**Jupiter Notebook**

**Requirements – OOC**

Required dataset - [issuevalue\_short.csv](https://langara-my.sharepoint.com/:x:/r/personal/qnguyen_langara_ca/Documents/Spring_2025/Capstone/Project_6_Case_studies/Case_1/Final%20Result/Final%20Codes/issuevalue_short.csv?d=w0faf9020a09f416b8dc05556fd831417&csf=1&web=1&e=hpKf1O)

Required libraries (Used in the notebook)

* numpy==1.26.4
* pandas==2.2.2
* scikit-learn==1.6.1
* matplotlib==3.9.2

**Install Dependencies: pip install -r requirements\_OOC.txt**

**Requirements – MCA**

Required dataset - [issuevalue\_short.csv](https://langara-my.sharepoint.com/:x:/r/personal/qnguyen_langara_ca/Documents/Spring_2025/Capstone/Project_6_Case_studies/Case_1/Final%20Result/Final%20Codes/issuevalue_short.csv?d=w0faf9020a09f416b8dc05556fd831417&csf=1&web=1&e=hpKf1O)

Required libraries (Used in the notebook)

* numpy==1.26.4
* pandas==2.2.2
* matplotlib==3.9.2
* prince==0.15.0

**Install Dependencies: pip install -r requirements\_MCA.txt**

**Requirements– BMFA**

Required dataset - [issuevalue\_short.csv](https://langara-my.sharepoint.com/:x:/r/personal/qnguyen_langara_ca/Documents/Spring_2025/Capstone/Project_6_Case_studies/Case_1/Final%20Result/Final%20Codes/issuevalue_short.csv?d=w0faf9020a09f416b8dc05556fd831417&csf=1&web=1&e=hpKf1O)

Required libraries (Used in the notebook)

* numpy==1.26.4
* pandas==2.2.2
* matplotlib==3.9.2
* seaborn==0.13.2
* pymc==4.0.0
* arviz==0.20.0

**Install Dependencies: pip install -r requirements\_BMFA.txt**

**cMCA\_TargetBackgoung**

Required dataset - [issuevalue\_short.csv](https://langara-my.sharepoint.com/:x:/r/personal/qnguyen_langara_ca/Documents/Spring_2025/Capstone/Project_6_Case_studies/Case_1/Final%20Result/Final%20Codes/issuevalue_short.csv?d=w0faf9020a09f416b8dc05556fd831417&csf=1&web=1&e=hpKf1O)

Required libraries

* geopandas==1.0.1
* pandas==2.2.2
* pandas-datareader==0.10.0
* pandas-gbq==0.26.1
* pandas-stubs==2.2.2.240909
* sklearn-pandas==2.2.0
* scikit-learn==1.6.1
* matplotlib==3.10.0
* matplotlib-inline==0.1.7
* matplotlib-venn==1.1.1
* numpy==1.26.4
* missingno==0.5.2
* scipy==1.13.1
* seaborn==0.13.2

**Install Dependencies: pip install -r requirements\_cMCA.txt**

**RMD File**

**Requirements – BS**

Required dataset - [issuevalue\_short.csv](https://langara-my.sharepoint.com/:x:/r/personal/qnguyen_langara_ca/Documents/Spring_2025/Capstone/Project_6_Case_studies/Case_1/Final%20Result/Final%20Codes/issuevalue_short.csv?d=w0faf9020a09f416b8dc05556fd831417&csf=1&web=1&e=hpKf1O)

Required libraries

* install.packages("tidyverse")
* install.packages("blackbox")