

The following is an excerpt from...  
***Late Night Discussions on the Theory of Constraints***  
**By Eliyahu M. Goldratt**  
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**Late Night Discussion: Number 1**

*How to block your own distribution channels - a discussion on the automotive industry*

"Proximity is not just a matter of geography," I mutter as if to myself, but this time I succeed in triggering a reaction.

"Yes, you're definitely right," Jonah replies and leans forward to stir the ashes from his bulky cigar, "and those who choose to ignore it are paying very dearly."

Before the thick carpet of silence once again engulfs us, I hurriedly throw out the first cliché that comes to mind, "the Japanese." Lately it seems as if this always stirs up the conversation.

It doesn't fail. "Alex," Jonah asks me, "why do we tend to point to the people who do the logical things and not to the ones who stubbornly refuse to recognize the changing nature of reality?"

But this time I feel that my Israeli friend has gone a little too far. "We haven't lost yet," I say in somewhat hurt voice. This Japanese stuff is a double-edged sword, especially when you talk with foreigners.

"Hey, come down from your high horse." Jonah is smiling at me. "I don't relate to the hocus-pocus of cycles in global economy and the such. I'm just alluding to a much more practical day-to-day behavior that we see all around us in our industries."

This doesn't help much, I'm still irritated. "Would you care to elaborate?" I inquire stiffly of my Israeli friend.

"Certainly," says Jonah. "Imagine companies that produce many tens of thousands of different parts and assemble them into literally millions of different end products."

"What a logistical nightmare that must be," I contribute my two cents.

"No doubt Alex, but this is not the entire story. You have to take into account the additional complication that these companies are not producing to firm orders. They produce to market forecasts, that like almost any forecast, aren't exactly accurate. If you were in charge, where would you hold the inventories, in front of the assembly plants or as finished products?"

I don't rush to answer. Long ago I learned that with Jonah one had better take his time. "What are the products' shelf life?" I inquire cautiously.

"Oh, thank you for reminding me of that very important point," Jonah answers. "These companies have something they call model-year-change, which means that once a year all - not just some but all - finished goods are declared obsolete and the companies must get rid of them within a matter of a few weeks. This strange method was invented a long time ago as a means to boost sales, but now it's accepted as a fact of life.

"Under that strange scenario," I note, "it's obvious one should hold enough stocks of finished parts in front of the assembly plants and try to minimize the amount of finished assembled goods."

"Alex, can you be more specific?"

By now I'm thoroughly used to Jonah's style, so I just nod my head and ask, "What are the average production leadtimes of the various parts?"

"You can safely assume, about two weeks," Jonah replies with a trace of a smile.

"What is the assembly plant's capacity and what is their leadtime?" I ask.

"They have assembly capacity going through their ears, and the assembly leadtime is less than two days. But Alex, you know these pieces of data why do you ask?"

"Just checking. Under this scenario I would say that those companies should hold about 20 days before the assembly plants and five days in finished goods."

"What would you say if I told you," Jonah lays at last his bomb, "that they hold about one to three days' inventory in front of the assembly plants and often as much as 90 days of finished goods?"

I try to punch a hole in his balloon, "Come on Jonah, that is not the case, we both know which companies you are talking about and we're both aware that they hold almost no finished-goods inventories. It's the dealers' inventories." "Really?" Jonah grins, giving me the distinct feeling that, once again, I fell into a trap.

"Let me ask you some innocent questions. Where do you assume the dealers got the money to pay for the merchandise?"

"They borrow it from the car companies."

"And what is the dealers' collateral?" Jonah continues to pound.

The picture becomes crystal clear, but my Yankee stubbornness forces me to play on. "The cars themselves," I answer.

"How lovely," he says sarcastically, "and when the modelyear- change comes, who is giving the rebates, the dealer or the manufacturer?"

"OK, OK, you made your point. Realistically, as long as the end consumer didn't purchase the car, it definitely still belongs to the manufacturer. Yes, sometimes inventory is a liability. The Japanese are holding much less inventory at the dealers and so, even though they produce in Japan, they are remote from the American market only about one month, while we are more than eighty days away from our own market. Yes, proximity is definitely not a matter of just geography. And, as you said, those who choose to ignore it are paying very dearly. But Jonah why do we do it? What do you think causes us to ignore the changing nature of reality?"

"Alex, I don't think that we initially ignore it. We do try to cope with it. The car manufacturers of America did not ignore the continued erosion in their market share. They tried to cope with it and not just by offering empty excuses like cheaper labor, unfavorable currency rates and government support. Remember the inordinate investments that were poured into automation, the efforts to improve the logistical systems and the tremendous energies that were directed successfully to match and surpass the foreign quality?"

"So why don't we deal directly with the core problem? Why do we ignore the decisive fact that the inventories that we push on the dealers cause us to be unable to respond to the market needs?"

I sit quietly for a few minutes. "Jonah, it looks like a catch 22. How can they break this devastating bind? Let's not forget that on the financial reports of the car manufacturer, the dealers' inventories are registered as a complete sale. In the year that they will try to take this monkey off their back, it will be interpreted as a huge drop in sales. Eighty days of lost sales. That year, even though production will be cut to enable the inventory drain, they will have to report a loss of over \$10 billion. Nobody can sustain such a reported loss, not even these giants. I understand that it is really compensating for semireported sales in the past, but still."

"And what would the vendors do? Most of them cannot sustain such a major cut in orders." I continue to voice my gloomy thoughts loudly. "Even spreading the inventory reduction over several years doesn't look too promising. The car companies would have to report losses several years in a row. That might ruin their image in the market and cause a further erosion in market share. Tough problem. Tough."

"Well Jonah, will you please tell me what is wrong in my analysis? You are the one who claims that there is always a good way out."

"Yes, that is what I claim and as always the answer lies inŠ"

"Checking your basic assumptions!" I burst in. "What is the assumption that I erroneously assumed here?"

"Why do you want to reduce the dealers' inventory in the first place? To be closer to the market, right? For what purpose?"

"To increase sales, of course."

"If you know it, why do you ignore the probable sales increase in your equation? Try to describe the reality that will exist if for a given particular model you do not have the burden of dealers' inventory."

"OK, I'll try. Suppose we hold very few cars at a dealer. Enough for the customer to kick the tires, to get the feel.

Now what? The customer hopefully will place an order. For what car? Oh, I get it! The car has not yet been assembled. The parts are completed but the car has not been assembled yet. We could afford to present the clients with a matrix of options and ask them to specify the individual car that they really want. Since there's ample capacity at the assembly plants, and since the assembly leadtime including transportation is only five days, we could promise delivery to the client's house within one week. This would certainly have some positive impact on sales."

"And especially when we take some innovative steps in the engineering of the car. 'Design your own car,' I can almost see the advertisement. But let's dive down from the clouds. Jonah, do you really think that it's feasible to assemble to customer's orders?"

"For that I've only one answer," Jonah says, puffing on his cigar. "Why don't you check on what Toyota has recently started to offer to the Japanese consumer?"



### **Late Night Discussions on the Theory of Constraints** *by Eliyahu M. Goldratt*

This collection of Late Night Discussions originally appeared as a monthly column in Industry Week magazine.

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