

## Using Discrete Event Simulation Approach to Reduce Waiting Times in Computed Tomography Radiology Department

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**Abstract :** The purpose of this study was to reduce patient waiting times, improve system throughput and improve resources utilization in radiology department. A discrete event simulation model was developed using Arena simulation software to investigate different alternatives to improve the overall system delivery based on adding resource scenarios due to the linkage between patient waiting times and resource availability. The study revealed that there is no addition investment need to procure additional scanner but hospital management deploy managerial tactics to enhance machine utilization and reduce the long waiting time in the department.

**Keywords :** discrete event simulation, radiology department, arena, waiting time, healthcare modeling, computed tomography

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