Littlefield technology game capacity

Through the game, we learnt how to analyses our production numbers and plot strategies to tackle the demand that was constantly changing. Strategy Our strategy was to obtain a stable utilization rate throughout all machines to prevent incurring any late penalty. For example at Day 50, before the game started, we observed that machine 1 was running at 100% utilization for a few days before, and we predicted a bottleneck situation would occur here. Therefore we decided to purchase an additional machine immediately as the game started so as to allow mutinous processing of lots to meet the demand and prevent losses In revenue.

After purchasing dilation machine 1, we continued observing the utilization of the machine. We were careful not to buy additional machines unnecessarily so that we can earn more revenue from the interest. On day 88, machine 1 hit 100% utilization for 4 consecutive days. However, the average revenue earned was still $1000 despite the high utilization. Therefore we decided not to purchase additional machines at station 1 . This proved to our favor as the revenue earned did not drop during this eroded of time even though station 1 utilization continue to be close to 1.

Furthermore, we continued to earn a higher interest than other teams who bought additional machines. Due to this plan, we were amongst the top few teams at this period of time. At day 120, a situation similar to day 88 began to occur; machine 1 hit 100% utilization continuously for 6 days and continue to hit close to 100% for the next few days. We had thought that we could tide through It Like before without the need of an dilation machine. However, this time round, a bottleneck formed at station 1 and the revenue started to drop quite severely.

Therefore, we decided that an additional machine is needed at station 1 to prevent further drop in the revenue. However, the purchase of an additional machine did not salvage our situation as the queue size at station 1 was too large. During this period, a lot of income was lost due to our production not being able to meet the 3 days of lead time. Our revenue only stabilized on day 130 for 2 days before dipping again. This time, the bottleneck rendered to station 3 and the queue has risen drastically to about 600 Jobs.

Therefore, we made the decision to purchase another machine for station 3. With this, our revenue finally stabilized at day 139. In the following days, we continued the strategy of monitoring the revenue, as well as the stations' utilization and queue size, before deciding whether to purchase additional machines. Following this strategy, we acquired a total of 4 Machine Is, 2 Machine as and 2 Machine as. As the demand fell towards the end of the game, we decided to sell off machines at the under-utilized ell as gain more interest, and increase our ranking before the game ends.

Therefore, at the end, we were left with 3 Machine Is, 1 Machine 2 and 2 Machine as. In the case of station 2, which executed steps 2 and 4 of the production, we were able to toggle between three policies: giving priority to First In First Out (FIFO), step 2 or step 4. In the early stages of the game, the utilization at station 2 maintained at a relatively safe level. However, at about day 120, the average demand began to increase and the utilization began to hit 100%. It remained at this range until we dad the decision to purchase an additional machine for the station at day 150.

As the performance of station 2 affects the Jobs arriving at station 3, the delays in production snowballed and this drastically affected our revenue. Conclusion In hindsight, it is unfortunate that we were not able to maintain our advantage as the leading few teams. We suffered a major setback during the day 120 period due to unexpected demand spikes and poor decision making. However, we did manage to salvage our situation in the end and obtained a respectable rank of 7th place.

We have learnt that we cannot assume the best of any situation and that we have to be prepared for sudden influx of demand and also that there is no one size fits all policy. The game simulates a real assembly scenario. While the strategy helped us gain revenue, the scenario does not comply with certain real life supply chain conditions such as taxes. All fixed overhead which we have no control, such as salaries, rent, utilities, etc. Are ignored. These factors will introduce more complexities into making decisions.