

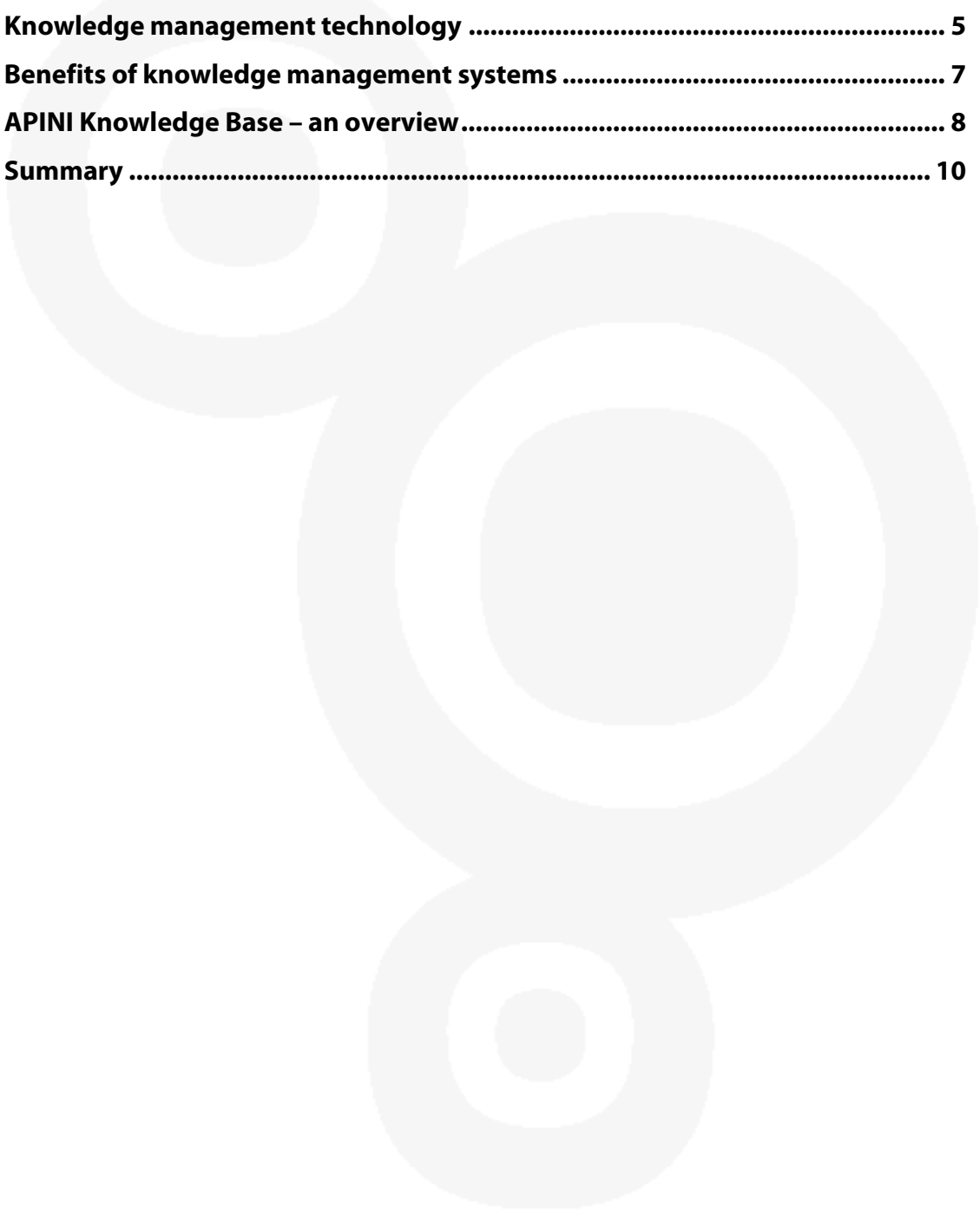
# Enterprise Knowledgebase Systems

Whitepaper



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## Abstract

This paper presents a general overview of knowledge management systems and APINI, a web- and Intranet-based knowledgebase implementation developed by Verax Systems. APINI facilitates interchange and sharing of information within the enterprise and has been designed for all kinds of companies operating on different markets.

The primary objective of APINI is to deliver simple to use, multi-language and secure tool to enhance and accelerate collaboration between employees and allow retention of knowledge in the enterprise.

