

ABSTRACT

The consumer need is increase for vechicle service in the Service Division of PT Nusa Sarana Citra Bakti as a main dealer for Suzuki cars. There is unserved queue, the kind of service item, amount of mechanic and number of stalls will affect the time of consumers in the system for service vehicles. This final report presents the results of simulation modeling and analyzing systems using queuing system to reduce the time consumers in the system. Queuing model applied in registration was a single channel multi phase, and the stall applied multi channel single phase. The simulation model was built using the modeling software Promodel 7.0. This simulation model use consumer car as an entity, 12 mechanic, and 12 stall as the resources. In the real system, the average time consumer in registration are 3,48 minutes, the average service time for all stall are 75,47 minutes, the average time in system are 78,95 minutes, the average time waiting are 4,00 minutes, the average of car output are 36,33 cars per day, and the average profit are Rp 526.536.653,78 per month. In the model of simulation, the average time consumer in registration are 3,69 minutes, the average service time for all stall are 68,67 minutes, the average time in system are 72,36 minutes, the average time waiting are 3,51 minutes, the average of car output are 35,93 cars per day. The simulation model of proposed system, by adding one stall will produce average time in registrasion are 1,91 minutes, and the average service time for all stall are 70,77 minutes, the average time in system are 72,68 minutes, the average time waiting are 0,44 minutes, the average of car output are 38,84 cars per day, and the company will receive the average profit Rp 596.467.120,20 per month. In the first month, the profit is decrease Rp 39.000.000,00 as the cost of return on investment. In the clustering of proposed simulation will produce the average time consumer in registration are 1,86 minutes, the average time waiting are 0,41 minutes, the average service time for stall express are 51,89 minutes, the average time in system are 53,75 minutes, and average of car output are 37,27 cars per day. The average service time for stall heavy are 202,59 minutes, the average time in system are 204,45 minutes, the average car output are 3,63 cars per day, and the average profit of clustering are Rp 558.299.335,63 per month.

Key Word: *queueing, waiting time, simulation, profit, promodel 7.0, clustering.*