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Module 8: The Dangers of Change Approval Processes

<https://github.com/VanhSom/csd-380.git>

The Change Approval processes in DevOps ensure that all changes in software systems are reviewed, tested, and approved before they go live in the production environment. These steps are important for keeping the stable and adhering to regulations. This paper looks at the dangers of Change Approval processes in dev OPS, using insights from three online sources:

1. [7 Common Reasons Software Projects Fail and How to Avoid Them](https://revstarconsulting.com/blog/7-common-reasons-software-projects-fail-and-how-to-avoid-them)
2. [Software Development Risks](https://clockwise.software/blog/software-development-risks/)
3. [Software Development Risks](https://eluminoustechnologies.com/blog/software-development-risks/)

The paper also references the Knight Capital failure case study as an example of what can happen when change approval processes are not managed well.

## The Problem with Change Approval Processes

**Bottlenecks and Delays**

Revstar Consulting says poor workflows and communication are common reasons software projects fail. When change approval processes are too strict, they can create bottlenecks. This slows the development process and makes it harder for teams to work quickly. For example, delays in fixing a deployment error worsened financial losses. This shows why making Approval processes faster and more efficient is critical.

**Balancing Innovation and Flexibility**

Clockwise Software highlights that overly strict approval processes can stifle innovation. When developers go through many steps to get changes approved, they might avoid making improvements or experimenting. This is a problem in DevOps, where innovation and continuous improvement are important. The Knight Capital incident is a good reminder of how rigid controls make it harder for teams to handle unexpected problems.

**More Risk of Human Error**

Eluminous Technologies explains that manual Approval Processes can lead to mistakes. People might miss important details or not fully understand the impact of the change. In the Knight Capital case, human error during deployment significantly affected the failure. Automated testing and deployment tools can help reduce this risk, but only if approval processes are simple and well-organized.

**Teams Not Working Together**

Revstar Consulting highlights the importance of teamwork and communication and avoiding project failures. When Approval Processes are too complicated, they can create tension between development and operations teams. The believers might feel like operation teams are blocking their work, while the operations team might feel like developers are not following the rules. This lack of teamwork can lead to mistakes and inefficiencies.

**Too Much Focus on Compliance**

Clockwise Software warns focusing too much on compliance can lead to “compliance overkill.” This happens when organizations create overly strict approval processes to follow the rules, even when it is unnecessary. This wasted time and resources can give a false sense of security. The Knight Capital Incident shows why balancing compliance with the need for speed and flexibility is essential.

## How to Fix These Problems

Organizations need to find a balance between control and speed to avoid these issues. Here are some examples of how that can be accomplished:

* Automate Where Possible: Use tools for testing and deployment to reduce the need for manual approvals. This solution can speed the processing time up while still maintaining quality.
* Use Risk-Based Approvals: Not all changes are equally risky. Create a system where low-risk changes are approved quickly, and high-risk changes get more attention.
* Encourage teamwork: ensure all teams, the development and operations teams communicate well and work together harmoniously. This builds trust and makes approvals smoother.
* Monitor Continuously: Use preventive tools to catch problems early so teams can fix them quickly. This reduces the need for strict approval processes.

Change Approval processes are important in DevOps but can also cause problems if not managed well. While they help keep things stable and compliant, they can also slow things down, stop innovation, and increase the risk of failures. The Knight Capital failure case study is a clear example of what can happen when these processes are not appropriately handled.

Sources:

Tamayo, J. (n.d.). *7 Common Reasons Software Projects Fail—And How to Avoid Them*. Revstarconsulting.com. <https://revstarconsulting.com/blog/7-common-reasons-software-projects-fail-and-how-to-avoid-them>

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