## Intended audience

This paper is a publication created by Verax Systems' experts and specialists. Its purpose is to highlight the most important issues related to knowledgebase systems and present our customers and partners key information about offered products.

## 1. Introduction

According to Russell Ackoff, a systems theorist and professor in operations research and systems sciences, the content of the human mind can be classified into five categories:

- Data (which means symbols),
- Information (data which have been processed to be useful, provides answers to "who", "what", "where", and "when" questions),
- Knowledge (application of data and information; answers "how" questions),
- Understanding (appreciation of "why"),
- Wisdom (evaluated understanding).

The first four categories relate to the past; they deal with what has been or what is known. Only the fifth category, wisdom, deals with the future because it incorporates vision and design. Achieving wisdom is not easy and people must move successively through the other categories in order to do so.

The value of knowledge as the reflection of an organization products, its intellectual capital (such as patents and licences), people (human capital) and processes (structural capital) is very evident when the value of a company, measured by traditional accounting methods is compared against its market value, which takes into account the marketplace perception of intangible company value. For many high-tech or knowledge intensive companies this factor is crucial. Hence information and knowledge management systems are essential to hold a competitive position in the marketplace.

Knowledge Management is the explicit and systematic management of vital knowledge, and embraces processes of creation, organization, diffusion, use and exploitation in order to reach business objectives. Knowledge Management might include:

- Customer Knowledge (the most vital knowledge in most organizations),
- Knowledge in Processes (applying the best know-how while performing core tasks),
- Knowledge in Products and Services (solutions customized to users' needs),
- Knowledge in People (employees' brainpower, the most precious company asset),
- Organizational Memory (knowledge derived from lessons of the past),
- Knowledge in Relationships (personal knowledge which guarantees successful collaboration),
- Knowledge Assets (measuring and managing the company's intellectual capital).

Knowledge Management initiatives can embrace:

- Creation of knowledge and intellectual capital teams – people from all disciplines to develop knowledge management methods,
- Sharing of best practices – between parts of the organization through databases or personal interaction,

- Development of knowledge databases (knowledgebases) that include best practices, expertise, market intelligence etc.
- Creation of knowledge centers to managing and enhancing knowledge databases and flow,
- Use of collaborative technologies such as intranets or groupware for rapid access to information.

Some of the major challenges while implementing knowledge management tools in the company include:

- Volumes of unorganized and unsearchable knowledge,
- Time consuming knowledge transfer and e-mail overload due to knowledge transfer by email,
- Secure sharing of sensitive knowledge among selected employees,
- Ongoing security and backup of corporate knowledge,
- Loss of knowledge due to staff turnover.

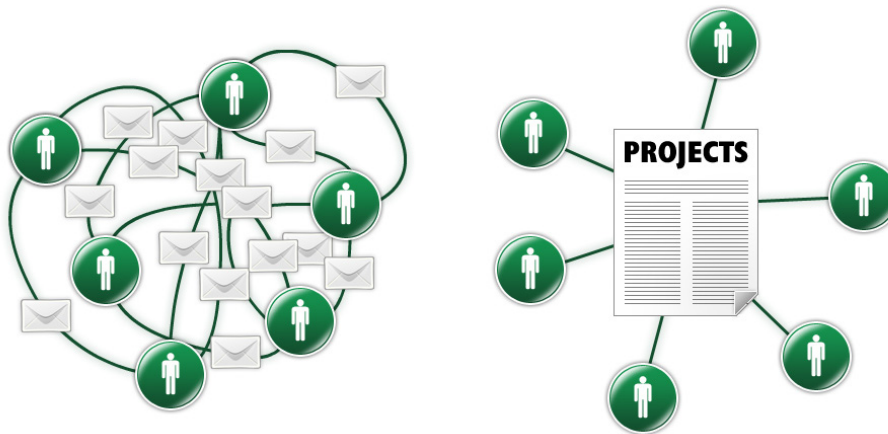


Figure 1: Time consuming knowledge transfer and e-mail overload vs. knowledge-based enterprise.

