





Productivity###&#Desired\_Production\_Start\_rate###' #WIP\_Adjustment\_Time###(#Adjustme  
nt\_For\_WIP###)##Desired\_WIP###+##Inventory\_Adjustment\_Time###,  
\$Production\_Adjustment\_From\_Inventory###-##Desired\_Production###/  
#Manufacturing\_Cycle\_Time###0  
Shipment\_Rate###1#Analytical\_Inv#v#n#Desired\_Inventory###3#### Vacancies###?  
###Analytical\_Work#}#q#Labor###=##Desired\_Hiring\_Rate###@#Labor\_Adjustment\_Time###A  
#Average\_Time\_To\_Fill\_Vacancies###B#Hiring\_Rate###C#Analytical\_Labor#{#o#  
Quit\_Rate###F#Adjustemnt\_For\_Labor###G###Average\_Duration\_Of\_Employment###J  
Desired\_Labor###K#Analytical\_Vac#|#p##Standard\_Workweek#  
  
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Widgets/Week#Widgets/Hour/People

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Widgets/Week#Widgets#Weeks



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0!#0/##\*0.###12###(02##-0 ##)/0+#0###+0,###8#0#v# -122.22 \* ###(-0.35 \* =##) +  
14432.49 \* ###(-0.14\* =## )+ 7384.06 \* ###(-0.01\* =## )\* &##(0.1\* =## + 3.77) +  
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345.24 \* ###(-0.35 \* =##) -15933.98 \* ###(-0.14\* =## )+ 5861.32 \* ###(-  
0.01\* =## )\* &##(0.1\* =##-0.85) + 80000###1000#0C##+0D###19###8#07##/0?o##-7.87 \*  
###(-0.35 \* =#

) + 20.72 \* ###(-0.14\* =#

) + 89.1 \* ###(-0.01\* =## ) \* &##(0.1\* =## - 0.15) +  
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21.61 \* ###(-0.35 \* =#

) -21.22 \* ###(-0.14\* =# )+ 70.4 \* ###(-0.01\* =## )\* &##(0.1\* =##+1.42) +  
80###40#SDIM####SIDX####SDOC###00#Customer order rate is exogenous. A variety of  
test inputs allow users to try different patterns, including a step, pulse, sine  
wave, and random noise.IAdjusts vacancy creation so the firm has the desired number  
of vacancies.SThe rate at which the firm authorizes new positions and begins to  
recruit for them.&Hiring a new employee fills a vacancy.lThe average time over  
which the firm attempts to adjust the actual number of vacancies to the desired  
level.wThe number of vacancies needed to generate the desired hiring rate, given  
the expected time required to fill a vacancy.SWIP inventory accumulates the  
difference between production starts and completions.0#The level of finished goods  
inventory in the plant. Increased by production and decreased by shipments.  
Initially set to the desired inventory level.\The production start rate is  
determined by the labor force, productivity, and the workweek.0?Production is a  
third order delay of the production start rate, with the delay time determined by  
the manufacturing cycle time.DELAYMTR(0InputVar0, 0DelayTime0  
0[,Order[,Initial(1..Order)]]0)(Average productivity of the labor force.zThe  
desired rate of production starts, equal to the desired production rate adjusted by  
the adequacy of the WIP inventory.CThe time required to adjust the WIP inventory to  
the desired level.0The adjustment to the production start rate from the adequacy of  
WIP inventory.0#The desired quantity of work in process inventory. Proportional to  
the manufacturing cycle time and the desired rate of production.0#The inventory  
adjustment time is the time period over which the plant seeks to bring inventory in  
balance with the desired level. Initially set to 12 weeks.0#The desired production  
rate is adjusted above or below the forecast based on the inventory position of  
the plant. When desired inventory > inventory, desired production is increased  
(and vice-versa). Inventory gaps are corrected over the inv. adj. time.0#Desired  
Production is the demand forecast (Expected Order Rate) adjusted to bring the  
inventory position in line with the target inventory level.@The average delay  
between the start and completion of production0#The shipment rate is the desired  
shipment rate multiplied by the fraction of orders filled (the order fulfillment  
ratio. Shipments fall below desired shipments when the feasible shipment rate  
falls below the desired rate, indicating that some products are unavailable.#0wThe  
desired inventory level sought by the plant. Experience suggests that to maintain  
customer service by providing full and reliable deliveries, the plant must maintain  
a certain coverage of throughput (demand), estimated by the demand forecast.4The  
number of open positions the firm seeks to fill.##The labor force of the firm.sThe  
firm seeks to hire enough people to replace expected attrition and adjust the labor  
force to the desired level.bThe time period over which the firm seeks to bring the  
labor force in line with the desired level.XThe average time required to fill a  
vacancy and bring a new employee into the workforce.\_Hiring depends on the number  
of open vacancies and the average time required to fill a vacancy.#jThe rate at  
which employees voluntarily leave the firm. Determined by the average duration of  
employment.NAdjusts the desired hiring rate to bring labor in line with the desired  
level.0MThe average duration of employment is constant in this simple model, but in  
general depends on labor market and economic conditions, as well as employee  
satisfaction and other factors internal to the firm.vDesired labor is given by the  
desired production start rate, expected productivity per hour, and the planned  
workweek.##The firm's target for the workweek.FLID#####  
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DeskLaser 1600P##LPT1:#####MDE  
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#####ILK ###%020@#####0S0i0[0#0{0#0#0u0200#t0\$000#0#ILK ###&\_01#####0Y#!  
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#####0#d##0###0+0M##A#00000000□0 □#NOS #####RPT #####0##@#####^0W□r□a□

#RPT ####p#####nNf##RPT ####c#####80M:gRPT  
#####N#r#RPT ####jseW6AUX  
#####:##I######?#^r/FORM###WSWLRES  
#####WMX #####FORM###WLE SCI #####WPL1###  
#####\_FORM###DGWDVWT #####SHC1###

#####EQV ###

#####SHG #####AUR #####WCL #####ZOM1###  
#####R@SCR #####HSTY #####ICO #####CAP #####