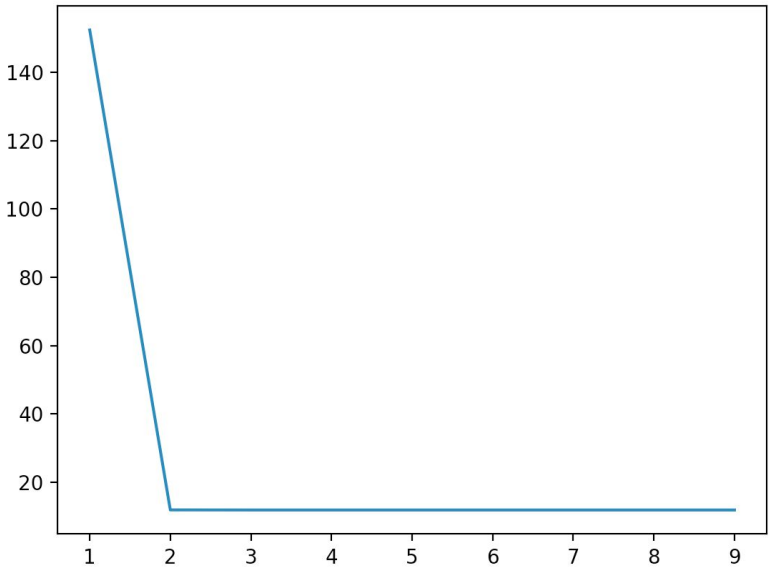
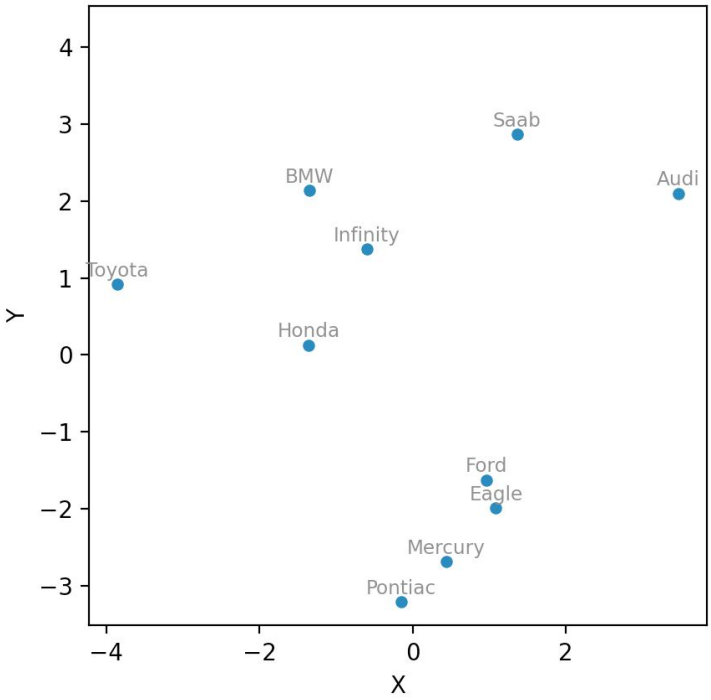
Customer Analytics - Hw 4

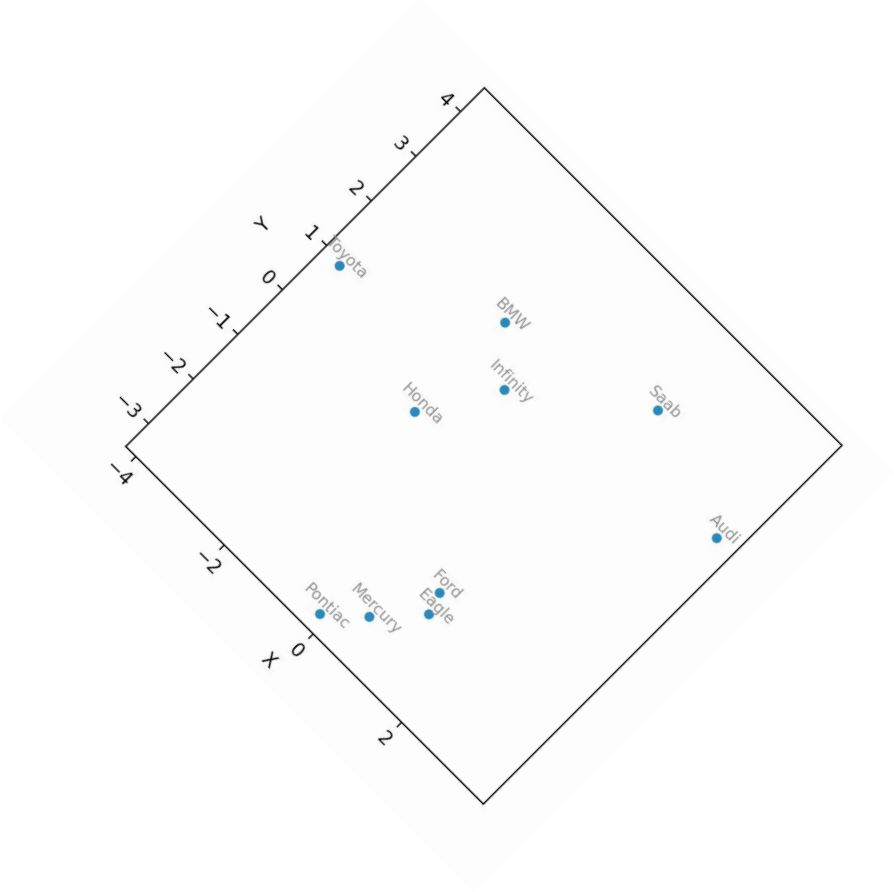
Part (A) Metric multidimensional scaling:

