Managing Knowledge Risks

Understanding and managing knowledge risks can be critically important for innovative IT-enabled business projects. These projects rely on the project team's ability to creatively connect ideas from different disciplines.

During a three-year research project examining knowledge-risk management, Dr. Blaize Horner Reich, of Simon Fraser University, and her colleagues established five broad principles for managing knowledge risks in IT projects (for a list of these risks, see **Know your Knowledge Risks** article). These principles include 1) establishing a learning climate; 2) mitigating knowledge loss; 3) creating channels for knowledge flow; 4) developing a shared team memory and 5) using the risk register to monitor knowledge risks.

Based on interviews with a group of senior international project managers, here are their practical suggestions for implementing the principles for managing knowledge risks:

Establish a learning climate
Principle: Create a project climate that encourages team members to learn together
Five practices to help build a learning climate:

1. Engage the team when building the project's risk register. This can set the tone and recognizes that everyone has knowledge to contribute.
2. Acknowledge that mistakes are a natural part of the team's growth and learning
3. Reward behaviour that supports a learning climate, not just behaviour that results in the right answer
4. Practice using team behaviours (e.g. knowledge-sharing) on minor issues, in preparation for bigger issues
5. Speak the truth. Don't duck issues that team members are worried about.

Mitigate knowledge loss
Team members leaving a project often take their knowledge with them. To minimize this common problem, project managers should use activities such as methodology workshops, estimation exercises, and presentations on the history and strategies of the organization to ensure team members understand the project's larger context and process.

Project managers should also anticipate and fill potential knowledge gaps by:

1. Backing-up or duplicating key roles. Role-shadowing, for example, helps junior people acquire senior-level skills.
2. Use "Swiss army-knife" team members who can perform many roles throughout the project's lifecycle.
3. Create a core team that stays together throughout the project.
4. Use retention bonuses and/or learning opportunities to entice team members to remain.
5. Prevent a knowledge bottleneck by delegating work and responsibility downward.
6. Develop a formal introduction and learning procedure for new members.

Create Channels for Knowledge Flow

Early in a project, it's important to deliberately and systematically create knowledge-sharing channels that are interactive, easy to activate and effective. These could include websites, repositories, team meetings, brainstorming sessions and informal socializing.

Some specific practices:

1. Co-locate team members whenever possible, including members from the client organization.
2. Design open office spaces that encourage communication
3. Establish lunch-and-learn sessions
4. Encourage informal gatherings
5. Develop a team newsletter containing both project and social information
6. Conduct daily 15-miinute huddle sessions during crucial project periods to share knowledge and suggest solutions
7. Assign project-knowledge connectors – individuals who know where the expert knowledge resides.

Develop a shared team memory

Create and update the team's collective memory throughout the project. Discuss past lessons learned at the start of the project to establish a shared understanding of how and why the current project will be designed and managed.

Keep members informed about progress and problems as the project progresses.

At the end of the project, capture lessons learned. This enhances members' learning and competency, creates a shared story about the project that offers both closure and organizational learning, and helps future teams to meet their goals more efficiently and effectively.

Some practices for supporting team memory:

1. Capture lessons learned as the project proceeds – don't wait until the end.
2. Openly discuss lessons learned to reinforce a commitment to knowledge-sharing
3. Use journals to record key decisions and the reasons behind them. This record is helpful in briefing new team members and governance members
4. Assign a project knowledge-integrator to manage project knowledge

Use the risk register

Look for ways to include the most important knowledge risks (see the earlier article **Know your Knowledge Risks**) in both the project-risk register and the project plan in order to establish contingencies and secure resources. Protecting project knowledge is just as important as shielding a project against unexpected political shocks.

Some suggested practices:

1. Use all key team members to compile the risk register and to continuously update it. Use lessons learned from past projects to build the risk register.
2. Anticipate departure of key members and put resources in place for training successors
3. Identify key knowledge gaps in the team and put resources in place for external assistance.

4. If the team is not co-located, build events and processes into the plan to ensure that they will still share knowledge around goals and constraints

Results from this research project, and others, reveal that managing knowledge adds significantly to the probability of success in innovative projects. The practices and principles outlined in this article will help you to manage knowledge systematically within your projects.

“The result,” says Reich, “is a project team that can solve tough problems quickly and with a high degree of quality.”

Source: Reich, B.H. "Managing Knowledge and Learning in IT Projects - A Conceptual Framework and Guidelines for Practice", Project Management Journal, 38:2, June 2007, pp. 5-17. (Winner, Best Paper of 2007 from PMJ.)

PMPerspectives.org is a website which connects project managers and sponsors with project management researchers. Our mission is to understand and improve project management practices. The research team comprises Dr. Blaize Horner Reich and Dr. Andrew Gemino from Simon Fraser University, Canada and Dr. Chris Sauer from Oxford University, UK.