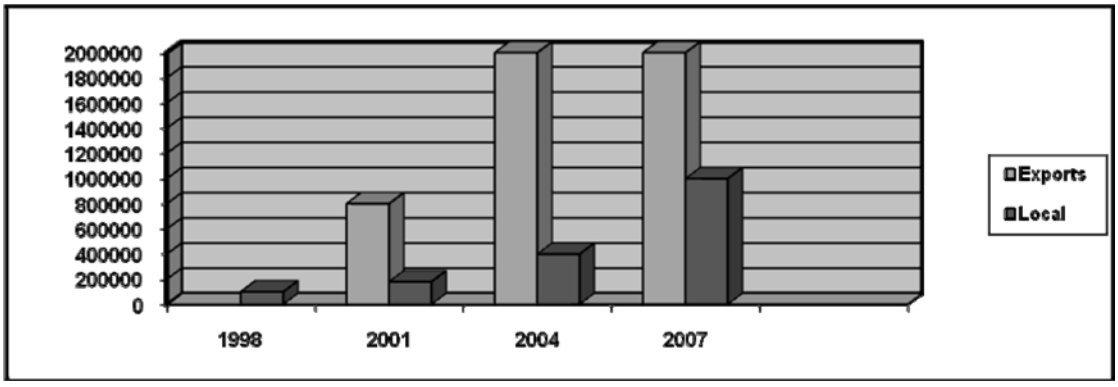


Figure 1: Revenue Data of Ethnic Visions

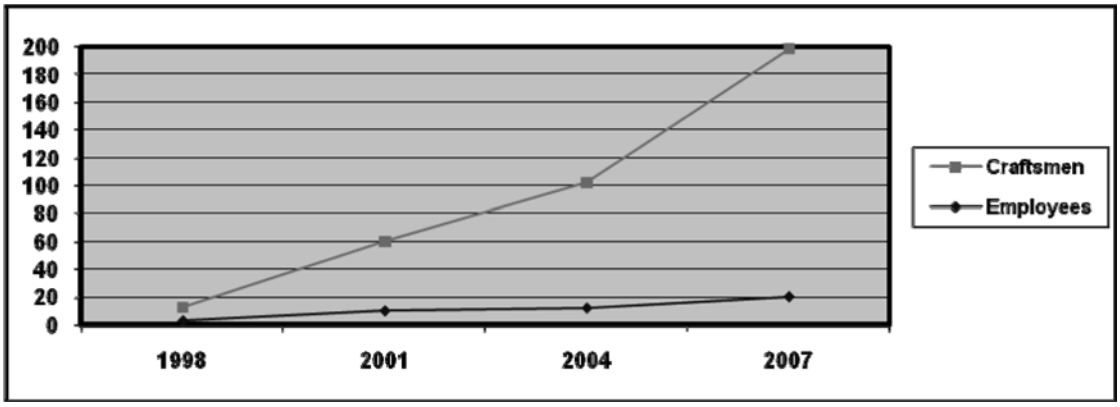


Figure 2: Employment Data of Ethnic Visions

(4) The phenomenal growth of Ethnic Visions is largely due to the owner/manager who actively pursued opportunities to market her products. The dramatic increase in exports was brought about by her ability to network both with the public and private sectors. She is an active participant in the government's innovative efforts to identify, package, and sell local products. Her participation and collaboration with other players in the handicrafts industry gained her valuable access to potential customers with whom she would close deals, resulting in mutual satisfaction because of her company's reliability and integrity.

(5) While Ethnic Visions has grown in market share and in financial assets, it is now confronted by several concerns. For some observers, these concerns are actually consequential to the fact that the owner/manager is now nearing retirement age and will soon have to make the decision of either turning over the company to a younger manager or closing down the business. While both alternatives will give rise to consequential problems, the latter appears to be the worse option. It will mean loss of income and benefits for 100 families in the tribe, not to mention the direct employees of the company. From a mission standpoint, it might also mean the loss of the designs the preservation of which remains a passionate desire of the owner of the company.

