



NAC Executive Insights

Creating A Knowledge Sharing Culture

Key Points

- Successful knowledge management initiatives have a common overarching emphasis on connecting people to people and creating a culture for knowledge sharing.
- A direct correlation exists between active and involved leadership and knowledge management community success.
- Knowledge management succeeds when employees see personal opportunities for development from their active knowledge sharing.
- A major component of many successful knowledge management organizations is the creation of communities of practice.
- A strong governance model is recommended for community creation, defining community objectives, and measuring performance.
- Successful knowledge management is based on creating an organizational culture that continuously identifies, creates, captures, acquires, shares, and leverages knowledge.

Introduction

Knowledge management (KM) focuses on how an organization identifies, creates, captures, acquires, shares, and leverages knowledge. Systematic processes support these activities, also enabling replication of successes.

While knowledge management can take many different forms, successful knowledge management initiatives have a common overarching emphasis on connecting people to people and creating a culture for knowledge sharing, rather than emphasizing technology. In fact, too strong of an emphasis on technology is a leading cause of knowledge management initiative failures. This document describes high-level knowledge management work processes and a governance model for introducing and sustaining a knowledge sharing culture. Specific, detailed work processes are created in a KM team environment with active executive participation.

Key Knowledge Management Terms

Intangible assets have value to a company, but no physical existence. Some intangible assets have been recognized for years, such as patents, copyright, and trademarks. In contrast, physical assets (such as land, buildings, and equipment) can be sold, used, and depreciated.

Intellectual capital includes everything an organization knows. That can be ideas, different kinds of knowledge, and innovations. Intellectual capital is the knowledge that an organization uses for business benefit.

Explicit knowledge encompasses the things that are known and can be written down, shared with others, and put into a database.

Tacit knowledge is the knowledge gained through one's living experience, both in personal life and professional development. It is often subjective, informal, and difficult to share or express because it is affected by one's personal beliefs and values. It includes know-how, rules of thumb, experience, insights, and intuition.

Experts in deploying knowledge management generally recommend a balanced approach of personalization and codification strategies.

Personalization is treating knowledge as a process. It focuses on tacit knowledge with an emphasis on connecting people to people, creating people networks, and developing custom solutions to unique problems. A growing organization needs a strong emphasis on a personalization strategy to build the culture of knowledge sharing and collaboration.

A codification strategy treats knowledge as a resource. As expert solutions are documented, they need to be moved as fast as possible for scale and reuse. This is the core of a codification strategy: making knowledge a resource. The strategy involves connecting people to a database and emphasizes explicit knowledge reuse. Similar to the emphasis on a personalization strategy, a growing organization also needs a strong emphasis on codification such as when best practices improvements are developed on projects and are then applied across all current and future projects.

Leadership

There is a direct correlation between active and involved leadership and knowledge management community success. It is an imperative that senior management take an active leadership role in deployment of knowledge management, especially in encouraging and rewarding desired knowledge sharing and collaboration behaviors. This leadership expectation includes individuals in positions of executive sponsorship, community leaders, knowledge managers, and subject matter experts.

An executive steering team should be established to oversee knowledge management to provide strategic guidance and instill the level of importance for establishing a knowledge sharing and learning organization culture. The executive steering team also should create an overarching goal for knowledge management for the organization. Suggestions for such a goal should address best-in-class capabilities

associated with the organization, other international, national, and industry organizations and companies, and/or project management organizations. Another element for this overarching goal would be to describe the level of transparency and cross-organizational knowledge sharing that is desired.

Transforming the culture in any established organization is a multi-year process. In a newly established organization, creating the desired culture requires a long-term focus. As the organization matures, the leadership model, emphasis on desired behaviors, and alignment with strategic direction will also need to evolve.

