

Building a Knowledge-Powered Company

DiamondCluster's Approach to Knowledge Management

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The once over-hyped and now restructuring Internet economy should not dissuade businesses from hearing two clear messages. First, while many “dot-coms” failed financially, they did prove that the new technologies are here to stay. And second, one of the residual effects of the past few years is acceleration in the amount of knowledge that’s now made available through new technological platforms – knowledge that must be better managed.

Today, as firms around the world transform their businesses and their business processes to take advantage of new technologies, they are redoubling their efforts to access and use knowledge. It is this critical ability – harnessing the brainpower of their people – that will enable companies to win in the marketplace.

Avoiding the Pitfalls

Making better use of a company’s knowledge is vital in achieving market leadership. Indeed, the collective knowledge of the firm can become its most valued asset. It improves the speed of innovation, strengthens employee retention and enables ideas to become best practices. Yet

capitalizing on this opportunity is fraught with challenges and can lead to disappointment if not approached correctly. The potential benefits of the knowledge-powered company can be elusive if business leaders ignore any of these six pitfalls:

Managing information has become a major part of every manager’s job. According to Dow Jones Reuters Business Interactive....

- ✍ 38% of managers waste a substantial amount of time trying to locate the right information.
- ✍ 43% of managers think decisions are delayed as a result of having too much information.
- ✍ 47% of managers say the collection of information for decision-making distracts them from their main job responsibilities.
- ✍ Two-thirds of managers say stress from information overload increases tension with colleagues and lowers job satisfaction.

The exponential growth in the amount of data and information that people must absorb – and the decreasing amount of time they have to absorb it – creates a situation where workers are overwhelmed with information; like trying to drink from a fire hose.

- ? Too much focus on technology – the erroneous belief that technology alone will create a knowledge sharing organization.
- ? Fighting the culture – failure to match the right solution to the organization, or to understand how hard it is for people to give up what they are comfortable with, even though they know they should.
- ? Empty commitments – failure to balance user support at the front line with real senior manager support at the top of the organization.

- ? Lack of collaboration – focusing all efforts on “pushing” information to people from a centralized “ivory tower” at the expense of broad-based participation.
- ? Poor information quality – building a wonderful, technologically advanced system without regard to what goes into it.
- ? Weak integration into work – failure to integrate knowledge-based activities into the work that people do, or failure to give these activities credibility in work expectations.

Companies that try to leverage the knowledge of their people but ignore one or more of these pitfalls risk deploying a hollow system – one that is neither supported by its users nor contributes value to the organization. The solution is ignored and ultimately dies. And the real penalty is that the next time the firm seeks to tackle this problem, cynicism and risk avoidance will make it much harder to succeed in a business climate of increasing knowledge intensity.

Business information is doubling every 12-18 months and the total of all printed knowledge doubles every five years. Countless studies have pointed out the critical need to better manage this growing information glut...

- ✍ Workers typically send and receive more than 200 messages a day.
- ✍ Most people have their work interrupted by messages at least three times an hour.
- ✍ It is becoming increasingly common for knowledge workers to be asked for the same information multiple times by different people.
- ✍ Too many companies are relying on e-mail to archive and manage critical business and technical documents – a role it was never designed to do well.
- ✍ Twenty-five percent of one company's data storage capacity was devoted to e-mail, especially multiple and redundant e-mail attachments.

DiamondCluster's Approach

“Once a company gains a knowledge-based competitive edge, it becomes ever easier to maintain it's lead and ever harder for its competitors to catch up.”

*Quinn, Anderson & Finkelstein
Harvard Business Review*

DiamondCluster's experience shows that companies seeking to master knowledge for competitive advantage must understand that the nature of their organization and it's knowledge requirements are unique, and that a unique combination of knowledge strategy, tools and technologies, processes and procedures are required to be successful. Such an approach has come to be known as **knowledge management**: the practice of capturing and organizing information to make it more accessible and valuable to those who need it. Although organizations sometimes use different names to describe it, the goal of bringing people with similar interests and needs together in ways that allow knowledge sharing, best practice development, collaboration and learning is central to the approach. Knowledge management is a foundation for organizational learning and growing a firm's intellectual capital.

