

Knowledge & Knowledge Management

The ii3 Approach



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Introduction

Over the last twenty years, the world has seen astounding changes and productivity gains as a result of the increasingly close integration of information systems with organizations' core business activities.

Companies started using computers as electronic record books for accounting and inventory, automating existing processes without fundamentally changing them. But as automation increased, progressive companies realized that the speed of electronic processing could be used to change the way they did business, allowing them to monitor revenue and inventory in "real time" rather than having to wait weeks after a quarter ended before being able to make business decisions. The firms who recognized this potential, and acted on it, gained a significant competitive advantage – lowered risk, faster decision making, increased productivity and reduced cost– over those who did not. Even at this point, however, most systems still operated more or less in departmental "silos," with little interaction among them.

Companies next realized that great potential lay in making these information systems act together, coordinated towards achieving organizational goals rather than simply automating departmental tasks. The most successful of these companies, such as Dell Computer and Wal-Mart, not only gained a competitive advantage but completely transformed their markets. The rise of the Internet, which provided a ubiquitous means of communication among partners, suppliers and customers, was readily taken advantage of by those companies who had already directed their various information systems towards a common business goal.

These exceptional gains in flexibility, efficiency and productivity came primarily through the rational application of information management to a company's business processes. These gains are most evident in industries where the inputs are tangible, standard and easily traded commodities, and where the products are also relatively standard, with a limited number of options. Under these circumstances, information management can realize economies of scale, which provide an exponential return on investment.

But – the magnitude of the gains, which can be derived from better information management, is beginning to level off, and, as other organizations catch up, so is the competitive advantage. The more difficult, but hugely rewarding process of better management of organizational knowledge is now starting in earnest, focused on achieving the next round of gains and efficiencies in business.

Our View of Knowledge

Defining where "information" ends and "knowledge" begins is not simple. We believe that knowledge cannot be defined too narrowly. Knowledge is created and consumed across a wide range of activities: individuals talking to each other, searches of information repositories, just-in-time learning and continuous education, and highly focused "knowledge repositories." Effective knowledge management fosters and supports each of these activities. If knowledge is artificially defined and restricted, then many opportunities to create and share knowledge will be lost.

In its purest form, knowledge resides in the mind of a particular individual, where it is difficult to access. As a person works, however, his knowledge comes to be expressed through the outputs of that work. For example, a lawyer's knowledge is expressed through drafting choices, and a financial advisor's knowledge is expressed through the products and financial strategies she recommends to a particular client. We call these



expressions *knowledge artifacts*. Most information management systems focus on managing knowledge artifacts, as these are usually related directly to the delivery of a particular product or service. Although an expert's knowledge begins to be expressed through knowledge artifacts, these alone are not sufficient to propagate that knowledge. In the above examples, one would have to ask "What circumstances led the lawyer to choose these particular provisions?" and "What is it about this client's needs that led the advisor to recommend these particular products and financial strategies?"

In order to share knowledge effectively with others, *knowledge content* must be created. Knowledge content represents an explicit decision to make knowledge accessible and usable by others. In order to achieve this, knowledge artifacts must be accompanied by a context, which explains why those artifacts were constructed in a particular way. The knowledge content for a particular agreement might include the negotiating position and the goals of both parties to the contract. Similarly, the knowledge content for a financial advisor's recommendations might include the client's age, income and risk sensitivity, as well as the advisor's interpretation of the market's position.



The Value of Knowledge

Customers consistently demand increasingly innovative products and services, delivered more quickly and cost effectively. The only way for an organization to respond to the increased complexities of these demands is by leveraging the efforts of its most experienced and capable members. Effective knowledge management implementations will accelerate how rapidly knowledge can be brought into the business process environment, accelerating the pace of innovation and delivery.

However, the initial advantage gained from leveraging knowledge will be relatively short-lived. The first organizations to harness knowledge effectively will indeed gain a competitive advantage from an increase in productivity. Eventually, this advantage will diminish as other organizations catch up. It will be innovation, driven by effective knowledge management that will provide continuing competitive advantage. Organizations must foster an environment where continual knowledge creation, capture and dissemination produce a self-sustaining cycle of gains.

Organizations that excel at knowledge management make knowledge available to every employee at the point at which it will be most effective and valuable in enabling them to offer a particular product or service. Making practical knowledge available to employees, when and where they need it, will produce real, significant and measurable gains. If your employees cannot respond adequately to a customer's request; if they respond adequately but take hours, days or weeks to figure out how to do so; if they cannot draw upon the experience of those who have already overcome similar challenges, your organization's productivity and customer satisfaction will suffer.