Early, strong leadership is also important to establish a long-term view of the organization. Knowledge management succeeds when employees see personal opportunities for development from their active knowledge sharing. Succession planning is an often overlooked aspect of new organizations with rapidly evolving structures and project results-driven priorities. Proper leadership is necessary to emphasize documenting and sharing new knowledge as it develops, despite time constraints. Leadership is also necessary to create the human capital management structure and associated culture to help employees progress in their careers and to have upcoming employees intellectually ready to move into recently vacated positions.

Knowledge Management Team

The first step in creating a knowledge sharing culture is creating a knowledge management team. This team will initially report to the executive steering team. In the sustained organization hierarchy, the KM team should report to the chief operating officer (COO) or equivalent. The KM team needs to work closely and be aligned with any organization design and development activities. In addition, the KM team must maintain close ties with the human resources department, functional groups and projects, and the information services organization.

Community Models

A major component of many successful knowledge management organizations is the creation of communities of practice. It is important to take a broad view of communities with a strong emphasis on the community of people. The communities are often called *knowledge communities* to avoid the pitfall of trying to fit an outside definition of a community of practice rather than create a structure that fits well within the organization model. Research on community models recommends that communities should be aligned with the sustained functions within the organization.

A second community structure that is critically important within a project-focused organization is one that is aligned with each project. Early emphasis should be on developing the community of people. A technology-enabled community structure that mimics the community of people structure is appropriate to manage stewarded documents, to identify subject matter experts, and to create a collaboration space for questions and answers. Caution regarding too much emphasis on technology, however, remains extremely important, especially as the communities of people are forming.

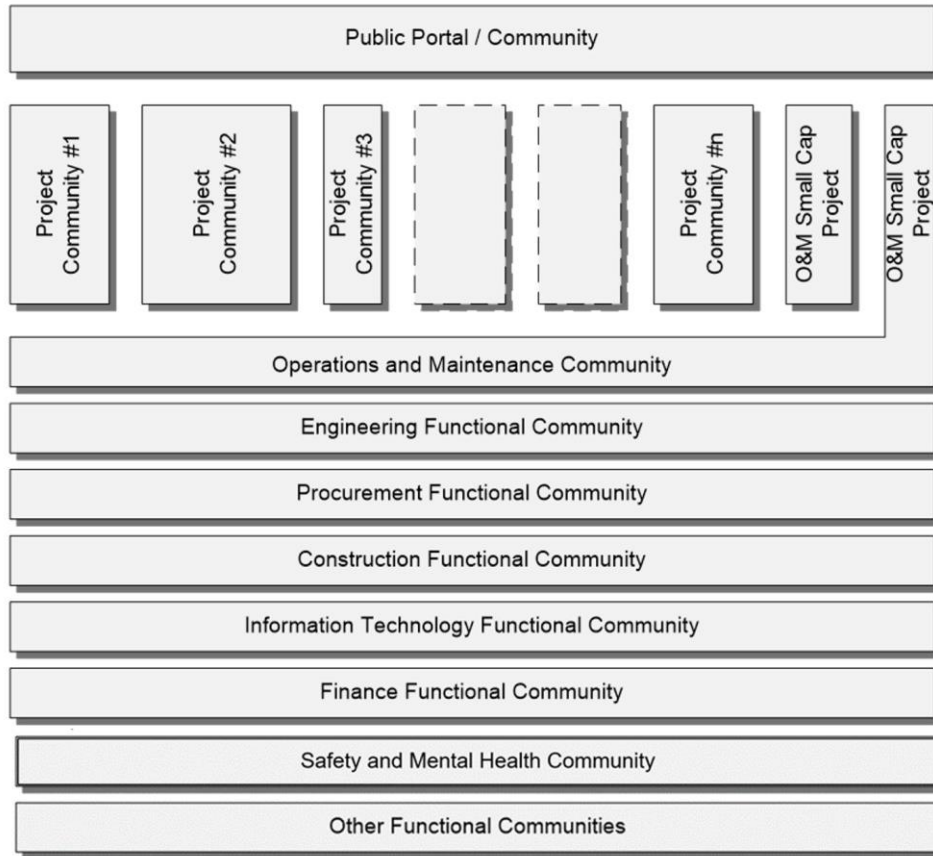
Examples of functional communities include Engineering, Procurement, Construction, Operations, Finance, Human Resources, Information Services, Safety and Mental Health, and other functions that form the sustained capital asset client or engineering and construction organization. These communities strongly emphasize the people side of the community, including career progression, training, and expertise development. These communities also establish standard operating documents such as practices and procedures. Collaboration through discussion forums include an emphasis on improvements to the operating processes and knowledge sharing across projects. Open access to all functional communities by all employees is recommended for transparency as well as cross-departmental development, which will increase as the organization matures.