(6) Like the owner, aging has overtaken a number of the original craftspeople who have actually mentored and turned over the work to their children. Unlike the original craftspeople, the younger generation has shown signs of boredom since they have worked within the confines of the very same community they grew up in. The growing inconsistency in product quality might, to a large extent, be attributed to their being bored by the repetitive tasks. Moreover, the call of "adventure" appears to become louder every day, energized by tales of excitement and the "gold that paved the streets" in far-off places. Another danger in worker turnover is the risk of copied designs and production technology.

(7) The truth is that other firms have copied the designs of the company. But the copies were inferior in design and quality. Despite the efforts of other companies to come up with similar products at lower prices, these have not affected the demand for products of Ethnic Visions because of their uniqueness and quality. The owner ascribes this both to her "hands-on" management style and to the fact that the tribe has zealously protected the designs and production technology against infringement because of their more-than-fair share in the fruit

of their labor. The tribes' sturdy houses and their general ability to meet their families' needs are testimonials to this. Should a tagline be invented for Ethnic Visions' products, it might well be—"Made by Happy People!" On the whole, everyone is STILL happy, but those directly involved in the management of the company could not help but anticipate what might lie ahead.

(8) Some seemingly negligible incidents have prompted these misgivings. On a number of instances, there have been customers who have made comments that "they could not be reached fast enough" despite the telephone numbers listed in the company brochures. The staff in charge of customer relations had also received some inquiries from non-customers on how they can be contacted. Six months ago, she had proposed the creation of a website for the company but the proposal had not been acted upon because of the owner's numerous activities. There had been instances of misplaced customer ledgers that are kept in the owner's office. It took some time before these could be traced. An artist would be assigned to work in the styling of a product only to find out later that the same had been done some years back. Longtime workers in the company feel that these can be avoided if only the manager will delegate some of her original activities. Although this is a shared belief, they could not muster the courage to bring this up in meetings out of respect and deference to a benevolent patron, who not only paid them well but likewise ensured that they attended training for free to perform their assignments successfully.

(9) There are no regular meetings in the company. Nobody ever brought up the need for regularity because all employees received instructions directly from the owner/manager. The same is true for the craftspeople. Product assignments and feedback on outputs came directly from the "old lady". A secretary coordinated all schedules and efficiently managed where her boss should be meeting with whom at specific times. While a number of employees might be assigned to do related tasks for a period, everything they had to do was laid out for them. Accountability was clear, and loyalty and employee morale was high because everyone was paid well. Besides, the moral attraction of a social enterprise was an added bonus to the nobility of involvement in the company.

(10) On several occasions, the owner/manager has told her secretary that she has started feeling the onset of "senior moments" and has long wanted to convene a brainstorming session with her senior employees about what best to do with Ethnic Visions. She had also discussed with her accountant the budget that Ethnic Visions is able to allocate in the acquisition of Information Technology (IT) and other improvements. She had been seen going over brochures provided by IT vendors and had actually set a meeting with some of them. She intends to discuss what improvements could be done to improve the small and medium-sized enterprise's management given two computer units—one used by the secretary for word processing and the other with the accountant who uses an accounting program to record company transactions and produces the company payroll.

KM Solution for Ethnic Visions – the KM methods and tools

1. The first thing that Ethnic Visions did was to connect to the Internet to extend their reach. They now have, at least, one personal computer connected to the Internet with a web browser. With the help of a website development company, they have now developed a public website containing pictures and descriptions of all their unique products and services. The website development company created a simple online facility for ordering, payment, and shipping details through the web. They have also included, in the website, full company contact details and a customer feedback form. One of the Ethnic Visions' full-time staff, who is able to use the computer and internet, was appointed central IT and KM system manager.

2. The Expert Locator / Who's Who (19) can be used to create a very quick win. Details of all 200 craftspeople and 20 employees, and their individual pictures and team competencies were recorded and are now entered and contained in the expert locator. It now becomes very easy to know 'Who's who' and to locate the proper expert craftspeople. The employees and craftspeople have become more motivated to be more recognized on the website.

