

## ABSTRACT

University X is currently running a program for developing their integrated educational application. The program is being carried out by PT XYZ as one of the subcontractors involved. This program is a collection of sub-projects that consists of 37 applications and 10 teams. One of the project teams in this program is team 5 who is responsible for the development of ERP Application. In October 2021, this program underwent an amendment which caused many changes in various aspects so that a re-planning was needed. Project re-planning should have started after the amendment, but in reality, the re-planning started in December. A specific baseline for each sub-project is not yet available, so it can be said that this project has not yet re-planned. Some of the root causes are late planning, many changes caused by undefined milestones, team leader having lack of knowledge regarding reporting, and document writing that is not up to the wishes of University X which causes delays in document approval. These problems have potential solutions, that is by designing the scope, schedule, and quality baseline.

In this study, each design for team 5 is carried out using several methods. The scope baseline design is made using the decomposition method which divides the project scope and deliverables into small parts so that they are easier to manage. The schedule baseline design is carried out using the critical path method (CPM) to determine the total duration of project work to completion and the critical paths and activities on the project. Quality baseline design is carried out using internal control methods to identify possible errors or failures and explain how to prevent such errors from occurring.

The design results for the scope baseline consist of a project scope statement containing information on product scope, project scope description, deliverables, acceptance criteria, project exclusions, assumptions, and constraints. Then there is the WBS which consists of level 0 (project), level 1 (major deliverable), level 2 (work packages), and level 3 (activity). All components in the WBS are then explained further in the WBS dictionary which contains WBS Level, WBS Code, WBS Name, and WBS Description. The design results obtained for the schedule baseline is a Gantt chart as a visualization of a specific schedule for each activity on the project. In the network diagram, the results of the critical path calculation are obtained, and it is known that the critical path with the longest duration has a duration of 105 weeks. In gantt chart and network diagram, the order in which each activity is performed can be seen. The design results for quality baseline are quality metrics in which there are 64 possible errors and critical success criteria for 17 documents. Quality checklist as a tool to support document conformity checking using metrics determined in quality metrics. From the results of filling out the quality checklist for billing documents for term 2 with a cutoff date of July 31, 2022, 17 indicators are obtained with the status "OK" and have been approved, and 37 with the status "N/A".

The results of the design are useful for the project in assisting the project team in carrying out work in a structured manner, for knowing the achievements that must be met at a certain time period so that project activities can be well organized and can avoid delays in the project. The results of the design are also useful in helping the team find out the document standards desired by the client and create documents according to these standards, so that there are no obstacles to the document approval process, also avoid rework on document writing, and helping every progress on the project to have proper evidence.

**Keywords — Scope, Schedule, Quality, Baseline, ERP.**