

Advantages and Disadvantages of Simulation

Advantages

- i).** With the help of simulation, we can find the critical situation easily.
- ii).** New policies, Operating procedures, Information flows, etc. can be explored without disrupting the ongoing operation of the real system.
- iii).** New Hardware Designs, Physical Layouts, transportation Systems, etc. can be tested without committing resources for their acquisition.
- iv).** Time can be compressed or expanded to allow for a speed up or slow down of the phenomenon (clock is self-control).
- v).** Insight can be obtained about the interaction of variables and important variables to the performance.
- vi).** Bottleneck analysis can be performed to discover where work-in-process the system is delayed.
- vii).** A simulation study can help in understanding how the system operates or how a system will work.
- viii).** Simulation helps to give the answer of **what if** type of questions.
- ix).** It is useful for sensitivity analysis of the complex system.
- x).** It is suitable to analyze large and complex real-life problems.

Disadvantages

- i).** Sometimes Simulation models are expensive and take a long time to develop a system.
- ii).** The simulation model does not produce an answer by itself
- iii).** Each application of simulation is ad hoc to a great extent.
- iv).** It is a trial and error approach that produces different solution in repeated runs. And simulation does not generate the optimal solution to the problem.