

Case Study Summary: Risk Under the Microscope

(From Milosevic et al., 2011, *Case Studies in Project, Program, and Organizational Project Management*)

Background

- Company: **IEM Company**, a high-tech firm making Ion and Electron Microscopes.
- Project: Tool upgrades for **imaging and wafer transfer** improvements.
- Client site: RedGate Technology, where the first tool upgrade was happening.

Incident

- A severe computer failure (a “**blue screen**” crash) halted the upgrade process.
- The escalation protocol triggered a **Level 4 meeting** after 6 hours of unresolved issues.
- Ultimately, the tool was down for **three days**, threatening project timelines.

Project Team

- Product Engineer: Adam McAllister
- Technical Support Engineer: Donna Nolan
- Systems Engineer: Calvin James
- Project Manager: Jason Orange
- Program Manager: Julia Gallagher

Key Problems Identified

- Root cause **unknown**: The blue screen error could not be reproduced in simulation tests.
- **Knowledge loss**: Original Systems Engineer (Steve Huggins) left suddenly, leaving gaps in documentation and knowledge transfer.
- **Communication gaps**:
 - Marketing and Sales promised delivery dates without syncing with engineering schedules.
 - Disconnect between field implementation teams (TSG) and the core project team.
- **Incomplete risk planning**:
 - Focused mainly on design and supply chain.
 - Field implementation risks were not thoroughly documented or tested.
 - **Long-term reliability testing** was skipped due to time constraints.

Risk Management Observations

- The existing risk plan included:
 - Categorizing risks into hardware, software, and supply chain.
 - Prioritizing only medium and high-risk activities.
- Some gaps:
 - **Low-risk activities excluded** from the risk register.
 - Lack of proactive measures for unpredictable, high-impact failures like the blue screen incident.
 - No long-term stress testing of new hardware/software components.

Proposed Mitigations

- Possibly add a **second shift** to recover the schedule.
- Reassess and update design or work instructions based on lessons learned.
- Better knowledge transfer processes to avoid single points of failure when staff leave.
- Improve communication across **all project areas** including field implementation.

Discussion Points

- Should low-risk activities still be tracked in the risk register?
- How to improve risk planning:
 - Project organization
 - Implementation
 - Leadership and strategy
- What should the next steps be for recovering the project?

Key Takeaway:

Even with a risk plan, blind spots remain. Projects must address:

- **Knowledge retention.**
- Broad, inclusive risk identification.
- Continuous communication among all stakeholders, especially in field operations.