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# OBSERVING GENERAL SERVICE QUEUES BEFORE JOINING

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**Abstract:** The present investigation deals with a smart customer S, who uses a strategies of waiting and observing four parallel queues before joining. We analyze the system time of S for three distinct strategies and the best strategy has been indicated.

**Keywords:** Parallel queue, Strategy, Shift time.

## Introduction

The common queue discipline is the FCFS (first come first served) according to which the arrival of customers are processed for servicing in order of their arrival. These disciplines concern the choice of the next customer to be served when the sever terminates a service, for example units may be taken up service at random or the last come first served (LCFS) or on priority basis.

## Back Ground-

E.P.C. Kao [1], I.J.B.F. Adan [2], J.F.C. Kingman [3], K.L.Katz [4], M.I. Reiman [5], M.H. Rothkopf [6], M.K. Hui [7], S. Taylor [8], W.K. Gassmann [9], have been studied, with two parallel queues and two possibly heterogeneous servers. The inter arrival times are generally distributed with mean and the service times for the two servers are exponentially distributed with rates $\mu_1$ and $\mu_2$ respectively.

They assume that all customers, with the possible exception of a single smart customer, "join the shortest queue strategy". if the two queues are of equal length, the regular customers (i.e. all but the smart customer) pick either server with probability 0.5 with apologies to Rothkopf and Rech [6], no jockeying is permitted.

The smart customer has the option of waiting as long as it wishes before deciding which queue to join. In our investigation, one strategy has the Smart customer observing in empty system until a service completion occurs. Then the smart customer makes a decision as to which of the two queues to join. During the smart