

Exercise 3

Ans 1 In software development, effort and cost are closely related. The bulk of the cost of software development is due to the human effort involved. Therefore, the effort computation is used in both the cost and the schedule estimate.

Here are some key factors that can influence the cost and effort:

Scope and Complexity: The most significant factor impacting software development cost and effort is its scope and complexity. Larger and more complex projects often require considerable time, resources, and a skilled workforce.

Technology Stack: Different programming languages, frameworks, and tools have varying levels of complexity. They also have various learning curves and community support. Moreover, the availability of experienced developers in a specific tech stack can also influence software development costs⁴.

Human Resources: Hiring highly skilled and experienced developers may be more expensive upfront. But it can lead to a smoother development process. It also reduces the likelihood of costly errors and delays—issues that contribute to additional expenses.

Project Timeline: Your time frame for the development project is another key factor affecting the software development cost. Shorter timelines may require more resources to meet deadlines. It can potentially increase costs due to overtime or hiring additional staff⁴.

Testing and Quality Assurance: Cutting corners on testing and quality assurance can lead to higher costs in the long run due to the need to fix bugs and other issues.

It's important to note that these factors can have varying impacts on different projects. The exact impact would depend on the specifics of the project, including its size, complexity, and the team working on it. For a more accurate estimation, it's recommended to conduct a detailed analysis considering all these factors.

Ans 2 Agile projects often require less effort compared to traditional projects due to several factors:

Iterative Development: Agile follows an iterative process where projects are divided into sprints of a shorter span. This allows for continuous improvement and adaptation, reducing the need for extensive planning and rework.

Flexibility and Adaptability: Agile emphasizes flexibility and adaptability, allowing for changes and developments in specifications. This flexibility can reduce the time and effort spent on reworking or changing course mid-project.

Collaboration and Communication: Agile promotes effective teamwork, collaboration, and frequent customer feedback, which can lead to more efficient problem-solving and less wasted effort.

Reduced Documentation: Agile methods often require less comprehensive documentation than traditional methods, which can save time and effort.

Early and Frequent Testing: Agile methodologies incorporate testing early and often in the development cycle, which can help catch and address issues sooner, reducing the effort needed to fix problems later.