



Lean manufacturing at a Carton manufacturer in Mauritius, 9-5 then marine life, running, and beer with friends.

Before departure

The idea of writing our master's thesis abroad had been on the back of Amandas head, as well as my own, so when I, one summer morning, casually and half-jokingly suggested it, we both burst into a state of pure joy and excitement.

There was a lot to do!

We had some friends who received the KTH MFS grant 2022 (the old name of KTH FS) so we immediately turned our focus toward this grant, for the money, yes, but even more for guidance, which I believe was even more valuable than the actual grant. The lunch lecture by KTH FS provided us with great information, and inspiration to start looking for a host country and company/project.

A myriad of applications later, we got in contact with Dakri Cartons Ltd. In Mauritius. A slow-moving industry in a slow-moving country, but with a CEO with big dreams of digitalization and better working conditions. The company continuously employs interns from Europe to piggyback on Western education. Perfect.

To us, Mauritius, with its astounding nature and unique culture felt like an adventure too enticing to turn down. In conjunction with the project proposed by the company, concerning digitalization, lean and working conditions, all central themes of our study at KTH, gave us only one option. We went all in!

From that moment until arriving in Mauritius was not easy, the work visa was a headache, the Mauritian government still works with paper copies, and Sweden works mainly with digital ones. Thus, asking Swedish institutions for paper copies, signatures, and official stamps (that sometimes did not exist) created many peculiar situations.

Upon arrival

The start date of our project is hard to pinpoint, some literature studies were done in the application for the FS grant, in October. We also refreshed and improved our knowledge in lean and IoT as requested by Dakri Cartons. The real literature review started for real in the middle/end of January, and we arrived in Mauritius mid-February. The study was done by the 20th of May.

Financials

Mauritius is generally cheaper than Sweden, however, this is contingent on how and where you live. We were living with the local population and not in the luxurious hotels. Lunch/dinner cost between 7-200 SEK, and my average meal was around 50. However, buying groceries was as expensive as in Sweden. This led both me and the local population to favor the unhealthy street food, filled with sugar and fat that is characteristic of this island. To save money on food, embrace the local cuisine, a mixture

of Indian and African dishes. My favorite was fried rice and samosas, others enjoyed rooti, but I was never convinced.

Moreover, since the factory a 45 minutes drive away from our house, Dakri provided us with a company car. This significantly decreased our travel costs since the rental car cost between 300-400€ per month. Since there were long distances between everything and an unbearable combination of heat and humidity, the car was a vital asset on the island.

Accommodation

The travel agency Alumno Astralis Mauritius helped us find the accommodation. We got to choose between two places in the small town of Flic en Flac. Both were close to each other and the beach. To prices between 2500-4000 SEK. We chose the cheaper one, it was older and in worse shape than the other one, but quieter at night, and closer to the beach.

Project

The nature and scope of the project had a couple of twists and turns. This resulted in a case study to reveal how lean manufacturing can be implemented by companies in Small Island Developing States (SIDS). By implementing different lean concepts at Dakri, we discovered what worked, and what did not. Of course, some things were company-specific, but the non-company specifics were of greater interest to our study.

On the first week of arrival, our CEO Mr Dakri invited us to an after-work by the beach. While gazing at the crimson sunset and enjoying a couple of local beers, “Phoenix,” he said something that would stick with me for the entirety of the trip, both as a source of motivation, but also fear. “You two are conducting the 12th student project at my company, and of those 11 before you, I have implemented 10 of them. You are the most important thing that is happening at my company right now. So assume that what you do will be executed and if you need any resources, I’ll make sure you will have them.” Scary...

On a normal weekday, the car left our apartment at 7:30, and we arrived at the company around 8:15. And depending on the phase in the project we did a couple of different things. Delving into lean concepts. Cleaning data, and analysing data. Working on the factory floor to get hands-on experience in how the factory is run. Only two things were reoccurred during the entirety of the project. Daily meetings with the CEO, where we shared ideas, and reported our progress and writing our report as we progressed in the study. The day ended at 17:00 where and we were home again by 18:00. Giving us time for leisure in the evenings.

For Dakri Cartons, the project resulted in strategic recommendations for redesigning their production and scheduling process to streamline production and reduce waste. And I’ve heard that work is in progress to implement these recommendations.

Country, Leisure and social activities

Mauritius was an amazing experience, the landscape out of a fairy tale, marine life out of an episode of Animal Planet, and history out of a history book that should have been a part of every school curriculum. However, in my opinion, the food, was abysmal.

The road home from work was not your usual commute. It was filled with mountains like you had never seen before, sugar cane fields stretched on for miles, and a red and yellow sunset that took your breath away.

I spent a lot of time in and around the ocean, snorkeling, scuba diving, and watching whales and dolphins. Turtles and eagle rays. Talking with the local people, I learned a lot about their marine life,

its beauty as well as what's threatening it. About the travels of humpback whales, the creation of the characteristic white sand, and the diminishing of the coral reefs. I won't go into detail but what I will say is that the local people are more than happy to share their knowledge, and that made all the difference.

They share not only about their marine life but also about their history. How Mauritius started as a sugarcane colony of France (a gross simplification) and later transitioned into service as the island became known as a paradise island. Its independence from the UK and questionable democracy. Famous memorial sites from slavery and the national animal, the Dodo, now extinct, serve as a symbol of the human race's effect on this planet.

I spent a lot of time running 10-20 km through the sugarcane fields, a truly mesmerizing experience, knowing all about all the wonderful and awful things. Running through the fields, with the canes blocking the views of everything except the sun and the famous mountains. Time stood still and my only concerns was breathing, sporadically being stalked by stray dogs, and wondering how it would taste to set my teeth into one of those sugarcanes. Now I can tell you. It was good!

With that said, I spent an equal, or even more time with a beer or "Ti punch" in my hand, the best drink in Mauritius, sugarcane syrup, lime, and a lot of rum. What I appreciated the most about the trip was deciding to use the help of the company Alumno Astralis Mauritius. They helped around 20 other students get internships in Mauritius and put us all on the same street. Thus, I spent almost every sunset at the beach, surrounded by friends, surrounded by laughter.

Sustainability

Unfortunately, we had to travel by car to our work, there was no way around that. However, we picked up two more students that were going the same way, carpooling and sharing the price of gas. Our thesis focused on lean manufacturing, being resource-efficient. The results of the research helped the company to reduce waste in many dimensions. Namely, waste in the form of broken products, inefficient use of energy, and inefficient use of labor. Together promoting SDG 8, 9, and 13.

Other recommendations and observations

For additional questions, hit me up on Instagram @henrikoksanen.