

Apichaya Manoi 2010: Analysis of Queuing System for Customer Service at the Post Office : A Case Study of Kasetsart University, Bangkok. Master of Science (Statistics), Major Field: Statistics, Department of Statistics. Thesis Advisor: Miss Thidaporn Supapakorn, Ph.D. 110 pages.

The purpose of this research is to compare the current system and the two new systems of customer service at Kasetsart Post Office. In the current system, there are four servers. For the two new systems, the first one has three servers and the second has five servers. The service time for each server perform many distributions such as lognormal, gamma or weibull distribution. Only lognormal and gamma distributions are considered. Bayesian method is applied to estimate the parameters and Arena version 7.01 is used for model simulation in order to get the average waiting time and the average number of customers of both systems and queueing for analyzing the efficiency of the system.

After 1000 times of independent simulation, the second system is the most efficient system from those two distributions. For the lognormal distribution of the service time, the average waiting time of the system and queueing are 163.21s and 30.853s, and the average number of customers of the system and queueing are 3.1089 and 0.6048, respectively. For the gamma distribution of the service time, the average waiting time of the system and queueing are 164.99s and 26.6789s, and the average number of customers of the system and queueing are 3.1531s and 0.5242s, respectively. The result suggests that the second system requires one more server to reduce the average waiting time of the system and queueing, so the second system is another decision making when there are too many customers.

---

Student's signature

---

Thesis Advisor's signature