A Blueprint for Knowledge Management

This report is a blueprint for organizations to implement a sound knowledge strategy and deploy knowledge solutions that have meaningful business impact. Because every company is different, it emphasizes the understanding of issues at a depth that facilitates the development of a customized solution. It describes the processes that must be undertaken and the analytical and practical frameworks that should be applied to understand these issues. It acknowledges the role of new technologies – such as enterprise portals, collaboration tools, content and document management tools and next generation, context-based search engines – while, at the same time, focusing on the non-technical components, such as governance, system management, participation incentives, knowledge procedures and architecture, expertise, leadership and organizational change.

Case Study

To provide a specific context for the general issues surrounding the development of a customized knowledge management system, consider the following case study. Its purpose is to highlight issues that drove this effort and those that arose during strategy and implementation, as well as to illustrate how these issues were ultimately addressed.

“The most important contribution management needs to make to the 21st century is to increase the productivity of knowledge work and the knowledge worker.”

Peter Drucker

The Business Need. It's February 2000. A major financial services company had just concluded a very successful global Y2K initiative, with no problems transitioning to the new millennium. But getting there wasn't so easy. In this very sophisticated corporation, access to knowledge was not sophisticated. During the Y2K exercise, the company discovered that much of the information needed to run its systems and business operations was in the heads of its employees, or, in some cases, its former employees. What was documented often was not up-to-date. Some information was located on the other side of the world, or just simply could not be found at all. And, the company had no system to maintain the information. During the Y2K initiative, everything was restructured and resurrected, at great cost. The lesson learned: never allow this situation to occur again.

The Y2K effort had uncovered some fundamental problems in the way the company captured, managed and used information. After some debate, management came to the conclusion that not only was better information management required, but done right, the effort could also provide a way to derive strategic competitive advantage through knowledge management.

The company selected DiamondCluster to develop a solution to address these issues. A decision was made to develop a knowledge management system for one division made up of globally disbursed personnel as a test case to determine whether such an approach could work for the company as a whole. Since the system might be scaled up rapidly once its benefits were demonstrated, it would have to be designed to eventually accommodate the entire firm.

Desired Benefits. A vision for the system was forged, and in that vision, the company articulated the key aims of its knowledge management effort:

- ? An approach and structure to organize information from multiple sources.
- ? One stop shopping for information needs (vs. the multiple grass-roots web sites and an overwhelming amount of paper documents that had proliferated in the past).
- ? The ability to capture and codify “process knowledge” in order to unify procedures globally.
- ? The ability to capture and share experiences, grow expertise and generate best practices.
- ? The ability to rapidly assimilate the latest information from a dynamic marketplace.
- ? To provide just-in-time training / reference for new employees.
- ? To break down distance and organizational barriers thorough the use of a common knowledge resource.

Successful Implementation Considerations. Building the solution would certainly present some technical challenges, but most of the major hurdles that had to be cleared were organizational, procedural and cultural. Because the system had to be designed to fit the entire business, the project team had to determine what other initiatives were underway that might complement or

compete with the project. The company's relatively flat organizational structure promoted grass-roots problem resolution. Given this circumstance, it was not surprising to discover that there were several competing projects, each with their own executive sponsors, goals, and budgets. Determining how to manage this situation became a critical component of developing a solution that could work firm wide. Other challenges included:

- ? *Understanding the knowledge environment.* It was necessary to determine what issues existed with the way knowledge was currently generated, shared, moved, and managed in the organization. Since this organization was large, global, and utilized dozens of data sources, this task was significant. A knowledge mapping methodology was used, geared towards determining what information people from different groups use, what information they produce, who they obtain information from and provide information to, what factors influence information consumption and creation, and what issues exist with this flow of information. This assessment identified the key knowledge issues faced by the organization and helped flush out the vision for the system.
- ? *Designing a system to match the specific needs of the organization.* These knowledge issues generated system requirements that were matched against a variety of technology capabilities. From a technology standpoint, selecting and integrating the appropriate tools, while adhering to corporate standards, presented a number of challenges. The company did not want a separate or incompatible infrastructure built for the new system, and rightly so. In some cases, it was necessary to strike a balance between choosing the most appropriate combination of tools and selecting a stable vendor, since many of the technologies used in knowledge management are at the cutting edge. Portals, collaboration tools, document and content management systems, personalization, search, metadata and web/user interface design technologies – all important for an effective knowledge management solution – offer new opportunities to manage, preserve and grow knowledge. However, they are evolving rapidly, so extreme care was taken in building a technical framework that would be both scaleable and updateable.
- ? *Determining the type of change management, support and governance needed.* Given the firm's highly decentralized organizational structure, the development and implementation of a functional, but not overbearing set of knowledge management policies was a prominent project objective. Insight from the vision and the technical requirements was used to articulate the system guidelines and governance structure, content management strategies, roles and incentives that would support a common approach within a decentralized culture. Throughout the project, change management activities were undertaken to raise awareness of the upcoming deployment, provide answers to questions, encourage use of the new system (including "expert" recognition) and train new users.

