

CASE STUDY FOR VINAYAK RESTAURANT QUEUING MODEL

Garima Sharma¹ & Priya Agarwal²

¹Assistant Professor, Department of Mathematics, SLAS Mody University Science and Technology, Lakshmanagarh,
Sikar, Rajasthan, India

²Research Scholar, Department of Mathematics, SLAS Mody University Science and Technology, Lakshmanagarh,
Sikar, Rajasthan, India

ABSTRACT

Waiting time and service system is a part of our daily life in various service areas such as: restaurant, ATM, Clinic, Toll tax, Ticket window in cinema, Bus stand and Railway station. Here, our focus is on Restaurant Management System. Every restaurant loses their customers just because of a long queue and maximum waiting time. Restaurant provides more waiting chairs only. We need to be improving the service time which shows improvement in queuing situation. Here, we apply queuing model. This paper aims to shows the multi-channel queuing model M/M/S. We use M/M/S queuing model since this restaurant has 10 service stations. We have obtained one month daily customers data from a restaurant named "Vinayak restaurant" in Laxmangarh, Sikar city. Using little's theorem and the multi-channel waiting line model M/M/S. we have determined the arrival rate λ service rate μ . The utilization rate ρ and the average waiting time in the queue before getting service. At Vinayak restaurant, the arrival rate λ is 1.40 customers per minute (cpm). Customer waiting time is 10 minute and the utilization rate is 0.49. We have discussed the benefits of applying queuing model to a busy restaurant.

KEYWORDS: Queue, Little's Theorem, Restaurant M/M/S Queuing Model, Waiting Time, Restaurant Data, (A, B, C, D..... X, Y, Zmanner)

Article History

Received: 06 Feb 2020 | Revised: 27 Feb 2020 | Accepted: 07 Mar 2020