## 2. Knowledge-based enterprise

Key elements of enterprise intelligence such as employees, business processes and technology are necessary factors in becoming a knowledge-based enterprise. Understanding of knowledge-based enterprises can be reached by defining their goals. The primary purpose is company efficiency and productivity achieved through the reuse and sharing of experience and know-how. Effective knowledge management results in fewer mistakes, less redundancy, quicker problem solving, better decision making, reduced research development costs, increased worker independence, enhanced customer relations and improved service to customers.

Building a knowledge-based enterprise results in:

- Higher productivity and efficiency,
- Better knowledge sharing, skill development, training, and information exchange and retention,
- Faster internal (employee) and external (client) collaboration,
- Faster delivery times,
- Competitive advantage, including market visibility as a high-tech organization,
- Consistency of work product across offices or practice areas,
- Ability to direct work to skilled specialists,
- Improved quality control,
- Reduced frustration searching for documents.

Each company should determine the specific goals for its knowledge management program, because unless the goals are defined it is impossible to choose appropriate technologies to support the effort and to measure success.

A number of tools and technologies are available which can be used to boost the effectiveness of knowledge management such as:

- Infrastructure systems: groupware, intranets, forums, document management, knowledge management suites,
- Gathering and discovering tools: search engines, alerting, push, data mining, intelligent agents,
- Organizing and storing tools: databases, data warehousing, OLAP, metadata, XML, Web 2.0 technologies, Ajax,
- Knowledge support systems: decision support, workflow, community support, simulation,
- Thinking tools: concept and mind mapping,
- Specific applications: CRM, business intelligence.

Web 2.0 technologies for user generated content such as Wiki facilitate the production and use of content (composition, revision, and publishing cycle). Other technologies such as web services or Ajax have a role in delivering a more flexible and richer web content, more suitable to the needs and preferences of employees. Collaboration and interaction (such as profiles or social networks) can introduce even greater potential into Knowledge Management. Employees may market their knowledge and interests and passively or actively strengthen their relationships across company borders.

Using appropriate IT tools enable teams, companies or communities to create, organize, manage, search, collaborate, share, publish and broadcast any kind of information or data. It is important to emphasize that knowledge transfer has always existed as discussions with colleagues, through apprenticeship, using corporate libraries, professional training or mentoring. Today knowledge management applications attempt to evaluate and manage the process of creation, accumulation and application of knowledge or intellectual capital within a company. Knowledge management applications deliver:

- Complete WYSIWYG (“What You See Is What You Get”) editing,
- Flexible manageability,
- Dashboards allowing quick access to relevant information,
- Effective collaborate and knowledge transfer.

### 3. Knowledge management technology

As mentioned above, fast and effective collaboration and knowledge sharing and exchange is a key point of knowledge –based enterprises. Each company has to choose appropriate technology or tools which will support its knowledge management processes. Most common tools used for collaboration and knowledge sharing include:

- Intranets and Enterprise Information Portals,
- Knowledge bases,
- Wikis.

#### Intranets and Enterprise Information Portals

Internet technology, such as browsers and search engines, became the subject of interest to companies wanting to share information. The advantages of using intranets (internal networks) are similar to those of using the Internet and primarily embrace rapid access to and easy distribution of information. End-users are familiar with browser interfaces, information can be shared across different local area networks and computer platforms and published information is instantly available over the entire network. Moreover, information can be stored in any number of common formats such as text, graphics, audio, video or even Internet object such as maps. Increasingly intranets can also include hosting, transaction and database applications, with the Web browser becoming the universal interface to

different back-end systems. Intranet can connect employees and can facilitate sharing of company information, as well as to external information through Internet gateways.

Enterprise Information Portals provide a starting point for people to access information and applications on the intranet. These portals embrace a search engine for locating internal and external information, security features, personalization to access appropriate information, and connections to databases and enterprise applications.

### Knowledgebases

Knowledgebase is a special kind of database for knowledge management that provides computerized collection, organization and retrieval of knowledge. There are two major types of knowledge bases:

- Machine-readable knowledge bases that store knowledge in a computer-readable form, usually for the purpose of having automated deductive reasoning applied to them. They contain a set of data, often in the form of rules that describe the knowledge in a logically consistent manner.
- Human-readable knowledge bases which are designed to allow people to retrieve and use the knowledge they include, mainly for training purposes. They are used to capture the knowledge of an organization, including troubleshooting, articles, white papers, user manuals and others. The primary benefit of such a knowledge base is that it can help a user find an existing solution to his or her current problem.

