ABSTRACT

Queue is an important part of operations management. Queue takes place in the manufacturing and the service sector. Queue is people or goods in a row waiting to be served and then leaving the row after being served.

The aims of this study are to analyze queue system applied in providing better service to customers by calculating the average number of total customer arrivals and the number of the average total people served time and to make optimization of the teller number operating.

The results showed that the model of the queue used by Bank X is a queue model of Multi Channel - Single Phase by applying queuing discipline namely First Come - First Serve (FCFS). The Poisson distributed customer arrivals pattern with values 0.100 and the exponential distributed services patterns with value 0.332. The total number of customer arrivals time(   ) is 0.93 minute/person and the total value of average number of people served time (μ) is 0.25 minute/person. Optimal number of tellers in providing customer service is by adding 2 - 5 tellers to the ones originally amounted to only 5 tellers. And the result of calculation shows that the queue waiting time which is originally 5.41 minutes turns to be 4.00 minutes. The utilization factor which is originally 74 % turns to be 37 % and the idle time of teller which is previously 26 % turns to be 63 % .

Keywords: queue, poisson, exponential