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HW 10

1. We discussed in-process metrics for both traditional (waterfall) and Agile methodologies.
A) Detail three in-process metrics for traditional development models. You can use methods discussed in class. Detail the pro's and con's for each method. Provide insight on what type of development projects the method would be beneficial. (Max 300 words)
Ans:

Schedule variance (SV): This variable measures the discrepancy between the expected and actual timetables. A positive number indicates that the project is moving ahead of schedule, while a negative number indicates that it is lagging behind. Using this indicator has the benefit of assessing whether or not the project is progressing along the anticipated path. If there are changes in the project scope, the planned schedule may no longer be relevant, making schedule variance less useful.

Cost variance (CV): This metric measures the difference between the planned budget and the actual budget. A positive value indicates that the project is under budget, while a negative value means that the project is over budget. The pro of this metric is that it helps in identifying whether the project is within the budget or not. A positive cost variance may suggest that the project is performing well financially, but this may not be the case. For example, the project may be behind schedule, which could result in additional costs.

Process Metrics: When developing, implementing, and maintaining a software system, many methods, tools, and equipment are utilized. These qualities are measured by a process metric. One kind of process metric is requirements metrics, which also include metrics for test execution and development like the total number of test cases and the cost of low-quality work (rework effort), as well as metrics for project planning, project management, and assessment. Pros, By analyzing metrics related to development and testing efforts, project teams can identify potential risks and take proactive steps to mitigate them. con, In order to be effective, process metrics require a significant amount of data collection and analysis, which can be time-consuming and resource-intensive.

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B) Detail three in-process metrics for Agile development models. You can use methods discussed in class. Detail the pro's and con's for each method. Provide insight on what type of development projects the method would be beneficial. (Max 300 words)
Ans:

Velocity: A common project management statistic called velocity measures how much work a team does each sprint. The metric gives project managers a helpful understanding of the team's performance because it enables them to predict how much work the team will be able to do in upcoming sprints. Pros for this metric is if the team's velocity suddenly drops, this could indicate a problem with the team's performance or with the project's scope. Cons of this metric is velocity can be impacted by external factors, such as changes in project scope or resource constraints leading to inaccurate estimates

Cumulative flow diagram: displays the quantity of work items at each stage of the process. This statistic gives project teams a visual depiction of how things are done. This can aid in problem-solving and discussion by making it easier to spot process bottlenecks and inefficiencies. Disadvantage of this metric is The project's scope or the quality of the job are not taken into account in the diagram. This means that even if the procedure for the work is going smoothly, the quality of the job might not be up to the project's specifications or the project's objectives.

Burn-down chart: This metric tracks the progress of the project by showing the remaining work in a sprint. This metric provides a visual representation of the team's progress and can be used to identify whether the team is on track to complete the sprint within the allotted time frame. Pros, By providing a visual representation of remaining work, it helps team members stay motivated and accountable for their work. Cons, To be effective, the burn-down chart requires accurate estimation of the amount of work remaining. If estimates are inaccurate or incomplete, the chart may provide a misleading picture of progress.

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