

Some Relevant OM Research Topics

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May 28, 2014

To create more value for our POMS members, POMS has launched the POMS practice leaders forum in 2013. During our POMS 2014 conference in Atlanta, we asked this group of practice leaders (http://www.poms.org/pom_practice/poms_practice_leaders/) to share some key research topics with us that are relevant to their companies. Below is a brief summary of what we learned from them during an exchange session. You will find from below that there are many exciting research problems that industry leaders need us to tackle, and we should take up these challenging problems so that our OM community can continue to thrive!

Discussion question 1: What are the topics that industry would like academic researchers to look into?

1. Mattel:

How do you best manage explosive growth in demand - partnerships, rapid buildup of own capacity - as for example in Asia?

Challenge 1: When the macro economy is in recession, companies like Nestle typically under a great pressure to cut costs in order to remain competitive. For example, we are under a lot of pressure to cut our inventory cost right now. As a practitioner, what can we do to systematically provide actionable framework to help in the following (but not limited to) areas: 1) Identify SKUs with too high inventory level; 2) Provide proper inventory level recommendation.

2. Amgen:

In a global supply chain with markets in 75+ countries, how do you manage changes in the supply chain, where each change, .e.g., adding a supplier, may require separate approval in different countries and regions, needing as many as 50 approvals?

3. HP:

How do you measure and improve the effectiveness of the marketing spend? Where should sales force focus their efforts? Need better understanding especially in a world with online/offline sales.

4. Sonoco:

How do you continually add capability and yet decrease cost to the production process for packaging?

5. Sony:

The digital/physical supply chain comprises production and distribution of content. How do you take out cost out of the content production business? Distribution of content has been commoditized so difficult to take out costs there even though there is a huge variety in content producers and eventually as much variety in end customers as there are individuals.

6. Consulting:

Just as lean manufacturing went to lean supply chain, and agile manufacturing became agile supply chain, how do you go from manufacturing excellence to supply chain excellence?

7. Google:

Finding the right supply chain (and thus creating a portfolio of supply chains for different needs) is still a useful question and needs more nuance than currently exists. This may include suppliers creating intellectual property or a company creating its own.

8. Xilinx:

What is the cost of complexity in, say, make-to-order environment where capacity is a bottleneck? Accepting one change, and then another and then another can lead to an unacceptable increase in cost even though each change may be reasonable. There are attempts at this question but nothing satisfying.

9. E3 Associates:

Procurement is wasteful and not well connected to the supply chain. For instance, variability is 'monetized' well in the supply chain but not so for procurement. How do we better measure the value of procurement?

10. Airlines/Airports:

How will digitization impact manufacturing, the supply chain, and customer service/engagement from the airlines/airports viewpoint? Digitization may include use of eBooks, RFID, entertainment on demand, etc. at the airport and in the airplane.

11. Gas (Petrol) distribution to gas stations:

How to reduce costs and increase revenues purchasing from different suppliers? Can we include forward purchasing of gasoline as well?

12. Nestlé:

Challenge 1: When the macro economy is in recession, companies like Nestle typically under a great pressure to cut costs in order to remain competitive. For example, we are under a lot of pressure to cut our inventory cost right now. How can we identify SKUs with too high inventory level? How can we determine proper inventory level when the market is declining?

Challenge 2: In a business with strong seasonality and fairly tight production capacity, our inventory level at peak could be twice as much as that in the low season. Our current distribution network does not (maybe not want to) have the storage capacity to meet the peak demand. This brings us the challenge of how to manage overflow capacity effectively. More specifically there are a list of issues we need to address: 1) How to forecast accurately the overflow capacity requirement; 2) Where and how much overflow capacity to acquire?; and 3) What product to store and when to store in overflow facilities?

Discussion question 2: How can OM research add value to Practice Leaders?

1. Practitioners needs solutions: an index of existing methods and findings would be useful.

2. POMS Applied Research Challenge is helpful in bringing the two communities together.
3. It would be good to understand open questions and key findings on attempts to answer these questions.
4. Eventually, managerial usability is important: POM Review can be very useful.

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