

ABSTRAK

Antrian menjadi masalah yang timbul pada layanan publik seperti perbankan, karena tingkat kedatangan tidak sebanding dengan pelayanan. Maka penelitian ini di lakukan untuk mengoptimalkan sistem antrian *teller* pada PT. Bank Mandiri KCP Cikarang Kapten Sumantri. Waktu pengamatan 6 jam di 5 hari kerja. Disiplin antrian yang digunakan *First Come First Serve*, pola kedatangan berdistribusi *poisson* dan tingkat pelayanan berdistribusi *eksponensial*. Hasil analisa sistem antrian awal dengan menggunakan 2 *teller* diperoleh tingkat kesibukan *teller* 98,05%, waktu tunggu nasabah 2,748 menit dan waktu tunggu nasabah dalam sistem 5,778 menit. Dari hasil analisa menggunakan metode *Jackson Network* maka untuk mengoptimalkan sistem antrian diusulkan untuk menambah 1 *teller*. Hasil dari analisa menggunakan 3 *teller* memperoleh hasil tingkat kesibukan *teller* 65,37%, waktu tunggu nasabah 1,243 menit, waktu tunggu dalam sistem 4,273 menit, jumlah nasabah antri 0,804 nasabah, jumlah nasabah antri dalam sistem 2,765 nasabah. Kemudian dilakukan simulasi menggunakan *software ProModel* untuk memodelkan sistem antrian yang diusulkan. Dari hasil analisa *Jackson Network* dan simulasi ProModel dapat disimpulkan bahwa sistem antrian dengan 3 *teller* menunjukkan hasil yang optimal karena mampu mengurangi tingkat kesibukan *teller*, meningkatkan jumlah transaksi nasabah di *teller* yang membuat bertambahnya keuntungan cabang dan mampu mengurangi waktu tunggu nasabah ketika bertansaksi di *teller*.

Kata kunci : Sistem Antrian, *First come first serve*, ProModel, Nasabah, *Jackson Network*

UNIVERSITAS
MERCU BUANA

ABSTRACT

Queuing is a problem that arises in public services such as banking, because the arrival rate is not proportional to the service. So this research was conducted to optimize the teller queuing system at PT. Bank Mandiri KCP Cikarang Captain Sumantri. Observation time 6 hours in 5 working days. The queuing discipline used is First Come First Serve, the arrival pattern has a Poisson distribution and the service level has an exponential distribution. The results of the initial queuing system analysis using 2 tellers obtained a teller busyness rate of 98.05%, customer waiting time 2.748 minutes and customer waiting time in the system 5.778 minutes. From the results of the analysis using the Jackson Network method, to optimize the queuing system, it is proposed to add 1 teller. The results of the analysis using 3 tellers get the results of a busy teller level of 65.37%, customer waiting time 1.243 minutes, waiting time in the system 4.273 minutes, the number of customers queuing 0.804 customers, the number of customers queuing in the system 2.765 customers. Then a simulation is carried out using ProModel software to model the proposed queuing system. From the results of Jackson Network analysis and Promodel simulation, it can be concluded that the queuing system with 3 tellers shows optimal results because it is able to reduce the level of teller activity, increase the number of customer transactions at the teller which increases branch profits and is able to reduce customer waiting time when transacting at the teller.

Keywords : Queue System, First come first serve, Promodel. Customer, Jackson Network



UNIVERSITAS
MERCU BUANA