3. A Knowledge Base (13) has been created to prevent the loss of important tribal designs, trademarks, etc. The IT and KM system manager within Ethnic Visions is responsible for managing this knowledge base. Initially, the designs, trademarks, and a first documentation of how products are made are held within the knowledge base in the Document libraries (12). This documentation (online and/or printed) also helps artists and designers and reduces 'reinventing of the wheel'.

The Knowledge Base is designed around the key knowledge areas that have been agreed by the members of the company, and this becomes the start of their Taxonomy (11). To help people who use the internet and website to find the right information, a 2-hour short course on using Advanced Search Tools (17) is held.

4. Like the owner of Ethnic Visions, aging has taken over a number of the original craftspeople, so the Mentor / Mentee Scheme (24) was adopted to ensure a better knowledge transfer to the younger generation of workers.

5. Although many of the older craftspeople and the owner are quite good at verbally sharing with more recent employees and craftspeople the stories concerning the history of the company and the tribe, they are not very IT literate at all. Thus, the organization decided to embrace the power of Storytelling (06) as a means of effective knowledge transfer in the business as well. The younger people are reminded of the power and the method of telling good stories, and all people are encouraged to communicate, wherever appropriate, in meaningful and memorable stories.

6. Building on this and realizing that little time is given to reflection and dialogue, the owner introduces, every 3 months for 2 hours, a social event built around a Knowledge Café (09).

7. Transforming from an 'owner led' to a more 'self-managing and self-directing' team of workers started with regular weekly and monthly meetings. The managers of the meetings, over a period of 3 months, are taught to systematically apply within these regular meetings, Brainstorming techniques (01), Peer Assist (03), Learning Reviews (04), and After Action Reviews (05).

8. This resulted in the team continuously and systematically surfacing so many more new learning and ideas across the organization, so team leaders were taught systematic Learning and Idea Capture (02).

9. One idea suggested in the first monthly meeting was to examine new methods to improve the way people can work better together. It was agreed to first examine more closely the Collaborative Physical Workspaces (07).

10. After the sixth monthly meeting, and after running two Knowledge Cafés, one person remarked how the company had transformed naturally into a tighter-knit Community of Practice (10), focused around their unique tribal history and craft quality. Another remarked that the company had been contacted through the website by several similar companies with a view to combining strengths, licensing the unique Ethnic Visions brand and reputation, and even forming a unique Knowledge Cluster (18).

11. In the next monthly meeting, a new employee, who knows how to use computers and the internet, remarked that significant cost savings could be made by talking with customers and employees using free internet telephony and video Voice and Voice-over-Internet Protocol (VOIP) (16).

12. Now that so many new learning and ideas are captured continuously, the same Knowledge Base manager was also given responsibility, together with a small team, to discuss them monthly and, wherever appropriate, update and improve the Knowledge Base (13) specifically in 'how to' do things better.

13. An enthusiastic employee, who loves shooting video and taking pictures as a hobby, decides to create a series of 10-minute (maximum) videos and a picture gallery of Ethnic Visions' craftspeople working. Their pictures and videos go on to the website, the expert locator/Who's who, the Knowledge Base, and the free Internet public 'YouTube' service for Video Sharing (26). After 6 months, an increasing number of people from all over the world began to take a great interest in the history and development of high-quality tribal crafts and the beauty of the pictures and products of Ethnic Visions. The pictures and short videos created a great sense of work pride and increased the sense of an even closer community at Ethnic Visions.

14. A small group of mostly young people, who have their own home personal computers and who use Social Network Services (15) and Blogs (14), was soon identified. It was agreed that they would give a presentation at the next monthly meeting to give everyone a better understanding of what Social Network Services (15) and Blogs (14) are, and how they could be used in the company, where appropriate.

15. One year later, Ethnic Visions realized that they were even more knowledge led than they first realized. Although they did not realize it, through this integration of tools around key knowledge areas, they had created one gateway to their knowledge. They had created an effective Knowledge Portal (25).

What's Next?

16. Ethnic Visions decided, as a global strategy, to work with similar tribal craftspeople around the world. They decided to share, and license, their knowledge and experiences gained to give smaller companies an umbrella of knowledge, branding, and, some say, the benefit of their wisdom.

