ABSTRACT

Prisma Motor Kopo Cirangrang is one of AHASS certified service centre in South Bandung that provides Honda motorcycle. While running its business, this service centre is faced with the unachieved target of average number of customers every month. PT. AHM has set standards for each service center that has been AHASS certified. This situation needs to get attention, because it can lead Prisma Motor into many losses. One factor that may lead to failure to achieve the average number that had been set by AHASS is the unoptimum existing queuing system at the Prisma Motor Service Centre.

The objectives of this research is to provide the proposed improvements for the existing queuing system with several considerations of costs that will occur. The data that needed for this research is the arrival time data between the customer and the service time data, which later will be identified what the shape of the distribution are. After that will be simulated by ProModel with several scenarios. Each scenarios will show the average number of customers that can be served, the cost of operating expenses incurred, and how the income earned. So the scenario is selected from several scenarios that quantum mechanics can achieve the target average number of customers that have been set by AHASS and that gives more benefits to the company.

This study shows that the distribution of customer inter-arrival time at the Prisma Motor Service Station is exponentially distributed with a value of 4,15 motorcycle per hour while the form of exponentially distributed service time distribution with a value of 0,83 hour per motorcycle. Based on consideration of the number of customers can be served, the expenses incurred and the amount of net income earned, the quantum mechanical optimum is 6 with net income of Rp. 42.988.820,73 per month.

Keywords: Queuing Theory Model, Test Data Distribution, ProModel, Model Cost.