1145-91-1543   **Gopinath Panda*** (`gopinath.panda@gmail.com`), Pillar of Engineering Systems and Design, Singapore University of Technology and Design, Singapore. *Effect of information on the social efficiency of a service system in the presence of strategic customers.*

In this work, we study strategic behavior of customers in a single server Markovian queueing system with infinite buffer. Customers with respect to their acquired information are divided into two classes: informed and uninformed. The system manager reveals information about the number of customers present in the system and the state of the server to customers. Informed customers have full information about the system state and take decision whether to join or to balk the system upon arrival, whereas uninformed customers do not have system state information and decide to join the system with certain probability. Customers are charged a cost per unit time of their waiting in the system and receive a reward after service completion. Customers always try to increase their own benefit by making decisions at their arrival instant and the manager tries to maximize the social welfare by controlling the information level. We are interested to study the individual and social behavior of customers under equilibrium of this game. The effects of information level on customers' equilibrium and socially optimal balking strategies will be studied. Finally, several numerical results will be presented to exemplify the impact of queueing parameters on the customers' strategic behavior. (Received September 23, 2018)