Project communities are synonymous with project teams. While numerous individual work processes are carried out by each project function, the emphasis from a project community perspective is on team alignment and each facet of the entire project team, including suppliers and subcontractors, bringing the combined intellectual capital of their respective organizations to the project. From a technology perspective, project communities are established for each major capital project (including joint ventures) and may be established for small-cap projects based on the level of collaboration necessary for project success. These communities are characterized by significant document management requirements, multiple outside organizations participation, and collaboration focused on specific project issues and deliverables. Document revision tracking, packaging documents for requests for quotation (RFQs), vendor squad checks, and requests for information (RFIs) are examples of work processes enabled within the technology. A more robust security/access model is needed to protect access, such as restricting a supplier's ability to view competing suppliers' data and pricing.

A third community structure is the public view into an organization's operating activities, which may be extremely high in certain governmental or other public organizations and progressively graded and more limited to what is consistent with that organization's public website, although with enhanced content and knowledge highlighting the organization's capabilities and ongoing experience. As the overall program matures, collaboration spaces for clients, subcontractors, suppliers, and the public to ask questions, make comments to proposed plans, or recognize employees for high quality service may be enabled.

The fourth community element is for ongoing operations and maintenance (O&M) of existing facilities. This is most relevant to capital asset owners and operators. The sustained organization has elements similar to a functional community, with added document management and database elements required for each facility. For small-cap projects, the O&M community also takes on characteristics of a project community. Work processes supported through this community structure include operations, maintenance repair, and overhaul (MRO), reliability analysis, turnarounds, preventative maintenance, and facility engineering.

A graphical view of the community structure is presented below.



With an open collaboration environment for functional communities coupled with project-specific communities, a common approach to user profiles should be established. Within a profile, each user should be able to describe their work history, skills, and other personal information. Each community should control who they designate as subject matter experts. This designation should also be reflected on the user’s profile.

Governance

A strong governance model for community creation is recommended, one that defines community objectives and measures performance. Organizations that offer an ad hoc community creation model or a core KM team-developed set of templates to any group interested in creating a community have been known in many cases to be unsuccessful. Such efforts often result in ineffective and redundant communities.

A more successful approach is seen when functional communities are created to align with the existing or planned organizational structure. Each community should establish objectives that are aligned with the overall organization strategy, but specific enough to define what a community needs to support the strategic direction. Project communities’ objectives should align with the goals of the capital project. Some overlap of project and functional objectives is expected, especially as the organization develops.

Functional community leaders represent the highest authority within the function. In this leadership role, they are responsible for improving overall performance within their respective functions, selection and implementation of best practices, selection and support of software tools unique to their function, and functional people development. A network of functional community leaders should be established to create consistency across functions. Project managers are designated as community leaders for their respective communities.

Within each functional community, a structure of categories is established based on the core competencies of the function. How the organization's maturity level transitions as it develops may suggest a broader community structure with less categorization until the level of change settles down. Project communities have a hierarchy consistent with the project organization. Access to the project community is limited to project personnel, organizational leadership, supply chain participants, and others directly involved in the project. Access rights are established for everyone with access to the community. In addition, sub-collaboration spaces may be established for various activities within the project.

Community performance is measured by how well a community meets its objectives. Within technology implementation, numerous statistics should also be collected. These statistics, while not a real measure of performance, can provide an indication of activity levels and usage and track some levels of compliance, as in government compliance that requires tracking and verifying required reading assignments by function.

