



Knowledge Management in Technology Organizations

by Narayana Subramanian



Access to knowledge in today's world is nothing less than overwhelming. As information and data continually pour in from multiple sources (both internal to the organization, as well as external), it is extremely important that knowledge which is collected be categorized, stored, easily retrieved and utilized as actionable intelligence for decision makers. This process is defined as Knowledge Management (KM) and is a vital need for any organization to survive and compete.

In addition to the technology aspects of KM Systems, there are other methods where knowledge can be nurtured throughout the organization such as building Communities of Practice and capturing tacit knowledge that otherwise would be only in the heads of knowledge workers. While there is widespread recognition of the importance of knowledge management, it is mostly an ad hoc practice that results in oftentimes making decisions in one part of the organization without valuable information that exists elsewhere. Implementing KM systems into an organization requires a significant culture change at all levels and a strong commitment from management, as well as strong Human Resource practices.

In this STILE Point, I will provide an overview of how KM initiatives can significantly improve the efficiency and effectiveness of several critical business processes in Research and Technology organizations. In future STILE Points in this series, I will provide more detail on KM initiatives and case studies for each business process.

Strategy

In technology organizations, technology strategy drives business strategy. Robust, competitive technology strategies are synthesized from an organizations' knowledge of emerging technology, technology trends and competitor analysis.

An effective KM strategy channels an organization's information towards specific problems or opportunities that the organization is trying to solve. In today's world, successful research and technology organizations work under a highly collaborative model. The model relies on highly complex information sharing among scientists, engineers, management and marketing professionals. The model is governed by highly efficient and individual expertise, broad expertise across business functions, and also dependent on distributed teams and collaboration.

A KM framework (conglomerate of systems, procedures and practices) needs to be developed and implemented that allows technology organizations to harvest actionable intelligence from its core processes and associated activities. I have seen organizations develop such frameworks that facilitate knowledge flow across collaborative functional units.



Business Development

The business development process is a critical process for any research and technology organization. Servicing existing clients by being responsive and proactive; generating and managing leads resulting in new contracts closures; and promoting technical capabilities in various venues are some of the functions that is carried out in this important process. From my experience, this process is not clearly defined and is, mostly managed in an ad-hoc manner. There are several KM initiatives that should be taken by organizations to manage this process: Few of them are:

- (a) Efficient Client Relationship Management (CRM) Systems: CRM systems help in managing all relevant data related to clients in a single repository. Vital information such as client contact details; information such as the nature of business conducted with clients; funding information etc. should also be available readily. In mature organizations, I have seen dedicated portals for each client established, where clients and the organization use the portal to communicate strategies, program planning and project status.
- (b) Comprehensive organizational profiles: A systematic approach for capturing and updating relevant information on past projects; registered patents; staff expertise should be available that can be easily queried. This will allow the business development units to know what they can offer as part of the corporate expertise, and where to look for in the organization in case of any queries from potential clients.
- (c) Market Intelligence: Algorithms for efficient scanning and screening the marketplace for information. This includes news outlets, trade journals, conference proceedings, competitor sites, and social media related to the work carried out by the organization.

Project Management

In any research organization, the process of delivering products and services to clients is typically accomplished through planning and execution of research projects. In many organizations, there are no codified systems and processes set up that support the effective planning and execution of projects. The result is ad-hoc project management; most of the project based content lying around in emails of project staff; no reuse of knowledge across projects; and slow turnaround of the project lifecycle; and no possibility of metric based analysis, as data generated from projects is not systematically captured in a consistent manner.

Having personal experience with developing and executing such systems, I know they lead to more effective management and oversight of projects. An advanced project management process would include:

- (a) Streamline the project management planning and execution processes and let IT systems support the way that project data is generated at each step.
- (b) Introduce digital signatures and eliminate the need for any paper-based approvals.



- (c) Introduce virtual project workspaces with teams in distributed locations.
- (d) Hold all project content (documents; discussion forums) in Content Management Systems. These are indexed and can be easily searched upon when needed.
- (e) Facilitate a culture where knowledge workers can easily exchange ideas related to project design issues and lessons learned. This could be either intra-organization or inter-organization.

Innovation

The innovation process covers a wide spectrum of activities and is the core of any successful R&D organization. The innovative capabilities of staff need to be continually nurtured and encouraged at all levels. Some of the KM Initiatives include:

- (a) Introduce new roles and procedures that foster a culture of innovation throughout the organization.
- (b) Knowledge of latest technology trends in areas such as mobile-based computing; cloud computing; Big Data Analytics etc. By awareness of these technologies will allow staff to think about innovating in their projects and work using these trends in technologies.
- (c) Focus on core competencies: Innovative techniques such as value based outsourcing and partnerships, organizations can focus on their core competencies thereby reducing operational costs; reduction in project delivery time and further improvement in quality.
- (d) Business Intelligence and Dashboards: These are effective tools and should be available to decision makers at various levels. This would allow better decision making by mining historical data for information and also projection and future trends.

Financial and Operations Management

In order for the core processes of an organization to operate successfully and implement their strategies, it is important that the support functions such as Finance and Operations also execute their processes in an efficient manner.

It is important for business and support functions to communicate strategies and project / business requirements on a regular basis. This way, support functions will be aware of the business requirements and not follow a one-case-fits-for-all approach.

A few of the systems that facilitate the operations process include the following:

- (a) Efficient support systems that are integrated eliminating redundancy and duplication. These systems would support business with real time and online based reporting.
- (b) Interconnect vendors and suppliers with the organization. Standardized data interchange formats and e-Procurement processes will improve the supply chain management cycle.



- (c) Availability of an efficient Content Management: With all the HR Policies; guidelines; Templates and other business related documents in one single place, will allow efficient management of content and also allow new staff to quickly get into speed with the business functions.

Managers today are expected to process ten times the data they did just ten years ago in half the time and still make good decisions. This is possible due to advances in knowledge management systems. If you are feeling overwhelmed at the amount of information and paperwork that you need to process daily, it may not be because the job is too big or you are not up to the task. Perhaps you are relying on outdated methods of managing knowledge?

Mr. Subramanian has over 18 years of experience in the IT industry and provides consulting support in the following areas: Process Re-Engineering, Business-IT Alignment, Knowledge Management (KM) Portals and Information Systems, B2B web enabled systems, Business Intelligence (BI), Enterprise and Application Architecture; Systems Integration using Services Oriented Architectures (SOA); Cloud computing and Project Management.

Mr. Subramanian's consultative engagements span across several firms globally in the Middle East, Europe, US, Australia and New Zealand, and India. He has also proven experience across diverse domain knowledge across sectors such as Governmental Initiatives; International Organizations; Manufacturing; Pharmacy/Health Care; CPG etc.

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