
Unit 1: Introduction to Software Engineering Project Management

Initial Post

Collaborative Discussion 1: Project Failures Study

Task:

Please read the Lehtinen et al. (2014) paper and then answer the following questions:

- Question 1: What do you believe are the three most common reasons for project failure?
- Question 2: Give two examples of failures that support your choices (there are several examples in the lecturecast).

Answer:

According to Lehtinen et al. (2014), the primary causes of software project failure include lack of communication, inadequate resource allocation, project complexity and environment. Additionally, mismanagement of user needs significantly contributes to project failure. Project success can be significantly improved by taking proactive measures to address these issues can be significantly improved.

1. Lack of Communication

Poor communication among stakeholders is often a significant cause of project failure. Misunderstandings regarding project requirements, expectations, and progress can result in misalignments and conflicts between the team members and stakeholders. Effective communication is essential to ensure that everyone involved in the project understands their roles and responsibilities and is updated on any changes or updates

(Wiegers & Beatty, 2015). Regular meetings, clear documentation, and collaborative tools can be employed to foster an environment in which information flows freely and efficiently.

Real-World Example - Healthcare.gov: The rollout of the Healthcare.gov website in 2013 is a prominent example of failure due to lack of communication. Various teams, including contractors and government officials, did not effectively communicate about the project requirements and timelines. This resulted in a website that was not functional at launch, leading to significant public backlash and a loss of trust in the system. The failure highlighted the critical need for clear communication among all stakeholders involved in a project (Dolfing, 2023).

2. Inadequate Resource Allocation

Inadequate resource allocation can also lead to project failure. Low-priority issues that do not receive sufficient attention or resources can hinder a project's progress and effectiveness. Proper resource management involves ensuring that high-priority tasks are adequately supported and that lower-priority tasks receive sufficient resources to prevent bottlenecks. Effective resource management strategies include regular resource planning sessions, use of resource management software, and continuous monitoring and adjustment of resource allocation (Project Management Institute, 2021).

Real-World Example - The FBI's Virtual Case File (VCF) Project: The VCF project aimed to modernize the FBI's case management system but ultimately failed due to inadequate resource allocation. The project suffered from a lack of skilled personnel and insufficient funding, which led to delays and an inability to meet project goals. As lower-priority tasks were neglected, the project became unmanageable and was eventually abandoned after significant investment. This case illustrates how improper

resource allocation can derail a project and lead to its failure (Wojewoda & Hastie, 2015).

3. Project Complexity and Environment

Project complexity and chaotic environment can contribute to overruns and failures. Factors such as organizational structure, available assets, and external pressure can complicate project execution and lead to negative outcomes. Complex projects require a structured approach for managing interdependencies and mitigating risks. Simplifying processes, breaking down a project into manageable phases, and fostering a supportive project environment are critical for managing complexity. Additionally, promoting a project culture that encourages problem-solving and adaptability can help navigate the challenges posed by a complex environment (Verzuh & Chamberlain, 2021).

Real-World Example - Denver International Airport Baggage System: The automated baggage-handling system at Denver International Airport is a classic example of project complexity that leads to failure. The complexity of the system, coupled with a chaotic project environment and unrealistic timelines, has resulted in significant technical issues and delays. The project was eventually abandoned, wasting millions of dollars and causing a 16-month delay in the airport's opening (Kerzner, 2022).

4. Mismanagement of User Needs

In addition to the aforementioned factors, mismanagement of user needs is a critical factor that often leads to project failure. It is essential to accurately capture user requirements for delivering a product or service that meets the needs and expectations of its intended users (Robertson & Robertson, 2012). Insufficient time and effort invested in gathering and analyzing user requirements can result in a misunderstanding of user needs. Effective techniques such as user interviews,

surveys, focus groups, and observations are necessary to gain a deeper understanding of user needs and preferences. Even when the initial user requirements are well understood, projects can fail if these requirements change significantly over time without proper management. Changes in user requirements can arise from evolving business goals, market dynamics, or technological advancements. To effectively manage changing requirements, it is crucial to implement a robust change management process that includes mechanisms for assessing the impact of changes, updating project plans accordingly, and maintaining clear communication with all stakeholders (Robertson & Robertson, 2012). Incomplete or ambiguous requirements present significant challenges. If the requirements are not clearly defined, the project team may interpret them in various ways, leading to inconsistencies in the final product. This lack of clarity can lead to rework, delays, and increased costs. To mitigate this risk, it is essential to thoroughly document requirements and seek clarification whenever there is uncertainty. Techniques such as use case analysis, user stories, and requirement workshops can help ensure that all requirements are detailed, unambiguous, and agreed upon by all stakeholders.

Real-World Example - Windows Vista: Microsoft Windows Vista is a noteworthy illustration of the mismanagement of user requirements, resulting in a software project's failure. Despite the high expectations preceding its release, users discovered that Vista was sluggish, incompatible with existing hardware and software, and needlessly complicated. The root of these problems is the inadequate comprehension and resolution of user needs and preferences during the development process. Consequently, negative user feedback and poor adoption rates pressured Microsoft to expedite the production of Windows 7, which sought to rectify Vista's shortcomings (Crowley, 2017).

Conclusion

In conclusion, effective communication, resource management, a supportive project environment, and a thorough understanding of user needs are crucial for achieving successful software project outcomes. By concentrating on these aspects, project managers can minimize the risk of failure and increase the likelihood of delivering projects on schedule, within the budget, and to the satisfaction of all stakeholders. It is essential to address these issues early in the project life cycle to overcome challenges and achieve project goals.

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