

# An Analogy Describing IDEA's Pull Replenishment Model

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## Executive Summary:

The little story below paints a picture of how IDEA reduces inventory while, at the same time increases availability and sales. In the prevalent model, there is a decision point at every reorder, based on forecasts. IDEA establishes a one to one connection between consumption and replenishment. The only decision points are rare adjustments of the size of an SKU's pool of inventory. Our approach is not only easier, it reduces stock outs by an order or magnitude and typically reduces on hand inventory by half.

Imagine an old fashioned ice tea container/dispenser, the kind with a spigot on the bottom that you press with your thumb to get iced tea whenever you are thirsty. This one knows exactly how much you take out each time. It sends a signal to a distant iced tea dispensary which will send that exact amount back to the dispenser two days later. This is what we do precisely. In this way, we are guaranteed that what goes out comes in, one to one.

However, since there is a lag time between sending the signal and getting the tea back, it is possible that thirst levels may change. Normally, a few thirsty days are followed by not so thirsty days. The highs and lows average out. This means that the level of iced tea inside the container fluctuates but not so much as to overload the container or run dry.

Occasionally, thirst levels persist outside the normal range. If very few iced teas are desired for a protracted period of time, the ice melts making the tea so watery that it will only sell at a discount and even then not very briskly. This is something the iced tea company really doesn't like. On the other hand, let's say it is a hot thirsty week. You bring some friends over for some nice iced tea. You and your friends take considerably more tea out than you had been. Because of the two days it takes for replenishments to reach the dispenser, the smaller amounts coming in were from before it was so hot. The consequence is that the container becomes less full.

To deal with these rare occurrences, this wonderful container has another feature. It knows how full it is at all times. It keeps track of a maximum level. The maximum is the level that it gets to when you go away on vacation, in other words, when all the requests to replace what you have drunk have come back into the container without any more consumption.

It also keeps track of 1/3 of that maximum and 2/3 of the maximum. In the case I have described above where it is thirsty weather, the level of tea may have dropped below the 1/3 level. If it stays below this 1/3 for too long, the container calls for reinforcements. The reinforcements are in the form of 1/3 of the maximum. This extra tea arrives 2 days later. The initial choice of the maximum was made so that, in all but the most unusual circumstances, we have more than 2 days worth of tea so we can afford the wait for the reinforcements. At the point reinforcements are called for, a new maximum is set at 4/3 of the old one and everything continues as before.

Later there may be an unseasonably cold snap. If so, iced tea consumption drops to a trickle. The amounts coming in will be more than the amounts going out. In this case, the container will likely hold iced tea above the 2/3 mark. If it does so for a full 2 days (the replenishment time) the container signals the iced tea dispensary that it has reset the maximum level to 1/3 less, to avoid melted ice cubes and watery tea. Until people drink enough iced tea to draw the level below the new lower maximum, the dispensary stops replenishing what is consumed. This guarantees lower levels in the container, which are more in line with consumption. (Another benefit is derived at the dispensary. They delay more purchases and don't keep making tea and ice, which would be a waste of money in this circumstance.)

Up to this point IDEA is not using input from the forecast. Let's extend the analogy a little bit further to explain what happens when IDEA does use the forecast. There are some events which are known in advance which cause a lift in the demand for certain products or across the whole store. Where does the pure pull replenishment model break down?

There are days when the bridge club comes over. On these days, consumption usually doubles. Also, there are weeks when the price of iced tea is reduced to urge people to stop by. Such weeks are well known to increase iced tea consumed by 8 times. For the bridge club days we do nothing. The system simply takes increases of that size in stride. In the other case, in anticipation of the discount weeks, we would deliver 4 extra full containers at the beginning of the week and take them away at the end of the week.

IDEA'S WAY OF THINKING	IDEA'S METHOD
<ul style="list-style-type: none"> <li>• Neither an accurate forecast nor changing vendors is required for success</li> <li>• There is a way to both increase sales and reduce inventory</li> <li>• Supply chains sell less when clogged with inventory</li> <li>• In the long term, unless the supply chain sells more no link can sell more</li> <li>• We must help clients gain buy-in internally and with supply chain partners</li> <li>• The majority of our fees are based on improved return on inventory</li> </ul>	<ul style="list-style-type: none"> <li>• Verify the existence of inventory imbalances and the benefits of moving from a "Push" to a "Pull" system</li> <li>• Gain top management buy-in to the assessment and support of the approach</li> <li>• Build knowledge and understanding across the supply chain, at all levels</li> <li>• Utilize systems that deliver actionable information, integrated with existing software</li> <li>• Work with you until expected results are achieved</li> <li>• Share the tools and know-how to continually improve results</li> </ul>
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