Key features that make knowledge bases extremely valuable to enterprises include:

- Ease of use: categorized display, easy to navigate (articles are displayed in a categorized format that makes it easy for users to navigate the knowledge base and find the answer to their question fast),
- Dashboards allowing for easy location of most important information.
- WYSIWYG editing allowing users to quickly create and edit articles as if they were using a word processor or a HTML Editor,
- Powerful searching (full text search feature allows searching within question/article title, description and content),
- Highly personalized content,
- Multiple access levels,
- Article voting,
- Complete article information (every article displays the information like author, author email address, date of publishing, number of times article viewed etc.),
- List of recently added articles or most popular ones,
- Multilanguage support.

### Wikis

A Wiki is a collaborative web site that can be edited by anyone who has access to the site. The word *wiki* comes from *wiki wiki*, a Hawaiian word that means fast. A Wiki can be also referred to as the acronym for What I Know Is. A Wiki enables users to write documents collaboratively using web browsers. The pages that make up a wiki are interconnected via hyperlinks. A Wiki is characterized by the ease and simplicity with which pages are created and updated.

Using Wiki for enterprise purposes reflects a decentralized approach to managing information and improved internal collaboration. For example, teams of engineers might use Wiki for internal projects documentation, sales teams can use it for gathering information about competitors and marketing teams can use Wiki to coordinate customer relationship management activities.

### 4. Benefits of knowledge management systems

Knowledge management systems provide users greater access to knowledge and strengthen their ability to capture and share knowledge. The results of the process lead to more efficient resolution of problems or questions, reduced training time for new employees, and better maintenance of organizational knowledge. It helps to improve the level of customer service and reduces the need for additional resources to manage the growing demands that face most organizations.

The key benefits of knowledge management system implementation can be divided into three main groups:

- Information interchange and process benefits,
- Technology benefits,
- Organizational benefits.

**Information interchange and process benefits** are associated with greater access to knowledge, reduced training time, and better maintenance of organizational knowledge. Enhanced internal communication has great leverage to improve corporate culture through consideration of employee knowledge and experience. This results in reduced resource requirements, faster delivery times and increased customer service levels. Information interchange and process benefits can be divided into:

- Communication benefits such as enhanced and faster communication, increased employee participation and more visible employee opinions,
- Efficiency benefits like reduced problem solving time, faster results and market delivery, shortened proposal time, and increase in overall efficiency.

**Technology benefits** are derived from improved information interchange. For engineers and research & development teams it is crucial to connect to consistent, up-to-date and rich knowledgebases. Information sharing results in enhanced quality control processes and allows better solutions to be delivered to a company's customers.

#### Organizational benefits

Process and technological improvements lead to cost reduction of specific activities, increased sales, personnel reduction, higher profitability, lower inventory levels, more consistent proposal terms for clients, and marketing related benefits such as better targeted marketing. The organizational benefits of knowledge management systems can be reflected in financial, marketing as well general aspects:

- **Financial** benefits embrace higher profitability, lower cost and increased sales.
- **Marketing** benefits result in better customer service, a customer-focused attitude, and proactive and targeted marketing.
- **General** benefits are associated with employee reduction, improved project management and consistent proposals for multi-national clients.

Traditionally, management consulting and professional services companies have been considered knowledge-intensive enterprises and interested in knowledge management solutions to manage, share, version and collaborate on information. But interest in knowledge management systems goes beyond professional services organizations. A wide range of industries can benefit from implementation of knowledge management systems including:

- Advertising and marketing,
- Electronics,
- Engineering,
- Health care,
- Market research,
- Transportation and logistics,
- Publishing and education,
- FMCG,
- Information Technology and Telecommunications and others.

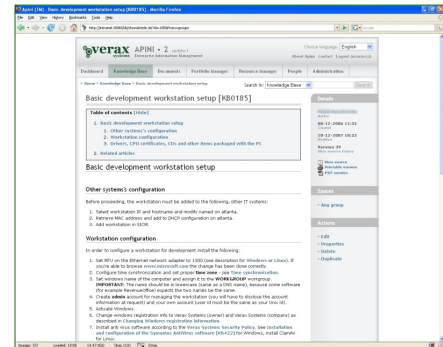


Figure 2: Sample article in APINI.

