



Technology Project Key Performance Indicators for Business Monitoring

There are many IT performance indicators utilized by Development Teams and IT Management, however, as a business unit that is impacted by a technology project some of these will help business participants and management monitor project status. The measures being identified should give business leaders and participants a view of crucial events unfolding during the development that could have a direct impact on their operation. This may include such things as implementation and development timing, assignment of resources for the development and testing process, training schedules for new software and testing requirements, issues found, and potential cost changes that may be charged back to businesses.

- Cost Variance (Planned vs Actual Project Budget) – this gives a time phased status for the cost of a project against the actual budgeted amount.
- Overdue project tasks – is the number of projects or tasks that did not meet scheduled dates/total number of projects or tasks. This can be done on an individual project basis to determine the status of project critical tasks or on an overall project basis when there are multiple projects being undertaken.

- Missed milestones – this indicates the actual number of milestones within a project that are overdue. It can indicate resource issues or the existence of unforeseen problems within the project work.
- Number of change requests – tracking the number of change requests will provide good information on both those related to scope changes and those that may be necessary due to issues that arose during development.
- Authored and automated tests – provides data on the number of test scripts and test cases to be utilized during the test period for new applications.
- Active defects – provides important information on the number of open defects found during testing.
- Tests executed – number of tests executed.
- Projects requiring customization – this tracks instances where applications cannot be utilized “out-of-the-box” thus requiring customization of code to be able to meet requirements.
- Project Issues tracking – identifies the issues found during the development and testing phases of a project. These can be categorized such as compatibility for hardware or software, interdependencies, security, or functionality issues that are highlighted separately.

Specific to Artificial Intelligence Applications

- False positive rate – this provides information on the number of times the AI has provided false information that was thought to be positive until further review of output was performed. It is $\text{number of false positives identified} / (\text{number of false positives} + \text{number of true negatives})$.
- Number of empty values – the actual number of fields in a data set that have missing values.
- Data transformation error rate – errors that arise during the conversion of data into different formats. This is the actual number of data conversion failures.
- Amount of Dark data – this provides information on unusable data that has errors. Percent of data that has known errors.
- Testing AI for bias and output – this should be the number of scenarios put through test that have not returned the expected result.
- Error rate – percentages of model responses that were incorrect or invalid.
- Latency – time between when a query is submitted to the model and responses returned.
- Accuracy range – expectation range for model accuracy.
- Throughput – volume of information an AI system can handle in a specified period.
- Integration & backward compatibility – upstream and downstream systems that will integrate directly with the AI system and applications.