The Power of Communities. The system puts people and their knowledge assets together into "knowledge communities," or "communities of practice." Much more than the technology of chat rooms or discussion boards, these communities bring together people who have similar interests and needs. The marriage of content, and the people who created it or need it, opens up new opportunities for discourse, online and offline. They help surface expertise and encourage broad-based collaboration. People have discovered other individuals and groups that they need to work with – people they didn't know existed before.

Results. Metrics were designed and implemented to observe system adoption and usage. The company needed to change employee behavior around knowledge creation, dissemination and preservation. As a result, a high level of participation was the primary initial goal. Six weeks after rollout, virtually everyone in the organization had used the system and the number of frequent users was larger than expected, and trending higher. This was a very satisfactory initial result given the tendency of the highly decentralized culture to create silos of information. As people became comfortable with the system, collaboration grew. And, since documents are now shared across the

organization, their quality has risen substantially. An attitude change was becoming clear: when everyone sees your work, you are much more likely to make it better!

Finally, and most importantly, the successful deployment of the knowledge management system in this pilot organization was the catalyst for the ongoing broader implementation throughout the global business.

The Knowledge Management Framework and Selected Key Questions to Answer Along the Way

The success of this and other knowledge management projects is based on a broad-based view of knowledge issues and potential solutions, not simply a focus on technology. To accomplish this, DiamondCluster has shown that the best way to implement a comprehensive knowledge management solution is through a comprehensive framework that focuses on five major areas of emphasis:

Knowledge Management Framework

Strategy	Management and Governance
Ensures that the KM initiative is aligned with organizational goals and helps build a solid case for moving forward	Creates a governance structure, core team and PMO to provide the structure and program oversight required to ensure success and user adoption
<ul style="list-style-type: none"> ✍ Vision and Mission ✍ Hypothesis ✍ Analysis ✍ Business Case ✍ Implementation/Phase Plan 	<ul style="list-style-type: none"> ✍ Organization Structure ✍ Roles ✍ Incentives for Employee Participation ✍ Metrics ✍ Change Management ✍ Program Management
Technical Infrastructure & Architecture	
Procedures	KM Applications & Tools
Creates a foundation for creating, sharing, and accessing knowledge in a consistent manner	Delivers common tools and platforms that enable implementation of business value-centric functionality in a more efficient manner across an organization
<ul style="list-style-type: none"> ✍ Content Guidelines ✍ Permissioning ✍ Knowledge Architecture ✍ Community Design ✍ Usability 	<ul style="list-style-type: none"> ✍ Search ✍ Portal ✍ Content Management ✍ Document Management ✍ Collaboration ✍ Workflow

Strategy. The initial focus is on a strategy and vision for the knowledge management approach and system. The knowledge drives the features, functionality, specifications and benefits of the technological and non-technological components of the solution. It is also iterative in nature, changing with the strategy of the business and refined to meet current and future operational and marketplace conditions. Too often, knowledge system builders dive into the technology before they set a strategy for what they want. The result can be scope creep, missed opportunities, increased costs and redundancies, and lowered impact. With a strategy in place, the organization has a clear direction and authority to move forward.

The knowledge strategy is built in five major steps. A vision and mission is established to set high-level direction and overarching goals for the effort. This lays forth the value that will be delivered and describes how that value will be created, becoming a major rallying point for participants and customers. Next, hypotheses are generated about how the vision will be achieved. Often created through conceptual scenarios, these hypotheses test out approaches to how the system will work. The most promising hypotheses are tested with all stakeholders – business leaders, users, customers, etc., and run through a financial analysis to determine potential costs and payoffs. This step helps set priorities for the project and provides support for the eventual implementation plan. A business case is built that provides a detailed explanation of the benefits to be derived from the effort. Finally, plans are put in place to implement the strategy.

