

	Average E. Inventory	Average Shortage	MAX
I= 9, Y= 11, R=3	4.84	0.16	3
I= 9, Y= 10, R=3	4.48	0.2	3
I= 9, Y= 12, R=3	5.68	0.12	1
I= 9, Y= 11, R=2	3.2	1	8
I= 9, Y= 11, R=4	4.2	0.24	3
Mean	4.48	0.344	3.6
STD	0.906421535	0.369431996	2.607681

It is important to mention the assumptions that we have made to understand the behavior of this continuous review inventory system:

For our simulations the system is capable of delivering partial orders. In other words, if the current inventory equals 2 and there is a demand of 4, the system will deliver 2 units and declare a shortage of 2.

I am also experimenting with a second Inventory simulation, in which the system only delivers orders when the full demand is available. This assumption is fundamental when analyzing the simulation ending results.

As expected, we see from performing our simulations that when the reorder point is lower (R=2) the continuous review inventory system has a much lower average ending inventory, and the average shortage is approximately 3 or 4 times higher than for R=3 or R=4.

Also, it is important to notice that the Max shortage at one point when R=2 is 8, compared to 3 when R=3.

Evidently a reorder number higher than 2 would be a better strategy.

Varying the order level (Y) by 1 or 2 units creates much smaller differences between simulations.

The Best performance of the system (highest inventory – least shortage) is seen on simulation 3 (I=9, Y=12, R=3) whereas Simulation 4 (I=9, Y=11, R=2) creates the highest accumulation of shortage and slowest performance.