SMU
SINGAPORE MANAGEMENT UNIVERSITY

School of
Computing and
Information Systems

IS483: IS Project Experience (Business Analytics)

AY 2021/2022 Semester 1

Project CDG

Technical User Guide for (***Business Users***)

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1.0 Brief Overview

This document entails a full guide on using and understanding the dashboard for Project CDG. Do take the following document as reference.

For further in-depth information on this dashboard, do refer to the Final Report, Appendix J.

2.0 Data Sources

To start, open a file from *Dashboard* > *Overall Mobility Demand.pbix* of the git repository [https://github.com/SMUxCDG/For-CDG-Ver.git], to use the dashboard on Power BI.

For data source reference, navigate to *Dashboard* > *data*:

1. *cleaned_survey*.csv
2. *csisg_agg_combined.xlsx* (average csisg score)
3. *reddit_csisg_text_combined.xlsx* (perception about singapore transportation)
4. *correlation_all.xlsx* (csisg top correlated factors)
5. *survey_agg_clustering.xlsx* (survey factor breakdown)
6. *population_agg_clustering.xlsx* (survey projected population numbers)

3.0 Dashboard

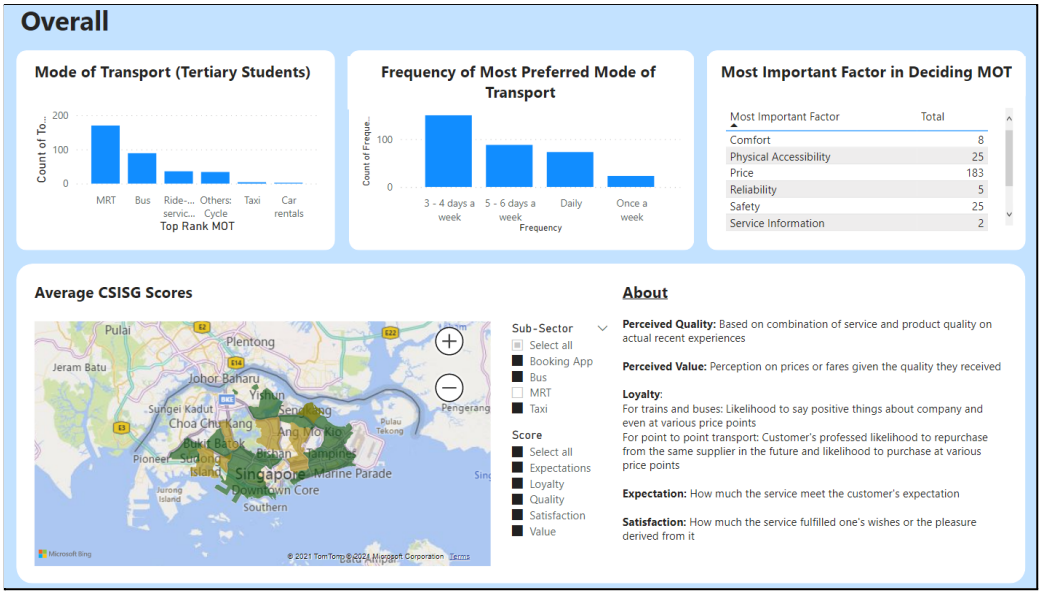
3.1 Read Me Tab

This tab provides necessary information on each tab and charts. It gives a summary and explanation of the visualizations available.

3.2 Overall Tab

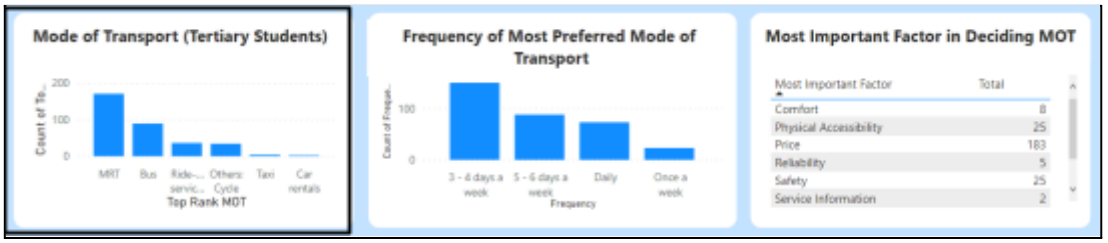
The user could view the overall ranking of Mode of Transport, frequency and ranking of factors in deciding Mode of Transport.

