UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

ANALYZING AND COMPARING CUSTOMER WAITING TIME IN ROAD TRANSPORT DEPARTMENT OFFICE USING QUEUING THEORY MODEL AND SIMULATION MODEL

(P26S19)

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ABSTRACT

A queue is something that usually happened in our daily life. People tend to face queue situation at the hospital, bank counter, post office and many more to get the service. However, long and unmanaged queues should not have happened. The effect of the queue is wasting time since people need to wait for hours before being served. Other than that, every organization has their own limited time to serve their customers. Due to that limitation, it leads to overcrowding and unmanageable queues for the customers.

In pursuance of this, queuing theory model will be applied for the situation in Road Transport Department (JPJ) located in Senawang, Negeri Sembilan. One of the main focuses is to analyze the customer waiting time in the system by queuing model and simulation model. M/M/s queuing model is being performed on the collected data. The data is collected for one days for about 4 hours. Furthermore, the simulation model is very applicable to every organization. This model will be carried out without built it in the real-world system. Therefore, simulation model by using ARENA software is used to build and verify the result based on the observation made. This research paper will be obliging the Road Transport Department' director in making the best decision to increase the performance of the services and increases the customer's satisfactions towards the services provided.