UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

OPTIMIZATION OF WAITING LINE IN FOOD AND BEVERAGE INDUSTRY SERVICE COUNTER USING QUEUING THEORY AND SIMULATION

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Abstract

The concept of queues is familiar with most of people and it exist all around us in daily live. In this study, queuing system is successfully being used to improve waiting line of a customers. Starbucks was chosen because there was a problem at their queue, customer had to wait longer in waiting time . So, the main purpose of this paper is to reduce waiting time of a customer for being served and also to optimize the number of service facilities that should be served. The data collected from Starbucks, Nilai has been analyze in terms of arrival time, service time, utilization rate and waiting time using Arena software with single channel single phase and single channel multiple phase. After the enhancement, its found that the average waiting time in the queue for counter 1 and counter 2 are decreasing from 6.8563 minutes to 2.5005 minutes and 6.8188 minutes to 4.7502 minutes.

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