To most beneficial user groups and teams within organizations include:

- Product development,
- IT operations,
- Project managers,
- Research and development,
- Consultants, sales and business,
- Marketing and advertising,
- Customer support,
- Corporate planning,
- Finance & accounting, legal and human resources.

## 5. APINI Knowledge Base – an overview

APINI Knowledge Base is a web- and intranet-based knowledge base system for enterprises that joins people, processes and information. The system is similar in concept to Wiki; APINI also offers many commercial features such as article spaces, powerful search and structuring mechanisms, increased security, easy WYSIWYG interface and more. APINI helps users to collaborate and share knowledge, and enterprises to retain it.

APINI Knowledge Base allows easy and fast collaboration between employees, enables access to users' profiles which means access to employee data, easy information sharing, message sending or contact via Internet communicators. APINI is fully integrated with Skype™ and other instant messaging applications.

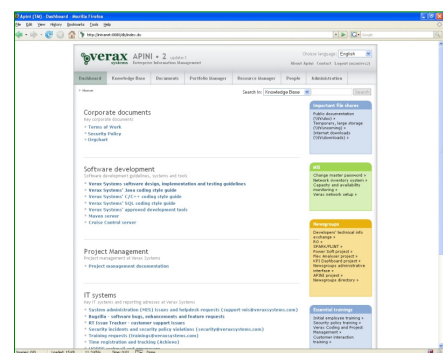


Figure 3: APINI dashboard view.

Key APINI Knowledge Base advantages include:

- Article searching and indexing for easy navigation and locating information.
- Easy creation of new pages and comments on any page.
- Search results ordered by relevance, from most to least.
- Content change notifications via e-mail.
- Ability to add attachments, comments and files to posts,
- Public article portal accessible without the need to log in.
- Unlimited number of attachments of any type (Word, Excel, PDF, etc) to each article.
- Automated change tracking and article versioning.
- WYSIWYG article editor with full screen mode.
- Partitioning and isolation of articles into category spaces (e.g. sales, manufacturing, etc.) with different access rights.
- Support for graphics and mind map objects.

The APINI Knowledge Base offered by Verax Systems guarantees:

- Adaptation for diverse enterprises – the APINI system was designed for all types of enterprises (product, service) operating in all different markets,
- Simplicity of use – systems is accessible entirely via a web browser, featuring an intuitive, easy to use graphical user interface,
- Security as an advanced set of privileges is used to control user access to sensitive data contained in the system,
- Multi-language support – English, German and Polish languages are supported by default. Other language versions are available as separate packages on request. Each user can select a preferred language at any time,
- More up to date than a static intranet,
- Elimination of email overload.

The most important benefits of the presented knowledge base solution results include:

- Easy and secure access via a web browser anytime,
- Simple WYSIWYG “What You See Is What You Get” editing,
- Easy sharing, managing and commenting on information,
- Possibility to find appropriate information fast,
- Enterprise information stored in a single place,
- Improved process for finding relevant information, and improving overall enterprise efficiency and effectiveness,
- Improved information sharing and collaboration through e-mail and instant messaging,
- Knowledge retention in spite of personnel rotation,
- Shortened initial training for new employees or contractors,
- Low cost of ownership - no additional software is required on client workstations,
- APINI constitutes an ideal tool for ISO 9000 implementation.

### 6. Summary

Globalization and knowledge-driven economy are a challenge for modern enterprises. Today's marketplace is competitive and demanding for both start up as well as established companies. Growth requires support by risk capital and an effective innovation and research activities. Companies have to ensure effective access to internal or global markets where they sell their products or services.

A successful knowledge management policy and implementation of proven knowledge base can be essential to achieve sustainable development and to remain competitive in continuously demanding environment.

APINI™ Knowledge Base is a proven comprehensive software for creating, managing and distributing knowledge documents to employees, partners or customers. Our solution is a reliable and secure web collaboration tool, scalable and easy to use. It guarantees fast and successful information interchange and benefits in some crucial for enterprise competitiveness areas, such as:

- Product development,
- Customer and partners service or cooperation,
- Sales and marketing,
- Project management and internal organization.

In order to learn more about APINI and other Verax Systems' services and products, please contact one of our offices or visit us on the Internet at [www.veraxsystems.com](http://www.veraxsystems.com).