ABSTRACT

Queuing is a phenomenon that needs to be studied for the convenience of customers and the efficiency of the retail store itself if it solves queuing problems by opening too many payment counters where there will be budget overruns. If the payment counter that is opened is also less, it will reduce good service in terms of time efficiency.

Purpose of this research is to obtain the optimal value of the number of payment counters or cashiers needed so that a proportional value is obtained in the service delivery and efficiency of the ABC retail store.

Research method used in this research is descriptive quantitative with a research setting in the noncontrived settings category, namely research conducted in an environment that occurs in retail stores where events that occur are natural events.

Results of this research indicate that the queuing system model applied by the ABC retail store uses a queuing model with a double line (M /M/S). The performance of the queuing system at the ABC retail store is included in the corridor of the cashier service system which is quite effective because of the three time conditions all still have a value of Average number in the system (L) = 3 customers. Each time condition has a utilization value of 0.41/41% for quiet time conditions, 0.31/31% for normal time conditions and 0.38/38% for crowded time conditions. The optimal value of the ideal ABC retail store queuing system is that four server produces a utilization value of 0.62/62% for quiet time conditions, five servers produce a utilization value of 0.56/56% for normal time conditions and four servers produce a utilization value of 0.67/67% for crowded time conditions. It is hoped that research can be developed again by looking at the limitations of this research and adding factors that have not been considered such as the use of cost in determining the effectiveness of a queuing system.

Keywords: Queuing system, system utilization, system effectiveness, operations research.