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| meeting Minutes | |
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| Date: | 15 Mar |
| Time: | 1900 AEDT |
| Meeting called to order by: | Gandhi, Rupesh |

# In attendance

Chuang, Keith; Gandhi, Rupesh, Melbin, Joseph; Singh, Sonit; Tong Chiu, Yiu.

# Approval of minutes

NIL, first meeting convened.

# Meeting items

* Introductions
* Expectations of Assessment 1A
  + What proportion of the write is dedicated to each section (e.g. is the Gant Chart an Appendix or is a major deliverable and what milestones do we need to have completed, can we modify it as we go)
  + Structure
    - One paragraph for motivation
    - One paragraph for industry background
  + Is our research question locked-in after this point or can we review it and how late can we review it
    - If we realize that the topic/question that we have raised in the 1A assessment that is fine we can state that as an outcome and say the duration was insufficient for the question asked and recommend where we would go next.
  + Literature review, should have three sections? E.g. economy, computer science statistics?
    - Literature review based on the above three sections is a good option
    - It is not possible to go through every single model, so it is recommended to scope the models to what your strength and is
    - One person look at statistic model, one look at machine learning models, econometric models etc.
    - Each of the above is a single paragraph
    - Provide a recommendation of which one to use going forward. This will be a paragraph.
  + Project management section
    - Develop milestones/outcomes based on the following activities.
      * Collect data sets
        + You can utilize synthetic data, but it must make sense. Particularly for time series.
        + SMOTE, this may be an option. Particularly useful for tabular datasets. How well this will work you will need to assess and make the recommendations
      * Data cleaning
      * Data understanding/Exploratory data analysis
      * Model development
      * Model performance/assessment
      * Model utilization
      * Conclusions and Recommendations
    - Gantt Chart to reflect what this will look like. We do not require sub-milestones
* Expectations of Assessment 1B
  + How closely should ours algin?
    - Whilst this is an individual assignment you will have elements that align between all of you.
  + How is this supposed a individual assessment
    - This is to be done individually, where you can justify what your preferred tools and mediums are and then you justify this. Then you will say as a team we will utilize the X for data analysis etc.
  + What sort of depth are they looking for in the justification, noting 180-word limit
    - Address strengths of the platform, what is freely available (open source/you all have access). ~120 words on your preference and then ~60 words on what the team approach will be. Don’t reinvent the wheel for this.
* Review of proposed research question
  + **“Is temperature a sufficient independent variable to predict demand by?”**
    - It is a large domain and there are many variables that will impact demand.
    - You will need to scope what horizon you are looking at (short, medium (5-10 years), long term) e.g. if looking at short term, governmental policies will not have an impact on demands predictions. But population and demographic change and government policies will have an impact on mid and long term.
    - Will likely need to scope the research topic further.
    - If we scope this to short term, then you will likely focus on statistic and machine learning models as you are more looking at the immediate impacts (e.g. temperature). You will also be able to focus on fewer variables
    - If you start looking at medium to long term models then you will need more variables or econometrics models
  + Retrospective review of data in time series, that may rule government interference and technological development out of scope
  + Population (based on demographics) has a correlation, however, it is weakly correlated.
  + Weather, heat is a strong predicator. Storm seasons need to be considered, so locality.
  + Maybe consider machine learning, regression analysis and multivariate analysis
  + ARIMA for short term forecasting
  + SARIMA
  + MARIMA
* Recommendations for areas of research, development of research question
  + For a six-week engagement what has been viable and been useful
* Recommended next steps for Assessment 1

# Actions

* Finalization of team leader
  + Melbin, Joseph
* Role assignment
  + Analyst: Chuang, Keith
  + Analyst: Tong Chiu, Yiu
  + Project Manager: Melbin, Joseph
  + Researcher: Gandhi, Rupesh
* Distribute meeting minutes (Melbin, Joseph)
* Check for Sonit availability 1730 AEDT Mon 18 Mar (Melbin, Joseph)
* Book in subsequent Meetings (Melbin, Joseph)
* Establish Team Repository (Chuang, Keith)
* Establish Team One Drive (Gandhi, Rupesh)
* Assessment 1A Template (Melbin, Joseph)

# Deliverables

* Assessment 1A, due 1700 AEDT 19 Mar
* Assessment 1B, due 1700 AEDT 19 Mar
* Assessment 2, due 2200 AEST 09 Apr
* Assessment 3, due 2200 AEST 20 Apr
* Assessment 4, due 2200 AEST 23 Apr

# Next meeting

## The next meeting will be held at 1730 AEST 15 Mar.