

## Structure of the SPL Paper

### Structure:

1. Introduction
2. Theory of Cluster Analysis in the Context of Mixed Type Data
  - a. Present standard. procedure of cluster analysis (for mixed data in contrast to numerical data)
    - i. Dissimilarity matrices
    - ii. Algorithms
    - iii. Determining the number of clusters
    - iv. Visualization
  - b. Literature review of cluster analysis for mixed data
3. Data and research set up
4. Simulation
  - a. Data Preprocessing
  - b. Display results of the different techniques
  - c. Visualization
  - d. Interpretation
5. Evaluation of Different Techniques
6. Conclusion

### Notes:

- Include Code in appendix
- Make Quantlets to graphics
- The above structure also functions as a description of the content for you to understand with to include in each paragraph

### Literature

#### RFM Concept

- [https://en.wikipedia.org/wiki/RFM\\_\(customer\\_value\)](https://en.wikipedia.org/wiki/RFM_(customer_value))

#### Missing imputation by rpart

- <https://www.r-bloggers.com/missing-value-treatment/>

#### Overview of diverse clustering techniques

- <http://girke.bioinformatics.ucr.edu/GEN242/pages/mydoc/Rclustering.html>
- copies from Härdle textbook in our github

#### Kmodes algorithm

- <https://dabblingwithdata.wordpress.com/2016/10/10/clustering-categorical-data-with-r/>

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Determining number of cluster

- <https://stackoverflow.com/questions/15376075/cluster-analysis-in-r-determine-the-optimal-number-of-clusters>

Hierarchical Clustering

- <https://medium.com/@anastasia.reusova/hierarchical-clustering-on-categorical-data-in-r-a27e578f2995>

Procedure for PAM Algorithm

- <https://www.r-bloggers.com/clustering-mixed-data-types-in-r/>
- L.J.P. van der Maaten and G.E. Hinton. Visualizing High-Dimensional Data Using t-SNE. Journal of Machine Learning Research 9(Nov):2579-2605, 2008.