- Key Questions to Answer:*
- ? What are the business issues that require a knowledge management solution?
 - ? What does a knowledge management solution look like (vision)?
 - ? What are the gaps between how knowledge is managed/used now and how it will be used if the vision is realized?
 - ? What are the key features and functionalities of the potential solution?
 - ? What is the balance between “pushing” information to users and enabling users to collaborate to create new knowledge?
 - ? What barriers lie in the way of achieving the vision?
 - ? How can key stakeholders be brought on board?
 - ? What are the anticipated benefits of the system and how will we know when we “get there?”

Management and Governance. Many knowledge management systems fail not because they have the wrong technology, but because they operate in the wrong environment. Experience has shown that it is often the environment in which a knowledge management initiative is deployed that has the most impact on success. Sophisticated systems gain little traction in the organization if serious attention isn’t paid here. So the framework takes a serious look at the management and governance of KM. This component looks at ways to generate participation and support from stakeholders, resolve disputes, and plan for the future in addition to the day-to-day management of the process.

An organizational structure must be built that not only shepherds the KM system, but ensures that representatives of users, executives, business units and others have a say in how the system runs and how it evolves. New roles, from system managers, to field-based knowledge coordinators, to “cybrarians” must be defined and staffed. Incentives must be put in place to encourage people to participate in the process, from placing their own intellectual capital into the system to relying on it for their every day information needs. Metrics for success must be defined in ways that both correct deficiencies and point to future enhancements.

One of the most important tasks for any organization seeking to implement knowledge management is to focus on change management. A great deal of care must be taken in introducing this new approach of working into an organization that surely has some older “tried and true” ways to doing things. Gaining support at all levels and avoiding alienation of key constituencies will be a major factor in the success or failure of the KM effort.

Finally, if the effort is complex or requires significant coordination, the institution of a program management office (PMO) should be considered. A PMO ensures that the disparate efforts are

more united, that the project proceeds on time and within budget, and that the overall objectives of the KM initiative remain the focus of the work.

- Key Questions to Answer:*
- ? What are the roles and responsibilities that are required by the knowledge management solution? How many exist and how many are new?
 - ? How should the new system and approach be managed and governed?
 - ? What level of input and oversight should be given to each stakeholder group and how should this be established?
 - ? What incentives are necessary and appropriate to stimulate usage of the system?
 - ? How should the impact and effectiveness of the system be evaluated?
 - ? What is the communications and change management strategy necessary to successfully deploy and sustain the system?
 - ? Does the KM effort require a program management office?

Procedures. Often overlooked, this component of the framework deals with how the system will work. Here, a careful balance is created between centralization and decentralization, and between providing a common platform and tools for everyone, and creating opportunities for custom initiatives. Too many rules can turn people off from contributing their knowledge or using the system on a regular basis. However, too few procedures can often lead to the same chaotic state of knowledge that the system was trying to address.

KM procedures set the stage for how content and knowledge communities (or communities of practice) will be organized in the system – the knowledge architecture. Within that architecture, a universal taxonomy, supporting metadata and user profiles are defined to enable accurate storage and retrieval of content as the system grows. It defines a permissions and access strategy – who has access to contain content and who does not. It lays out a process for publication, how content is added to and updated in the system. Finally, the procedures component addresses usability and navigation within the system, with the goal of providing an easy-to-use, high value experience for all.

- Key Questions to Answer:*
- ? How will content be organized in the system (knowledge architecture)?
What is the best metadata scheme for the organization?
 - ? What are the criteria/guidelines for publishing and accessing content?
 - ? How should knowledge communities be established and integrated with content?
 - ? Who has permission to access content and how is that permission granted or modified?
 - ? How should collaboration be supported?
 - ? What kind of user experience is desired? How should the system be designed to make it easy for users to participate?

KM Applications and Tools. This framework is centered on the analysis and selection of best-in-class knowledge management tools that meet the business and technical requirements of the proposed solution (as described in the strategy). Since no two knowledge management opportunities are alike, and since the state-of-the-art in tools and technologies is continuing to evolve at a rapid pace, the technological framework should be iterative in nature, updated on a

regular basis to keep pace with the needs of users, enable the system to scale, and comply with the changing infrastructure of the firm.

Today, new advances in search technology, portals, document and content management tools, collaboration technologies and workflow software are accelerating the pace of KM implementations. The key, however, is the effective combination of the right tools, at the right level of sophistication, that creates a KM environment that is much more valuable than any single tool used alone.

