1. Cluster analysis of questions

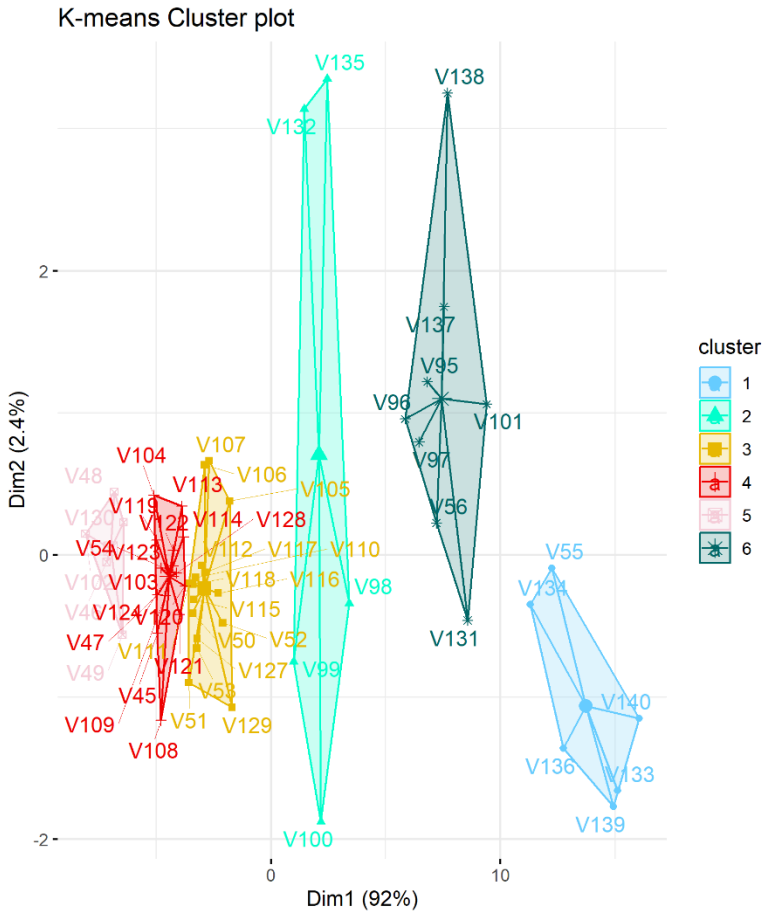

Figure 1 Cluster analysis of questions

I use k-means algorithm to do the cluster analysis. Here, I set k = 6. The questions sharing the same color are in the same cluster. For example, in cluster 1, questions are mainly about democracy and gender equality. The figure implies that these two topics are highly correlated.

2. Principal component analysis

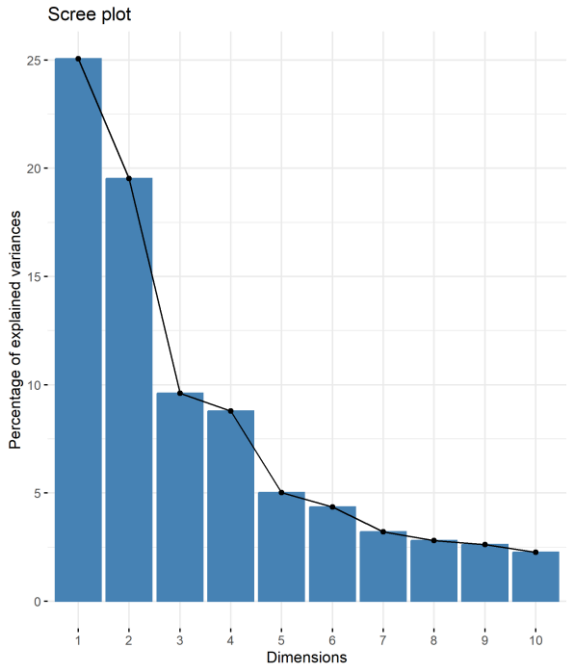

Figure 2 Percentage of explained variance

Figure 2 shows the distribution of percentages of explained variance by components.

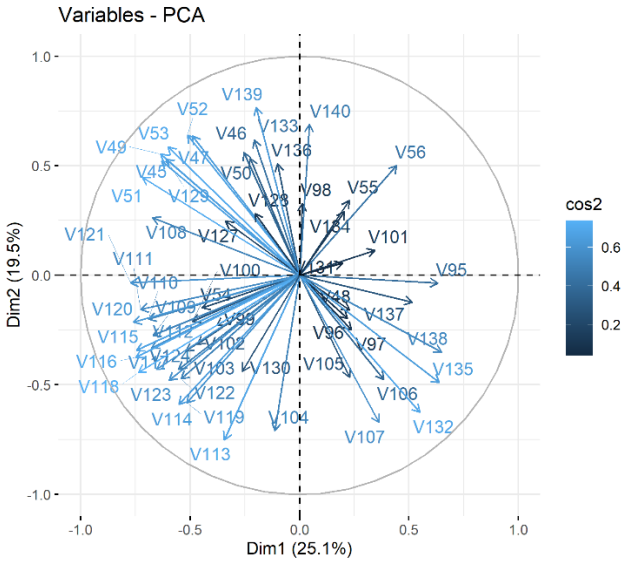

Figure 3 PCA variables plot

Figure 3 shows how different questions contribute to the first two major components. The longer the arrow, the larger the load. So we can see that for PC1, V132, V135, V113 etc. contribute a lot, while PC2 loads strongly on V120, V115 etc.

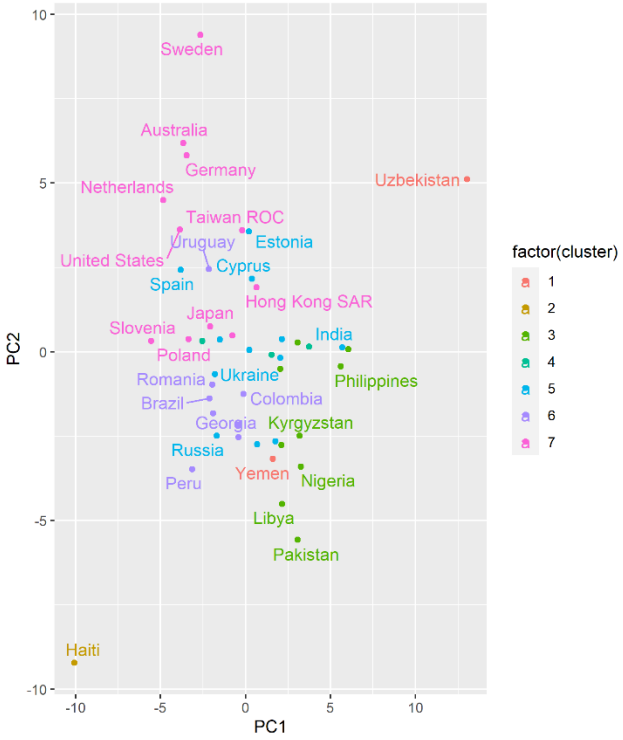

Figure 4 "Cultural Map"

Figure 4 shows a clustering analysis by countries but limited in a 2-dimensional space. Here, the clusters can largely be explained by income level. The pink points (cluster 7) are countries with a very high income; for the blue ones, they have a relatively high income; the purple points are middle-income countries and the green points are countries with relatively low income level.