Effective knowledge management focuses on business goals and business processes, makes knowledge available to employees when they need it, and does not simply share existing knowledge but creates new knowledge.

To achieve these goals, knowledge management must be equally concerned with information, knowledge artifacts and knowledge content. Explicit knowledge content is not the only form in which knowledge can be expressed. In order to facilitate knowledge creation, people must have access to the information and knowledge artifacts, which are the building blocks of knowledge. It is by ensuring that employees have all the resources they need to do their jobs effectively, when they need them, that companies can cultivate knowledge creation as well as knowledge sharing.

The most significant gains achieved through information management have been in industries, which deal primarily with tangible commodities. In these cases, information management has been able to harness and amplify the economies of scale inherent in the manufacturing and assembly processes.

Knowledge management, however, must deal with both an input and a subsequent output composed of an intangible quantity: knowledge. Unlike tangible commodities, knowledge suffers from inherent diseconomies of scale. Knowledge is internal to each human being. It is not easily mined, refined, and poured into moulds so that thousands of identical copies can be distributed. If knowledge management is to achieve similar economies of scale, these fundamental characteristics of knowledge must be taken into account.

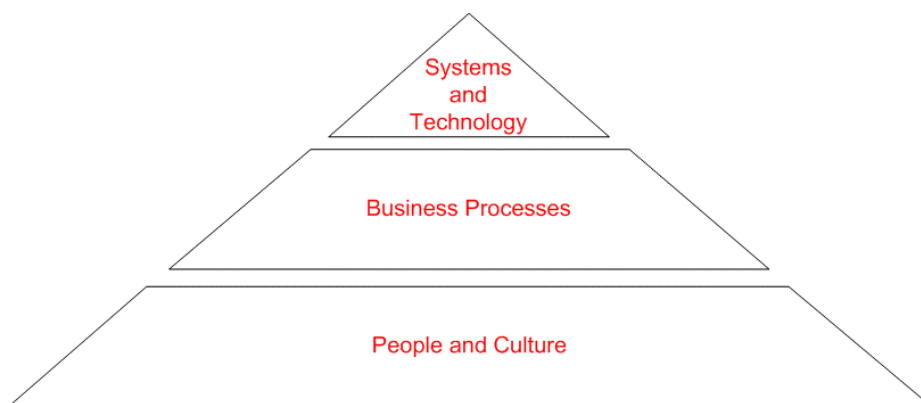
Effective Knowledge Management

Every individual and organization manages knowledge in one form or another. An expert mentoring a junior employee, two employees trading their experiences at the water cooler, an intranet repository of best practices, and a continuous learning program are all examples of knowledge management. The critical difference between knowledge management in disparate organizations is how effectively each expands knowledge creation and dissemination beyond a select few to everyone who needs it. It is not that most organizations do not practice knowledge management, but that they practice it in an individual and ad hoc manner, usually incidental to the organization's core business goals and processes.



Knowledge management is a discipline whose implementation in each company will be as individual and unique as the company itself. The ingredients for effective knowledge management exist within every company today, but generally lack the structure and directed effort required to enable them to realize their full potential.

Although each company's implementation will be unique, three fundamental elements must be addressed in any knowledge management program:



People and culture are the foundation of every knowledge management initiative, no matter how big or how small. A culture focused on creating and sharing knowledge, one that rewards contributors and provides them with incentives, is a prerequisite to effective knowledge management. Knowledge management initiatives must pay at least as much attention to deployment –promoting, training, encouraging and supporting– as they do to the actual development of the initiative itself.

Knowledge management committees and teams must focus on cooperation throughout the organization. Knowledge management is multi-disciplinary, and benefits from the

involvement of subject matter experts, information management professionals, executives, managers and every day users, as well as dedicated knowledge management professionals.

We firmly believe that the human element is essential in successful knowledge management. While information technology offers the means to achieve previously unattainable economies of scale, technology alone cannot adequately transform knowledge artifacts into knowledge content.

To contribute to a knowledge-focused culture, **business processes** must support the entire knowledge lifecycle. These business processes must be the actual business processes where knowledge is created and consumed in the delivery of a product or service; these differ from “knowledge management processes” that are disconnected from and incidental to the work people do. Knowledge management initiatives must begin by examining core business processes and asking questions such as:

- What knowledge is needed?
- When is it needed?
- Why is some knowledge more valuable or useful than others?
- When should knowledge be captured?
- What is most important to capture?
- What are the incentives for and disincentives to capturing and sharing knowledge?



Effective knowledge management must always be grounded in the realities of business needs and priorities, and must be evaluated by how well it promotes the continual creation and dissemination of relevant knowledge.

