Postmortem Reviews

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INTRODUCTION

Postmortem reviews are collective learning activities which can be organized for projects either when they end a phase or are terminated. The main motivation is to reflect on what happened in the project in order to improve future practice—for the individuals that have participated in the project and for the organization as a whole. Projects are the typical way of working in most knowledge-intensive organizations, and postmortems provide a possibility to learn from the projects with little effort, which makes it ideal as an initial knowledge management activity in a company.

This type of process has also been referred to as "after action reviews," "project retrospectives," "postmortem analysis," "post-project review," "project analysis review," "quality improvement review," "autopsy review," "Santayana review," and "touch-down meetings."

Researchers in organizational learning sometimes use the term "reflective practice," which can be defined as "the practice of periodically stepping back to ponder on the meaning to self and others in one's immediate environment about what has recently transpired. It illuminates what has been experienced by both self and others, providing a basis for future action" (Raelin, 2001). This involves uncovering and making explicit results of planning, observation, and achieved practice. It can lead to understanding of experiences that have been overlooked in practice.

There are a number of methods to conduct postmortems which we will describe in more detail in the following. The methods rely on collecting information from project participants either through interviews, group processes, or a meeting (preferably where participants meet physically). The outcome of a meeting is a postmortem report.

BACKGROUND

In the knowledge creation model of Nonaka and Takeuchi (1995), postmortems are a combination of learning through socialization and through externalization. In listening to others you employ socialization, and in reflecting and sharing your own experience you externalize your tacit knowledge. Postmortems are also a method for leveraging knowledge from the individual level to the organizational level.

In a survey on essential practices in research and development-companies, "learning from post-project audits" are seen as one of the most promising practices that could yield competitive advantage (Menke, 1997).

A survey on post-project reviews in research and development companies show that only one out of five projects received a post-project review (Zedtwitz, 2002). Also, the reviews tend to focus on technical output and bureaucratic measurements. Process-related factors are rarely discussed.

As a knowledge management tool, postmortem reviews are simple to organize. The process focuses on dialogue and discussion, which is a central element in knowledge transfer. Von Krogh, Ichijo, and Nonaka (2000) write:

It is quite ironic that while executives and knowledge officers persist in focusing on expensive information-technology systems, quantifiable databases, and measurement tools, one of the best means for knowledge sharing and creating knowledge already exists within their companies. We cannot emphasize enough the important part conversations play.

An example of postmortem reviews are "after action reviews" conducted by the U.S. army since after the Vietnam war, focusing on a "professional discussion of an event" to provide insight, feedback, and details about the event (Townsend & Gebhart, 1999).

Conducting Postmortem Reviews

There are several ways to perform postmortem reviews. Apple has used a method (Collier, DeMarco, & Fearey, 1996) which includes designing a project survey, collecting objective project information, conducting a debriefing meeting and a "project history day," and finally publishing the results. At Microsoft they also put much effort into writing "postmortem reports." These contain discussion on "what worked well in the last project, what did not work well, and what the group should do to improve in the next project" (Cusomano & Selby, 1995). The size of the resulting document is quite large: "Groups generally take three to six months to put a postmortem document together. The documents have ranged from under 10 to more than 100 pages, and have tended to grow in length."

Kerth (2001) lists a total of 19 techniques to be used in postmortems, many focusing on creating an atmosphere for discussion in the project. Kerth recommends taking three days to discuss projects in detail. (For a more complete overview of methods and purpose of postmortem reviews, see Dingsøyr, 2005)

METHODS FOR CONDUCTING POSTMORTEM REVIEWS

Postmortems can differ in length from activities that takes weeks, to an activity that can be done as a half-day group process. In the following, we present two methods for conducting postmortems, and also present example results from one type of postmortem.

Two techniques are used in both types of postmortems: For a focused brainstorm on what happened in the project, a technique called the "KJ Method," named after Japanese Ethnologist Jiro Kawakita (Scupin, 1997), is used. For each of these sessions, the participants are given a set of Post-It notes and asked to write one "issue" on each note. Five notes are handed out to each person. After a few minutes, the participants are asked to attach one note to a whiteboard and say why this issue is important. Then the next person presents a note and so on until all the notes are on the whiteboard. The notes are then grouped, and each group is given a new name.

Root cause analysis, also called Ishikawa or fishbone-diagrams, are used to analyze the causes of important issues. A process leader draws an arrow on a whiteboard, indicating the issue being discussed, and attaches other arrows to this one like in a fishbone, with issues the participants think are causing the first issue. Sometimes, underlying reasons for some of the main causes are attached as well.

Postmortem Review as a Large-Scale Process

Collier et al. (1996) describe postmortem reviews through five activities:

1. **Project Survey:** Define a set of questions you would like project participants to answer, such as "Did schedule changes and related issues involve the right people?" and "Were the right tradeoffs between features, quality, resources, and schedule done for the product developed in the project?" Analyze the results of such a survey, and complement with gathering objective data.
2. **Collect Objective Information:** Objective information related to resources spent, products developed, and other objective information that is valuable for a project.
3. **Debriefing Meeting:** Give project participants the opportunity to give direct feedback about the project. Use survey results to guide the topics to be covered in the meeting. Organize a series of meetings if more than 30 people participated in the project. Use a facilitator for the meetings in order to ensure a balanced discussion.
4. **Project History Day:** Formulate a problem statement to focus activities based on findings from the previous steps. An example is: "What are the root causes that determined or affected resources, schedule, and quality?" Invite key project participants, use a facilitator to discuss the problem statement, and use techniques such as root-cause-analysis. Limit participation to six or eight people. Ask participants to read the information gathered from the project, discuss deviations from the project schedule, and perform root-cause analysis on major deviations. Take note of the top 20 "root causes," and categorize using the KJ process.
5. **Publish the Results:** The leadership summarizes its findings and publishes it in an "open letter to project teams," which should be readable for project management and participants in the organization. It consists of four parts: (1) a description of the project, (2) a summary of positive findings ("the good"), (3) a summary of negative findings ("the bad"), and (4) issues that need to be improved ("the ugly").

Postmortem Review as a Half-Day Group Process

Birk, Dingsøyr, and Stålhane have used postmortem reviews as a group process (Birk, Dingsøyr, & Stålhane, 2002; Dingsøyr, Moe, & Nytrø, 2001; Stålhane, Dingsøyr, Moe, & Hanssen, 2003), where most of the work is done in one meeting lasting half a day. They try to get as many of the persons working in the project as possible to participate, together with two process consultants—one in charge of the postmortem process, the other acting as a secretary. The goal of this meeting is to collect information from the participants, make them discuss the way the project was carried out, and also analyze causes for why things worked out well or did not work out.

The "requirements" for this process include that the project should not take much time for the project team to participate, and it should provide a forum for discussing and analyzing the most important experience from the project. The main findings are documented in a report.

The postmortem meeting has following steps: