# Literature Review

Queueing theory is one of the most important branches of modern probability theory that has been studied extensively since the beginning of the past century. Queueing theory attempts to describe queues through detailed mathematical analysis. As a result of its applications in industries, technology, telecommunications networks, information technology and management sciences, it has been an interesting research area for many researchers active in this field. Kleinrock [1] has done extensive work on the theory of queueing systems and their computer applications. Takagi [2] considers queueing phenomena with regard to its applications in performance evaluation of computer and communication systems. Chen and Yao [3] focus on analyzing the performance and optimization of queueing networks.

The first notation for characterizing the queueing system was suggested by Kendall [4] in 1953. He introduced a three-factor A/B/C notation in which A refers to arrival (or interarrival) distribution, B refers to the service time distribution and C refers to the number of servers in the system.

Ancker and Gafarian [5] study M / /1/ M N queuing system with balking and reneging, and perform its steady state analysis. Ancker and Gafarian [5] also obtain results for a pure balking system (no reneging) by setting the reneging parameter equal to zero. Multi-server queuing systems with customer impatience find their applications in many real life situations such as in hospitals, computer-communication, retail stores etc. Natvig [6] studies the single server queuing process with state dependent parameters mean arrival rate of customers (average number of customers arriving per unit of time). mean service rate (average number of customers that can be served per unit of time). the average time spent waiting in the system, including service.

# REFERENCES

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