By filtering sub-sectors and question types, users could identify ratings of different planning areas.

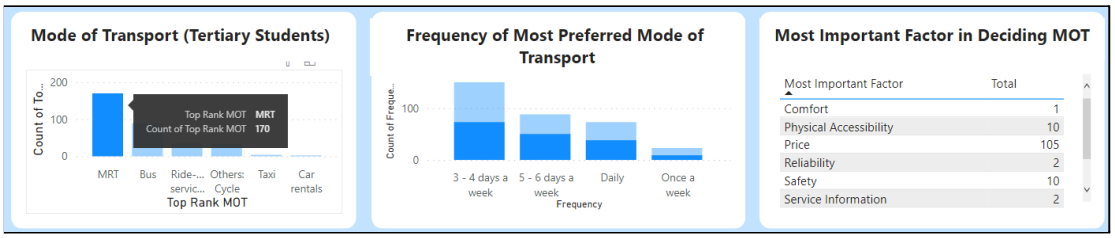


3.2.1 Mode of Transport (Tertiary Students)

This chart shows the mode of transport preferred by tertiary students, showing the count of each preferred transport.

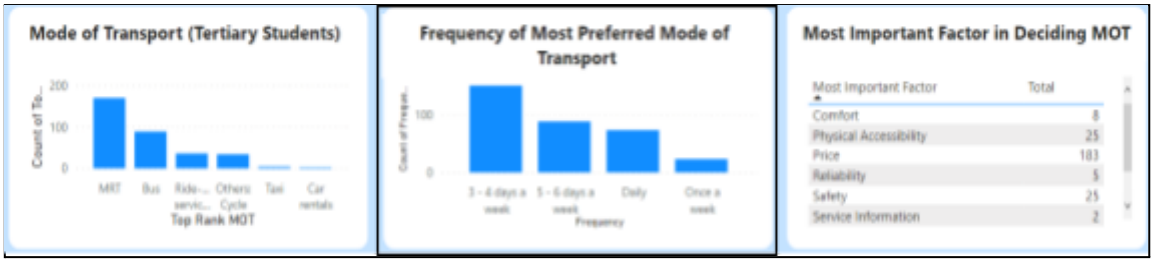


Filter by clicking on the bar chart and hover over to see the exact count value. "Frequency of Most Preferred Mode of Transport" and "Most Important Factor in Deciding MOT" will change accordingly after filtering.



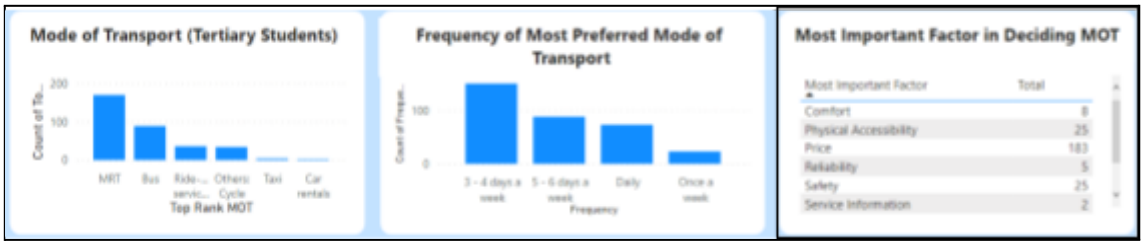
3.2.2 Frequency of Most Preferred Mode of Transport

This chart shows the travel frequency of tertiary students based on their most preferred mode of transport.



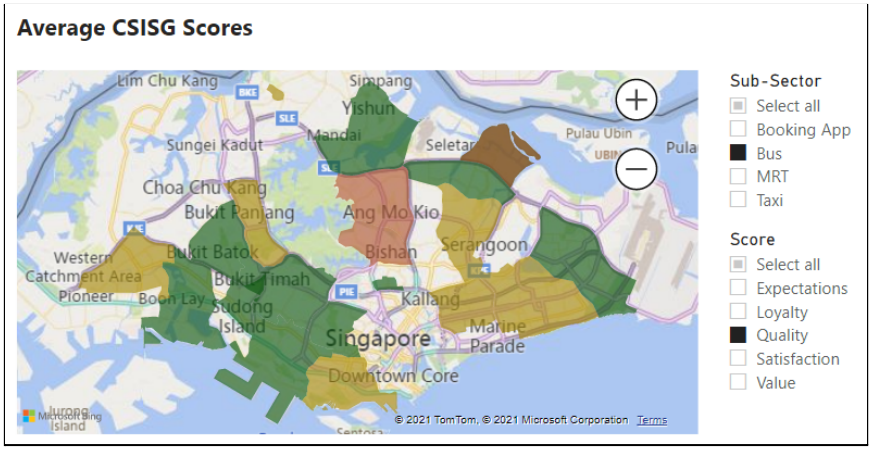
3.2.3 Most Important Factor in Deciding MOT

This chart shows the most important factor survey respondents choose when deciding which mode of transport to take.