Just as in information management, **systems and technology** are indispensable to achieving the economies of scale, which allow proprietary knowledge to be fully leveraged. Systems and technology touch every part of the knowledge lifecycle:

- Effective information management and access to knowledge artifacts enables further knowledge creation. This is achieved not only by making these artifacts available, but by allowing different types of knowledge artifacts to be linked together in ways which were previously impossible or cost prohibitive.
- Automation and workflow improve the speed and quality of knowledge capture.
- Communication and collaboration tools allow real-time knowledge sharing, refinement and creation, as well as access to that knowledge which has not yet been expressed as knowledge content but is still in the heads of individuals.
- Access technologies such as search engines, taxonomies, databases and portals make knowledge content and artifacts available when they are needed. By integrating points of access into business processes, the right information can easily be found at the right time.

In looking at the systems and technology within an organization, it is important that knowledge management is not restricted to some strict and arbitrary definition of “knowledge.” For various reasons, there is a tendency to draw boundaries between information management and knowledge management. But boundaries become barriers, and it is one of the goals of knowledge management to break down barriers. The more the existence of these boundaries is formalized, the more likely they are to impede both the creation and sharing of knowledge.

How to Start

Beginning an organization-wide knowledge management program is a daunting task. As is the case with all such endeavours, there is usually so much to do that one hardly knows where to start. Each initiative must be tightly scoped, and given clear goals together with the means to evaluate them. At the same time, controlling scope must not mean neglecting any of the three key elements of knowledge management: people, process and technology.

Build a Team – Bring together the appropriate people from several disciplines and departments to work together to make knowledge management a reality. Depending on the nature of your organization, this may happen quickly, or may take several months of conversations to lay the groundwork necessary to get everyone to participate. Management and executive support is essential, so try to find a strong champion from the beginning. As well, a clear governance structure accelerates decision-making and helps to break down departmental barriers.

Identify the Value – Look at your organization to determine what knowledge would have the most value, and when. Ask questions such as: Who creates this knowledge and who needs it? Why is it valuable, and when is it most valuable? How can existing business processes be enhanced by integrating knowledge management activities?

Look at What You Have – Examine existing initiatives and systems to determine what has been done, and why it has or has not worked. Identify what is in your various information systems, and how these systems can be leveraged effectively. Assess capabilities and gaps in areas such as knowledge and content management personnel, information technology resources and tools such as portals and intranets.

Prioritize – Determine the highest value activities; those which will provide the greatest return with the least investment and organizational disruption. Although a great deal may seem necessary and it may all look valuable, do not underestimate the complexity and effort of rolling out a successful knowledge management initiative. Focus on one or two initiatives, which can help to build teams, prove concepts and demonstrate success.

People, Process and Technology – Do not overlook any of the layers of the knowledge management pyramid. Ensure that each initiative addresses each of these sufficiently.

Plan – Ensure that you have a plan to take you from design and development, through launch and beyond. Take into account the continuing costs of managing and promoting the initiative, as well as the possibility that you might need to refine some aspects to achieve success.

Set Goals – Goals are not just for judging the ultimate success of a project, but allow you to understand what elements may not be as successful as you had hoped, so that you can take corrective measures. Goals should always be meaningful, manageable and measurable. Meaningful goals are related to the essential purpose of a project (for example, IT projects should be measured by their business impact, not how well they allowed a development team to play with cool new technologies). Manageable goals are within your control, if only indirectly; you can influence the factors which affect them. Measurable goals provide an objective means of assessing if they are being met, and to what degree.

Think About Deployment – The launch of an initiative is, to paraphrase Winston Churchill, “not the beginning of the end, but the end of the beginning.” Make deployment an integral part of your initiative right from the start. Ensure that your system has a respectable base of knowledge content before you launch it, or potential users will visit once and never return. Begin communicating before you launch and follow up regularly.



Ensure that there is plenty of training and support. Collect user feedback, and follow up on it.

Refine – No initiative is completely successful right out of the gate. Some concepts, which seemed great on the drawing board may just not work in the real world. Accept this, find out why, and use this knowledge to correct them. Your audience will appreciate the fact that you are trying to work with them, strengthening the growth of a culture of collaboration.

Conclusion

As standard practices to gain competitive advantage, such as cost reduction, reach their limits, effective knowledge management will be left as the only remaining path to greater productivity, efficiency and innovation. Following in the footsteps of information management, knowledge management initiatives must direct people, process and technology to create, capture and share knowledge as an integral part of an organization's business processes. Along this path, cultural and technical barriers between information and knowledge will be encountered and will have to be overcome. The path will not always be easy, but the history of business excellence shows that attaining great rewards never is.