- Key Questions to Answer:*
- ? What are the current state-of-the-art tools and technologies that can be used in the system?
 - ? Should technologies and tools be built or purchased?
 - ? How do these tools and technologies support the knowledge management strategic/conceptual framework (requirements)?
 - ? How do these tools and technologies comply with the organization's infrastructure?
 - ? How do these tools and technologies work together (integration)?
 - ? How easy is it for people to use these tools and technologies (user interface issues)?
 - ? Can the tools and technologies be modified to support the organization's unique needs, if necessary?
 - ? What is the level of quality of support from the vendors?
 - ? What is the staff's ability level to support and maintain the system?
 - ? What level of reliability, redundancy, security, etc. is required?
 - ? How much will the system be required to scale?

Technical Infrastructure and Architecture. While not specifically part of the KM framework, an analysis of the infrastructure in which the system will be deployed, is essential. Care must be taken to ensure that the system will work well within the existing technical environment – anything less will reduce its performance, raise costs and significantly diminish the ultimate acceptance by those who need it. The proper balance of system design to comply with the existing IT architecture, and any necessary upgrading of the infrastructure, when required, will be essential to ensuring the highest level of system compatibility and interoperability.

Process and Flexibility are Key

In knowledge management, “one size does NOT fit all.” Successful solutions match technology to the organization, fit the positive aspects of the organization's culture, align with the infrastructure and help people get from where they are to where they need to be. Thus a knowledge management process must provide a systematic approach to achieving project goals in a timely and cost-effective manner, while, at the same time, allowing for the uniqueness that exists from company to company.

Information needs assessment, technology assessment and organizational assessment are three good windows of analysis to begin with. From there, issues of designing a knowledge architecture, selecting the right tools and building the solution follow. And, throughout this process, keeping an eye on user behavior, communications and change management will be crucial.

The process must also allow for key decisions to be made along the way. Issues regarding the balance between centralization and decentralization, collaboration and codification, and regulated and open systems must be addressed, and re-addressed as the process unfolds and new data is factored in. Using rapid prototyping and pilot testing techniques are other proven approaches that ensure that the system meets the diverse requirements that will undoubtedly be set for it.

At the end of the day, a company is a reflection of its knowledge, and a successful knowledge management process must mirror the company.

The Benefits are Substantial

Whether through a stand-alone system or integrated in a company's next-generation intranet, focusing on knowledge management enables businesses to respond faster, eliminate redundancies, better leverage internal expertise, and allow new innovations to surface – ideas that normally go undiscovered. It improves employee satisfaction and retention by providing a greater sense of inclusion and participation, and reducing the frustrations caused by the inability to get reliable information, anytime and anywhere. It supports employee development and preserves expertise when people leave the firm. It creates a scaleable knowledge infrastructure to help companies grow, or to help businesses make better use of shrinking resources. And ultimately, it creates a knowledge base that becomes an independent, capitalized asset of the firm.

"The paradox of our time is that we are inundated by information yet starved for knowledge."

*William R. Brody, President,
Johns Hopkins University*

The new economy is really a knowledge economy, powered by the brainpower of people at all levels in the enterprise. Because of this, knowledge management is the essential, mission-critical tool of a knowledge-powered company.

Can You Benefit from Knowledge Management?

Think your organization could benefit by enhancing the way people create, access, share and grow knowledge? Here are some situations to consider. If any of these apply to you, you will likely benefit from a knowledge management solution.

- ✍ ✍ Your organization is growing substantially, in terms of people, scope of activity, geography, products and markets, and your current information approaches are out of date or will not scale.
- ✍ ✍ Your organization is shrinking substantially, in terms of people or resources, and better ways to manage knowledge is necessary to compensate.
- ✍ ✍ You have uncovered significant process and information redundancy, concluding, “the left hand doesn’t know what the right hand is doing.”
- ✍ ✍ Your “time to market” or “time to proposal” is slipping behind your competitors.
- ✍ ✍ You are finding it increasingly difficult to quickly identify “who knows what” inside your firm.
- ✍ ✍ You are having problems identifying and deploying best practices in a timely manner.
- ✍ ✍ You are looking for ways to substantially increase the value of your corporate intranet.
- ✍ ✍ You need to provide greater and more timely information to your partners, suppliers and customers.
- ✍ ✍ The pace of change in your business is accelerating and you need new, innovative ways to keep up and stay ahead of the information curve.
- ✍ ✍ You are acquiring another business (or are yourself being acquired) and need to combine the knowledge assets of both firms.

Knowledge is the lifeblood of any business. Are you getting the most out of your intellectual capital?

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