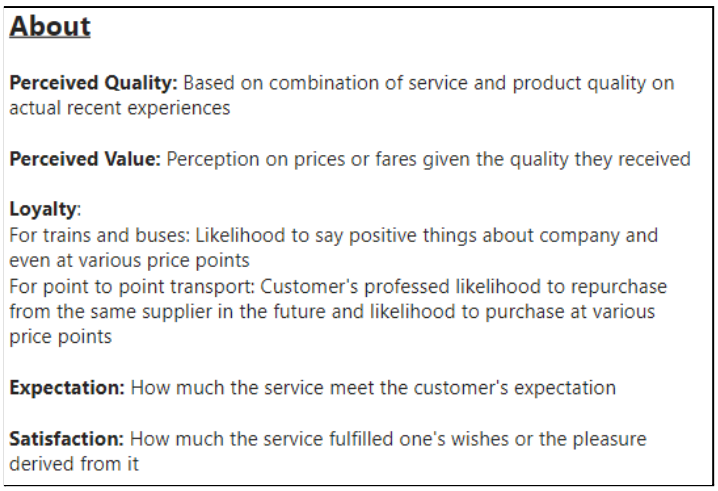


3.2.4 Average CSISG Scores

This map shows the average CSISG Scores based on each sub sector and score filters.



The definitions have been added beside the visualization for reference. The scores on questions asked by CSISG are perceived quality, perceived value, loyalty, expectation and satisfaction.



Filter by sub-sector and score to look into the scoring of different planning areas which follow a traffic light colour of Red (lowest) to Yellow to Green (highest) . By looking into the different ratings of planning areas, it helps users understand or potentially explore certain areas that have low scores.

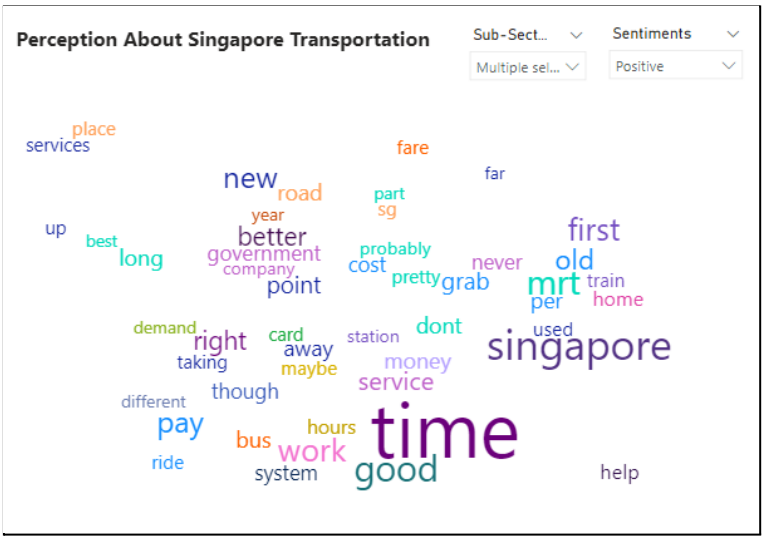
3.3 Perception Tab

By filtering subsectors and sentiments, the word cloud would display the top keywords and the donut chart would show the proportion of sentiment types.

3.3.1 Perception About Singapore Transportation

This word cloud shows the keywords discussed by Singaporeans about transportation.

Filter Sub-Sector and Sentiments type to identify top keywords.

