



## **A perishable inventory-queueing model with delayed vacation, negative and impatient customers**

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**Abstract.** We analyze a Markovian queueing-inventory system with delayed vacation, negative and impatient customers. In this article, we discuss two dissimilar forms of Markov chains based on state space arrangements, for modelling the system. Some important system performance measures in the steady state are derived. Finally, some cost minimization numerical results are presented.

**Keywords:** Inventory with service time, Perishable, Delayed vacation, Markov process, Negative and Impatient customers.

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