

Time: 5.40pm -

Location: SIS MR 4-3

Attended By: Janice Koh, Siong Min

Absent with Apologies: Hui Shia

No	Agenda:	Action By:
1	<p>First objective: Determine the factors directly impacting carbon emissions by ocean freight</p> <p>→ Cannot use response variables based on estimation and build a model. → values based on estimations will not result in an accurate model → TEU is not a measure and therefore not a good response variable → E.g. Taking a car's fuel consumption, one person may drive 8 gallons/litre and one may drive more economically so he/she is not driving at 8 gallons/litre. To say that the average person drives at 8 gallons/litre would be an estimation. This leads to the point that using TEU would not be a good representative and it will be wrong.</p>	
2	<p>What we should explore:</p> <p>→ Freight road analysis. → Focus on spatial temporal which answers the first part of our second objective: <i>"Identify the patterns for shipment based on fill rate. Suggest solutions to better optimize shipments."</i></p>	
3	<p>It will not be an environmental and sustainable project but it is possible to make it a good project based on freight road analysis.</p>	
4	<p>Our directions for this project:</p> <ul style="list-style-type: none"> - analyse the data - come out with a method to show the measures. For eg, TEU, billing rate, fill rate etc. There are several indicators to show - Look at the port to port (trade lanes) and spatial temporal. Find out if there are any seasonal patterns <ul style="list-style-type: none"> ○ There are a lot of different consignments. If it is agro based, there are seasonal patterns. Manufacturing based → tends to fill up higher. ○ When we start dissecting, we will see more patterns. ○ Ports alone have a lot of patterns. Look at HK & SH. SH might just be final destination, while some might be entry ports. There are different roles. There could be interesting insights from all these. ○ Clarified that our data are not for a single shipping company, but as a whole ○ The challenge is about the differentiation between the origin and destination. Group them together ○ 	

5	Scope of our project: Are we going to focus more on the analysis part or are we intending to develop something for our end users to visualize? Based on the time frame, we are only able to focus on one.	
6	Multivariate regression to find the factors. Dr Kam says "fair enough" and doable.	
7	Clustering and grouping → too big for our project. Do not include it.	
8	Multivariate regression to find the factors → kam says "fair enough"	
9	Doing clustering to help in determining. We have data that represents different trade lanes and different roads. Same road (sg > HK): some are 60% full loaded, some are 40% fully loaded. When we put together there is the graph. However when we isolate it, we will be able to see unique patterns. Just doing the clustering is enough to do the practicum already.	
10	Mid term presentation: do a quick exploration of this dataset. First, look through the fields and look at, either based on the trade lanes, the distribution analysis of it. Which are the most popular trade lanes? Less popular? Distribution by route, seasonal patterns findings. Based on this exploration, we further include what we think we are interested to find out and do further analysis. If we focus on fill rate itself, do a quick summary based on the Route. See which route is usually more utilized, the temporal patterns over the years. With different utilization, check if they are using different vessels. Are they same vessels? How is utilization rate determined? Cross reference the	
11	Use JMP to quickly generate some visualisations. JMP Is more straightforward than SAS EG. Take the installer from fs21 folder.	