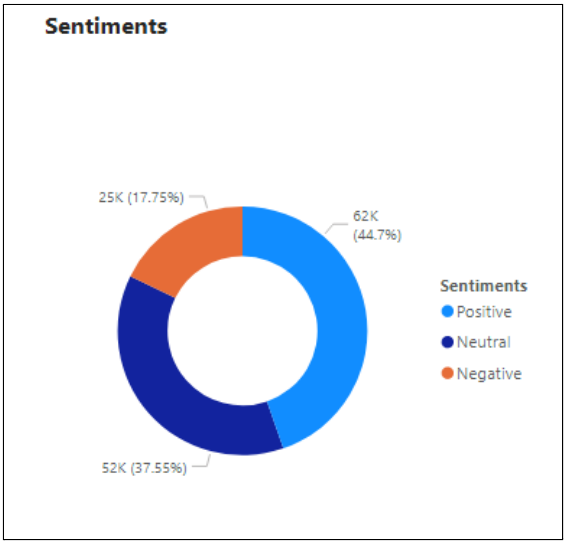


It also gives an overview of perception for different sub sectors. This feature allows user to discover possible gaps from keywords with negative sentiments and areas to learn from keywords of positive sentiments

3.3.2 Sentiments

This chart shows the different sentiment breakdown.

By filtering Sub-Sector and Sentiments, it will be reflected in the donut chart.

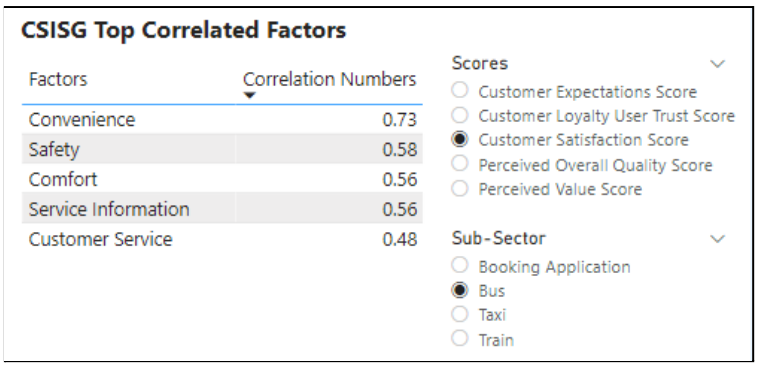


3.4 Demand Influencing Factors Tab

The user would be able to identify the impact of factors to each respective score based on the correlation results. By filtering the Survey Factor Breakdown graph, the user could identify factors that impact each cluster based on the extent of agreeability results and type of sub-sector. Survey Projected Population Numbers map can visualize the density of the clusters' population based on its respective planning areas. By comparing the results, the user can understand the behaviour of each cluster and point out the gaps of the market.

3.4.1 CSISG Top Correlated Factors

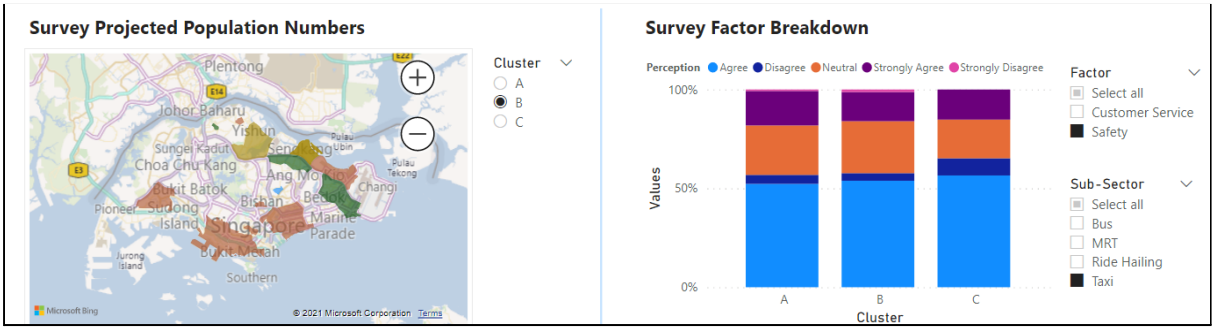
By filtering scores and sub-sector, the ranking of factors could be identified.



The user will be able to identify the ranking of factors most correlated to the different scores of subsectors. For example, users can look into different factors like Comfort or Convenience that are most correlated to perceived quality of taxi.

3.4.2 Survey Projected Population Numbers & Survey Factor Breakdown

"Survey Projected Population Numbers" shows the different clusters and their projected population numbers in each planning area. "Survey Factor Breakdown" shows the different perception breakdown per factor to identify characteristics of each cluster.



After filtering the factor and sub-sector, look at the survey factor breakdown visualization and identify the cluster that has the strongest opinion on different factors (Strongly Agree/ Strongly Disagree). Then, filter the cluster and identify planning areas in the map that are most for or against the different factors and strategies to improve certain factors of the planning area with the highest population.