Work processes enabled by knowledge management are typically identified as the organization and its knowledge sharing capability matures. The KM team should help to identify opportunities and leverage good examples when they can be applied across communities. Specific work processes to move a completed capital project into an O&M community structure as part of an enterprise asset management offering must be developed.

Within each functional community, stewardship of explicit assets is critical. This includes creating a process to have an expert review and approve new content, review and approve updated content, and provide dependable and responsive answers to questions in discussion forums.

Functional Community Roles

The following roles are typical for a functional community. A project community will have similar roles, but those will be based on project assignments.

Executive steering team — The executive steering team defines the mission, membership, and leadership of multiple communities to fulfill specific strategic objectives. This team provides visible executive support for the activities of these communities and approves the operating budget and knowledge investment requests of these communities.

Community leader — The community leader oversees the design, purpose, and strategic direction of a knowledge community. Working closely with the executive steering team and other business leaders,

the community leader is responsible for the successful implementation and execution of the community's objectives. The community leader, with the assistance of the community knowledge manager, defines specific short-term and long-term goals and sets performance expectations for the community. The community leader monitors individual and community performance, providing additional guidance when necessary. The community leader is also responsible for selection and implementation of best practices, selection and support of software tools unique to their function, and functional people development. They serve as a visible role model of desired knowledge-sharing behaviors for corporate leaders, serve as agents for improvement and change, and champion all aspects of knowledge management throughout the corporation.

Community knowledge manager — The community knowledge manager facilitates, monitors, and supports the knowledge processes within technology implementation of a community. As the primary individual responsible for overseeing the daily operations within the technology community, the knowledge manager provides a visible role model of desired knowledge-sharing behaviors within the community, acts as a change agent, and consistently champions all aspects of knowledge management throughout their organization. The primary focus of the knowledge manager, as community driver, is to nurture a community that is aligned and supportive of the strategic intent of the organization.

Subject matter experts — The subject matter experts are responsible for reviewing submissions from community members and maintaining the content within the community, including addition, deletion, and editing content as well as responding to discussion forum questions.

Community members — Community members form the core of a community and include all the roles described above. Community members are responsible for ensuring the community meets their needs. Collectively, the community members are responsible for:

- Leveraging the knowledge generated and shared by the community to improve business results.
- Managing change.
- Collaborating with other community members to achieve the community's objectives.
- Stewarding intellectual assets.
- Providing feedback and enhancing the value of knowledge used.
- Participating in community events.
- Providing feedback on knowledge repository functionality and content.
- Contributing content to the knowledge community

Expectations and Barriers

Successful knowledge management is based on creating an organization culture that continuously identifies, creates, captures, acquires, shares, and leverages knowledge. Creation of any company-wide culture is a time-consuming process and requires dedicated emphasis for several years. Early success with knowledge sharing is possible with strong leadership endorsement; however, sustained knowledge

management is only achieved with a long-term commitment and a leadership team that continuously raises performance expectations.

With a growing and evolving organization coupled with project execution priorities, the organization will be challenged to maintain the necessary emphasis on knowledge sharing and collaboration. In addition, time constraints may encourage organizational resistance to creating a knowledge sharing culture. Conversely, strong leadership emphasis with visible examples of knowledge-sharing behaviors being rewarded can help propel the organization into a company environment and culture that other organizations envy and desire to emulate. Active and involved leadership is critical.

About the Author

Bob Prieto was elected to the National Academy of Construction in 2011. He is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure, engineering, and construction industries.

Although the author and NAC have made every effort to ensure accuracy and completeness of the advice or information presented within, NAC and the author assume no responsibility for any errors, inaccuracies, omissions or inconsistencies it may contain, or for any results obtained from the use of this information. The information is provided on an "as is" basis with no guarantees of completeness, accuracy, usefulness or timeliness, and without any warranties of any kind whatsoever, express or implied. Reliance on any information provided by NAC or the author is solely at your own risk.