ABSTRACT

PT. XYZ is a company that moves in the pharmaceutical industry that develops medicines for the public, one of which is Medicine P. In producing Medicine P, PT. XYZ set a target for the production output quantity which is 12 lots per week. Although, the average production output quantity is only 6 lots per week. Therefore, the target is yet to be reached. The production process has an impact on wether or not the target can be reached, and to measure the effectiveness of the production process, the standard time can be used as a measurement. Standard time is a time needed to finish a task on a certain workstation. PT. XYZ set a standard time for their production process which is divided into 3 stages, those are preparation, running, and cleaning. But, there are 7 out of 12 data where the actual production process time exceed the standard time. That is caused by the drawbacks in the production process activities, those are repetitive activities, separated activities, non value added activities, shortage of the number of machines, machine limitations, and documentation placement layout.

The process for the design refinement includes gathering data on production process activity list, activity cycle time, number of operator for each activity, and regulations for the production process flow. From the data gathered, the process will be streamlined using business process improvement. The reduction of the process time is done by identifying real value added activities, business value added activities, and non value added activities. Then the non value added activities will be eliminated. From there, some activities from the process will be merged for the production process without cleaning and with cleaning. After that, the production process will be modeled using business process modelling notation. The design refinement then will be verified based on the design specification which is the production process standard time for 1 lot. After which, it will be validated accordingly to fulfill PT. XYZ requirements which is using the available resources, the process time is more efficient, and the process model can be understood.

From PT. XYZ's Medicine P production process, there were 29 real value added activities, 7 business value added activities, and 1 non value added activities that were identified. That results in a new list of activities which some will be

merged. For the production process without cleaning, there were 5 group of activities that were merged. For the production process with cleaning, the running and cleaning stages were merged to reduce duplication of activities. After that, there were 8 group of activities that were merged. With the design refinements, compared to the existing design, the process time was reduced by 55 minutes or 7,01% for the production process without cleaning and 406 minutes or 31,37% for the production process with cleaning.

The design refinements can increase PT. XYZ's Medicine P production process efficiency and as a baseline for future improvements. With the design refinements, to reach the production output quantity, it will need 7 working days which means the target is still yet to be reached. In order to achieve the target, this thesis also includes other alternative solutions for other problems within the production process that can be done for future researches.

Keywords : Production Process, Business Process Improvement