

Elucidate Inventory Replenishment Simulations

Elucidate is a powerful solution for companies that hold physical inventories. **Its outcomes are simpler and reduced workloads and greatly improved product flow – much more profit from much less inventory with less effort.**

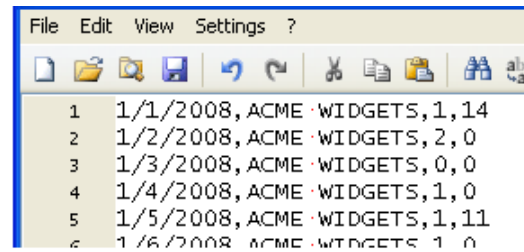
“Will Elucidate work for us?” Based on your own historical data, we use simulations to quantify some of your benefits from Elucidate.

Pick 5 movers – products that have significant dollar volume. Then, pick 5 to 10 other SKUs which are representative of your products. Include products that you feel are out too often.

Two data sets are needed to run simulations. The first type is daily transactional data. Only four fields of data are needed: *Transaction Date*, *Product ID*, *Quantity Out* and *Quantity In*. The data may be in any convenient format. Multiple entries for a day are fine. Zero entries are fine but not required when there is no activity. Examples of acceptable formats are shown below.

A	B	C	D	E
1/1/2008	ACME WIDGETS	1	14	
1/2/2008	ACME WIDGETS	2	0	
1/3/2008	ACME WIDGETS	0	0	
1/4/2008	ACME WIDGETS	1	0	
1/5/2008	ACME WIDGETS	1	11	
1/6/2008	ACME WIDGETS	1	0	

Sample of an Excel file with transactional data



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File Edit View Settings ?
1 1/1/2008, ACME WIDGETS, 1, 14
2 1/2/2008, ACME WIDGETS, 2, 0
3 1/3/2008, ACME WIDGETS, 0, 0
4 1/4/2008, ACME WIDGETS, 1, 0
5 1/5/2008, ACME WIDGETS, 1, 11
6 1/6/2008, ACME WIDGETS, 1, 0
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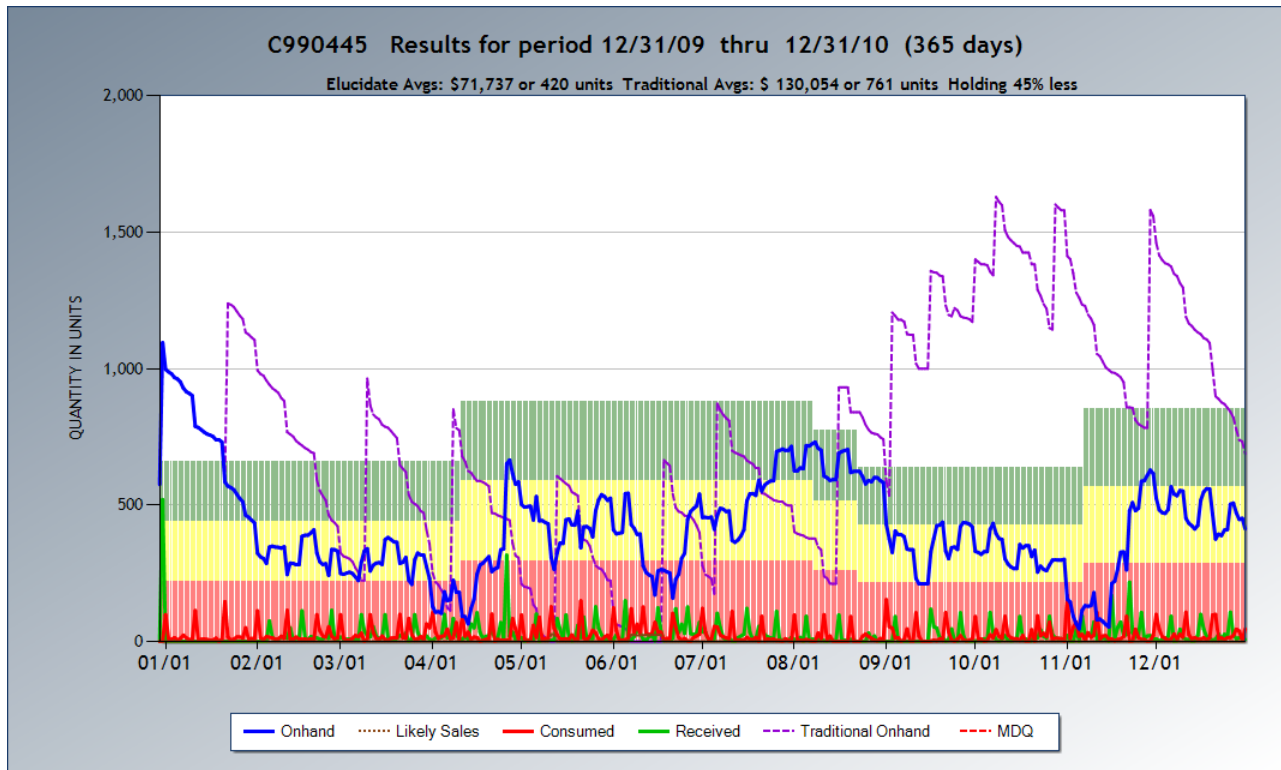
Sample of a comma delimited text file with transactional data

It is best to have a year’s worth of transactions to show seasonality. (When replenishment times are long, it is preferable to have ten or more replenishment times’ worth of transactional data.)

The second data set we need is product data, as shown below. Both *Beginning On-hand* and *Ending On-hand* are technically redundant but help us verify the accuracy and completeness of the transactional data. *Lead Time* represents the average number of calendar days, after a work order or purchase order is issued until goods are received. If goods are consumed internally, e.g. by a manufacturing process, *Price* may be the same as *Cost*. *Order Quantity* is the same as order multiple. *Minimum Order Quantity* might be required by a supplier or chosen by you to lower product cost and inbound freight, but not a calculated amount, such as EOQ or [Max – Min].

Product ID	Beginning On-hand	Ending On-hand	Cost	Price	Lead Time	Order Quantity	Minimum Order Quantity
ACME Widgets	64	23	0.295	1.1	42	12	24
ACME Gizmos	17	0	12.84	22.5	8	1	1
ACME Thingamajig	35	114	60.49	119	30	10	10

The chart below shows a typical sample simulation. The purple dotted line represents actual on-hand inventory during one year. The solid blue line represents the inventory levels Elucidate would have held. For this one product, there was over \$50,000 of inventory reduction without shortages (see subheading).



It is IDEA's sense that inventory should be used to reduce chaos in the workplace caused by expediting, firefighting and rush orders undertaken to support sales. If there is already enough inventory to protect sales, having more is a waste.

Send HenryCamp@IDEAllc.com data on your products.