Blended Master's of SCM students reflect on selecting Capstone Projects

Mamoun Toukan

For our capstone project, Queenie and I are studying the variables that affect the time to move containers from the terminal to the final destination. We hope to find how to minimize this time with the policy changes and investments in the hinterlands. We have taken Jordan as an example and chose to partner with Aqaba Container Terminal. It is the only container terminal in Jordan and is managed by APM Terminals. Currently, it takes about 8 days to get a container out of the terminal and about 10 days to have it delivered to its final destination.

We believe the value of the project would go beyond the data sponsoring company. The inspiration for the topic came from working close to the container terminal and seeing firsthand its inefficiencies and delays. I sincerely hope the outcome of the project can motivate the public and private sector to seek collaboration and implement improvements in the Jordanian transport chain.

Danaka Porter

I "found" my thesis topic by being immersed in the problem. I work as a defense contractor. Excess inventory was a rampant issue, so I asked around at other bases, other Prime Contractors, and Tier 1's to learn that it was a problem there too. So the best bet is look where you are currently working to see if there is an issue there that needs to be addressed.

The value for me is that I gain new knowledge and by developing models and an extension to the single period model, I can gain additional clients later on. For the company it will free up space, and will help them to better manage their inventory from the beginning.

The future application is a simple model extension that can be applied to all defense areas or companies who use single period models for incredibly expensive inventory that has a high shortage cost.

Priyanka Singh

When I got a chance to pick a company for my capstone project, I straight away approached Akshaya Patra (India based NGO). The response was very enthusiastic. The NGO was looking for MIT-level students to analyze its supply chain. My motivation to choose this project was because of the noble work done by the NGO and its simple but challenging supply chain.

This NGO is providing midday meals to 1.6 million children every day in coordination with the State Government of India to fight against hunger and dropping attendance of children in school. The challenge is to design a network of kitchens to feed the maximum number of children while keeping the fixed cost of centralized kitchens and transportation costs low.

Vicky Chan

My capstone project proposal idea came from a problem faced by a company that I formerly worked in. In the process of deciding the research problem, I kept in mind the selection criteria: quantitative focus and data availability. I approached my former employer as there was a high chance that I could obtain the needed data. Through the process of preparing the project proposal I had an opportunity to reflect on my work in that company and identify things that could be improved. If the project gets selected, I believe it would also be beneficial to the company in supporting better decision making in their operations.

Fabio Castro

The data and the problem came from a company I own (a small fuel retail business, together with a partner). I had been questioning myself, during the MicroMasters program, if a different supply logistics strategy could improve our competitiveness. We had all the data (sales, price and finance) to allow us to evaluate different strategies. What comes out of the capstone, we will probably apply there.

Blended Master's of SCM students reflect on selecting Capstone Projects

Minhaaj Khan

To find a topic for my capstone project, I reached out to a professional contact I'd worked with extensively throughout my career as an independent Supply Chain Consultant. In addition to asking him for a letter of recommendation, I asked if his company was interested in sponsoring 2 MIT students to help identify solutions to problems in their supply chain.

He said yes! We discussed some of the challenges his company was facing, and this got me to start thinking about how I could use the skills I developed through the MicroMasters courses to solve their problems. He was especially interested in applying machine learning methodologies to solve Supply Chain issues. This would end up becoming the foundation for my capstone project.

If we can successfully use machine learning to recognizing patterns and identify risks in the S&OP plan, our solution would provide tremendous financial benefit to the sponsoring company and could be used as a template to apply similar solutions across other organizations. It's been an amazing experience to watch the project progress and have the opportunity to apply so many innovative skills I only got a glimpse of in SC4x!

Rafaela Nunes

As a supply chain consultant, I really enjoy solving companies' problems and helping them in making the best decisions. This food chain business was one of my clients. They were expecting to face big supply chain challenges in the following year. They had an ambitious expansion plan where they would have to deal with new sources of uncertainty.

My proposal was to create a model that would take into account those different sources of uncertainty. The project would not only contribute to the company but for all small retailing chains who face expansion after an investment round. For me, it was great to think about how a local problem can be applied in a broader perspective, I really enjoyed this process.

Deepti Kidambi

As the Senior Manager of Logistics at my company, I led carrier negotiations and managed the entire logistics budget for the company, which was 50% of the COGS. When the company was looking to build its operational strategy to align with its 5-year business strategy, I took a lead on this. I built a Capacity Model for the distribution center and then with the knowledge I gained in SC2x, I built a simplistic Network Strategy Model. When I shared my initial work with the Chief Logistics Officer, he was impressed and sponsored me to run the whole network strategy project.

I went ahead and built a sophisticated logistics model and eventually ended up recommending the logical next location for the business. As the next step to this effort, a thorough inventory analysis was needed. I worked with the Sr. Director of Inventory Planning to build my capstone proposal that holistically covers inventory, customer experience, and transportation.

Andrew Fu

To come up with an interesting and relevant project, I reached out to an industry peer who served as a pricing manager of a major Asian Shipping Line (ocean carrier). During our brainstorming session, he suggested I develop a prediction model for ocean freight rates based on various economic and industry indicators (GDP, container capacity).

Having this discussion with him highlighted some of the issues facing shipping lines, whose profits are in large part dictated by their ability to match capacity (number of vessels, containers) with shipper demand. Developing an analytical model for predicting ocean freight rates would be valuable not only to shipping lines, but also to 3PLs and shippers.