They created a unique Global Ethnic Vision.

Today, Ethnic Visions has teams of people all over the world. They work together, across the planet, in Collaborative Virtual Workspaces (20).

17. Today, Ethnic Visions even has a Chief Knowledge Officer (CKO) responsible for the Ethnic Visions Knowledge Management Strategy and KM systems and tools. The CKO has since introduced Knowledge mapping techniques (22); she is continually monitoring and developing the Ethnic Visions KM Maturity (23) and, especially, developing all of its Knowledge Worker Competencies (21).

Using KM Methods and Tools certainly made a very big difference for Ethnic Visions.

Digna D., the founder, who has retired from the day-to-day running of the company, is now its lifelong Ambassador. She said, as an invited speaker at a recent KM conference,

That KM for Ethnic Visions "is a new way of life. KM is a journey, and we are all enjoying the substantial growth and business results along the way".

"We have transformed from being local high quality craftspeople, to being knowledge-led, high quality craftspeople around the world. I am so proud of this achievement. I may have started Ethnic Visions with my dream and passion, but today, it is so successful because all of the people around the world communicate, collaborate, systematically learn, and share knowledge as one global family. We are all so passionate about Ethnic Visions, our designs, products, crafts and tribal history."

Appendixes C
Some Recommended KM Websites, KM Blogs, and KM Books

KM Websites

www.apqc.org
http://en.wikipedia.org/wiki/Knowledge_management
www.knowledge-management-online.com
www.library.nhs.uk/KnowledgeManagement/
www.brint.com/km/
www.kmworld.com/
http://knowledgemanagement.ittoolbox.com/
www.apo-tokyo.org
www.skyrme.com
www.gurteen.com

KM Blogs

http://km-consulting.blogspot.com
www.kmedge.org/
http://apintalisayon.wordpress.com/
http://kmwiki.wikispaces.com/KM+bloggers
www.knowledge-management-online.com/KM-Blogs.html
http://knowledgeproductivity.blogspot.com

KM Books

1. *The Wealth of Knowledge, Intellectual Capital and the Twenty-First Century Organization* by Thomas A. Stewart

2. *Learning to Fly: Practical Knowledge Management from Leading and Learning Organizations* by Chris Collison and Geoff Parcell

3. *Working Knowledge* by Thomas H. Davenport and Laurence Prusak

4. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation* by Ikujiro Nonaka and Hirotaka Takeuchi

5. *Knowledge Asset Management* by Gregoris N. Mentzas, Dimitris Apostolou, Andreas Abecker, and Ron Young

6. *Intellectual Capital: The New Wealth of Organizations* by Thomas A. Stewart

7. *Communities of Practice: Learning, Meaning, and Identity* by Etienne Wenger

8. *Harvard Business Review on Knowledge Management* by Peter Ferdinand Drucker, David Garvin, Dorothy Leonard, Susan Straus, and John Seely Brown

9. *Knowledge Management: Concepts and Best Practices* by Kai Mertins, Peter Heisig, and Jens Vorbeck (Editors)

10. *If Only We Knew What We Know: The Transfer of Internal Knowledge and Best Practice* by Carla O'Dell and C. Jackson Grayson

11. *Knowledge Management: Facilitators Guide*, Asian Productivity Organization, 2009.

12. *Knowledge Management: Case Studies for Small and Medium Enterprises*, Asian Productivity Organization, 2009.

And, finally, if you want to better understand the global knowledge economy and effective knowledge working, you simply must read:

What Would Google Do?

This is a remarkable book with incredible insight and some simply amazing opportunities for us all, within a rapidly growing global knowledge economy.

Asian Productivity Organization

Hirakawa-cho Dai-ichi Seimei Bldg. 2F
1-2-10, Hirakawa-cho, Chiyoda-ku
Tokyo 102-0093, Japan

Phone: (81-3)52263920
Fax: (81-3)52263950
E-mail: apo@apo-tokyo.org
Web site: www.apo-tokyo.org

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