Module 8.2

To go over the dangers of change management helps to understand what it is in general. In theory, it sounds like a great idea. Whether small in development or large-scale, it makes sense that procedures need some approval. So, just hearing the phrase "dangers of change management" right away sounds very extreme, maybe even like we'd want to avoid it altogether. But in reality, change management isn't a bad thing in theory. It's there to help companies implement resources, structure, and direction, so it's not just there for a free for all situation where employees make unnecessary changes that don't align with the company's goals. This helps explain why the process needs to meet specific protocols and regulations to take place successfully.

Challenges can happen when the process is not aligned properly. For example, a change might get approved too soon, or the person in charge of approvals may be overwhelmed by the amount of requests. Or there's just one team or person approving everything, and mistakes can happen without proper testing or automation. Another issue is when something gets approved but isn't ready to be implemented. What leads to these adverse outcomes is change management being poorly executed. This is something we can learn from and avoid in the future.

Let's review an example that hurts and is probably the most well-known example of change management gone wrong. This happened back in 2012 with a company

called Knight Capital, which was directly affiliated with the stock market as a financial trading firm. They did a system update that was approved, but it was either approved prematurely or approved without following the proper protocols. As a result, a bug in the system caused it to start buying and selling stocks extremely rapidly. This all happened in about an hour, and it ended up causing a loss of \$440 million for the company. You feel the impact even when talking about it, but we can learn from this example because it shows how dangerous poorly executed change management can be. Unfortunately, this wasn't something the company could recover from, and it was sold shortly afterward.

This happened over a decade ago, so hopefully, this mistake can be avoided with today's advancements. What happened here was that the proper testing wasn't in place to catch the problem before it went live. Even though the change was approved, the testing wasn't thorough enough, which allowed the bug to slip through. Today, testing in controlled environments requires detailed plans before testing, and adding automated approvals could prevent this kind of situation. All in all, it was poorly executed, which led to this enormous loss. Knight Capital is now one of the most significant examples of change management failure, and it's a situation we can all learn from.

There are a few things to remember to prevent significant issues where change management can go wrong. One key takeaway is that testing is crucial. Before any changes go live, thorough testing must be done to catch problems early. Another key step is using automation tools. These tools can make approvals easier by taking some

of the workloads off employees and help the system work better. Automation can even take care of reviews and approvals, which saves time and lowers the risk of mistakes.

Lastly, breaking them into minor updates is safer than making significant, risky changes simultaneously. Small changes can still lead to substantial improvements over time but with less risk.

Learning about the ins and outs of change management, what it is, where it goes wrong, why we talk about its dangers, and what it looks like when done correctly helps us learn from past mistakes and avoid becoming too comfortable. The correct protocols must always be in place for change management to be handled properly. We must focus on thorough testing before changes go live, use automation tools when appropriate and most helpful, and break more extensive updates into smaller, safer ones. When change management is done correctly, it can help a company grow and adapt to changes without taking on unnecessary risks that could hold it back.

Dolfing, H. (2019, June 5). Case Study: The \$440 Million Software Error at Knight Capital. Henricodolfing.com. https://www.henricodolfing.com/2019/06/project-failure-case-study-knight-capital.html

Kim, G., Humble, J., Debois, P., Willis, J., & Forsgren, N. (2021). The DevOps Handbook, Second Edition. IT Revolution.

Johnston, B. (2022). Why ITIL Change Management doesn't work for DevOps | Kosli Blog. Kosli. https://www.kosli.com/blog/why-itil-change-management-doesn-t-work-for-devops/

How Does DevOps Handle Change Management? (2020, October 17). Cprime. https://www.cprime.com/resources/blog/how-does-devops-handle-change-management/