

PM KnowledgeWire 2008, issue 1

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Knowledge is an organizational resource (Drucker, 2006). Given the information dependent nature of projects, strategic use of organizational knowledge is a must for competitive advantage (Back and Moreau, 2001; Santiago and Renato, 2004). Knowledge in the organization sense has been defined as "...a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms" (Davenport and Prusak, 1998). Corporations collect multitudes of raw data and information which, given context, could become useful knowledge, but much may be lost or inaccessible due to poor organization and disconnected storage methods.

Collecting information is important, but the vast flow must also be conducted and connected to provide strategic content and context (Ramhorst, 2004; Wheatley, 2006). "Effective knowledge management creates and integrates knowledge, minimizes knowledge losses and fills knowledge gaps throughout the duration of the project" (Reich, 2006). Knowledge Management (KM) plays a key role in the coordination of information flow necessary to decision making for project success (Reich and Wee, 2006).

Origins of Knowledge Management

It could be argued that the management of knowledge has been around forever in various guises (cave paintings to record and transfer hunting knowledge, oral histories, apprenticeships and formal education, libraries and card catalogs, newspapers and magazines, mass media and other means, re-engineering, data and information management). Peter Drucker, management pioneer and early contributor to knowledge management theories in the 1950's and 1960's, emphasized the value of individual and collective intellectual capital as organizational assets, (Gamble and Blackwell 2001; Drucker 2001). He also coined the phrase "knowledge worker", possibly marking the beginning of the formalization of KM (Prusak, 2001). The growth of digital technologies in the 60's, 70's and 80's brought the age of information to a peak.

Though the concept of managing knowledge may not be so new, it has more recently evolved with advances in information technologies, particularly the Internet in the 90's, bringing it to the fore as a necessary new discipline (Suda, 2000). The exponential growth and variety of information available via electronic means increased complexity, calling for more coherently structured approaches to address the issue (Gillingham and Roberts, 2006). KM practices have become valuable to corporate competitive survival in terms of supporting and facilitating innovation, business objectives, risk and strategic decision making (Dalton, 2006).

Types of Knowledge

Knowledge creation builds upon existing knowledge; new knowledge being produced from assets that already exist (Koskinen, 2004). The capture and re-use of knowledge from projects can be particularly challenging. Projects are temporary and as teams tend to move on, much project knowledge becomes ad hoc when it might instead be utilized to yield potential benefit towards future endeavors (Fung, 2004; Leven, 2000). Two basic types of knowledge are:

- Tacit or Uncodified Knowledge – comprising that which is understood to be known, but not necessarily recorded; inherent, implicit (Crawford, 2003; Meloni and Villa, 2007). Difficult to capture, its transfer occurs mostly via social processes and interaction. Forms of tacit or uncodified knowledge include conversation (water cooler chats, informal meetings), mentoring, stories, intuition, observation, experience, “know how”. Some knowledge is bound to remain tacit, however, some means and methods of capture and externalization include:
 - Communities of Practice – knowledge networks for peers sharing expertise (Steichen, 2001)
 - Knowledge Maps - i.e., who knows what; profiles; intellectual capital connectivity achieved through cognitive collaboration (Reich and Wee, 2006)
 - Transactive Memory Systems - shared place for the storage and retrieval of information assets (Kanawattanachai and Yoo, 2007; Yoo and Kanawattanachai, 2003)
 - Capture of Lessons Learned (Stephens, 1999; Williams, 1999)
 - Journaling and Blog logs – record knowledge which can be “tapped”
 - Storytelling – narrative that moves the audience to a new level of understanding (Denning, 2000)

Additional – Resources

Web-site links

KM World: www.kmworld.com

Knowledge Portal: www.knowledge-portal.com/km_history.htm

Systems Thinking - Knowledge Management –
Emerging Perspectives: www.systems-thinking.org/kmgmt/kmgmt.htm

Wikipedia - Knowledge Management: www.en.wikipedia.org/wiki/Knowledge_management

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Knowledge Management in Project Management

- Explicit or codified (“know what”) - can be embodied by language or code and stored in a physical manner such as books and manuals, meeting minutes, email and other electronic/computerized means. While this type of knowledge is more easily communicated, its management can be challenging due to quantity and quality factors. Some methods used towards these challenges include:
 - Taxonomies, classification schemes and subject-specific guides providing context and relevance for repositories (Gamble and Blackwell, 2001)
 - Data warehouses and data mining techniques
 - Intranets/Extranets, Portals
 - Knowledge-based Systems - “include applications such as expert systems and intelligent agents; infrastructure and support tools such as ontologies, knowledgebases, inference engines, search algorithms, list and logic programming languages; and a variety of representational formalisms (e.g., rules, frames, scripts, cases, models, semantic networks)” (Anderson, 2001; Gupta and Sharma, 2004).

Some of the methods mentioned above for managing tacit and explicit knowledge may be applied to either depending upon the particular project need or iteration in the knowledge management life cycle (Gupta and Sharma, 2004). While research and development project personnel may rely more on their tacit knowledge and financial delivery project team members may tend toward explicit knowledge, integration and interaction of both types is necessary in coordinating expertise towards project goals (Koenig and Srikantaiah, 2004; Koskinen, 2004).

Other knowledge categories include (Gamble and Blackwell, 2001):

- static knowledge and dynamic knowledge
- declarative knowledge - factual
- procedural knowledge - “how to”
- abstract knowledge - may apply to a variety of situations
- specific knowledge (applicable to one situation)

No matter the knowledge type, the aim is accessibility. Projects are realized through cooperative efforts, and KM enhances cooperation.

Benefits and Reach

Global reach, networked economy, information overload (quantity and variety), and increased complexity are driving the need for KM methodologies (Prusak, 2001). KM is practiced to advantage in project environments across industries, including Construction (Campbell, 2000; Santiago and Renato, 2004), Pharmaceutical (Brown, 2001; Wilson, 1998), Information Technology and Software Development (Reich and Wee, 2004; Snider and Nissen, 2003), and increases return on project investment (Fung, 2004).

Though KM has produced a new professional, the Knowledge Manager, responsibility for managing knowledge is in the hands of all in the organization. Knowledge era corporations are insisting on a culture of knowledge sharing and creation, training and instilling information handling habits in personnel (Price, 1999). Knowledge competencies are becoming an increasingly sought after skill set (Ritchie and Jorgensen, 2007). The ability to deploy and exploit knowledge by tapping into organizational competencies and intellectual capital can make the difference between project failure and success (Gamble and Blackwell, 2001).

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