(1) After evaluating the plot, K = 2 seems like the best candidate.



(2)





Rotate the graph by 45 degrees clockwise. Kindly see the interpretations below:

Y-axis:

Determines how attractive, prestigious and successful the car is (while keeping the baseline as audi) / could be considered as high quality cars which are more attractive to the wealthier class.

(+ve) dictates cars better than Audi in the aforementioned category
(-ve) dictates cars worse than Audi in the aforementioned category

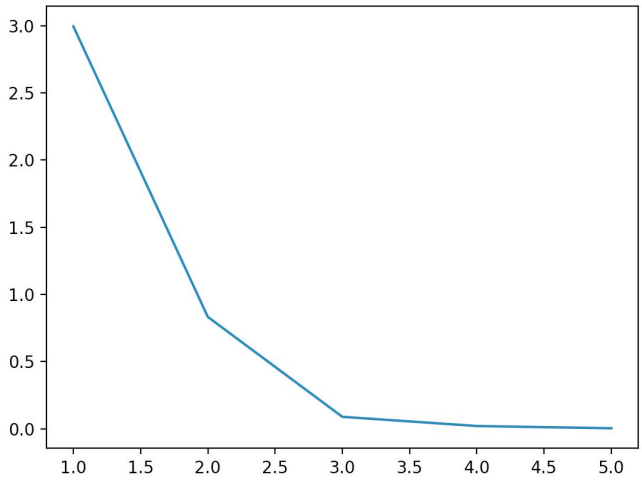
X-axis:

Determines how uncomfortable and roomy the car (keep the baseline as infinity) / could be used for targeting consumers who are young (-ve direction) vs who have a family (+ve direction)
(+ve) dictates how much more comfortable the car is than infinity
(-ve) dictates how much worse in the car in the category of comfort

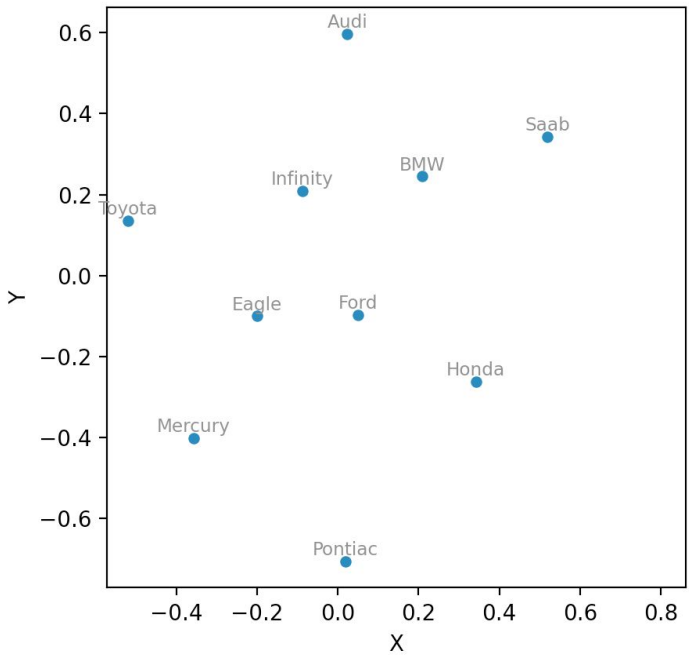
Part (B) Nonmetric multidimensional scaling:

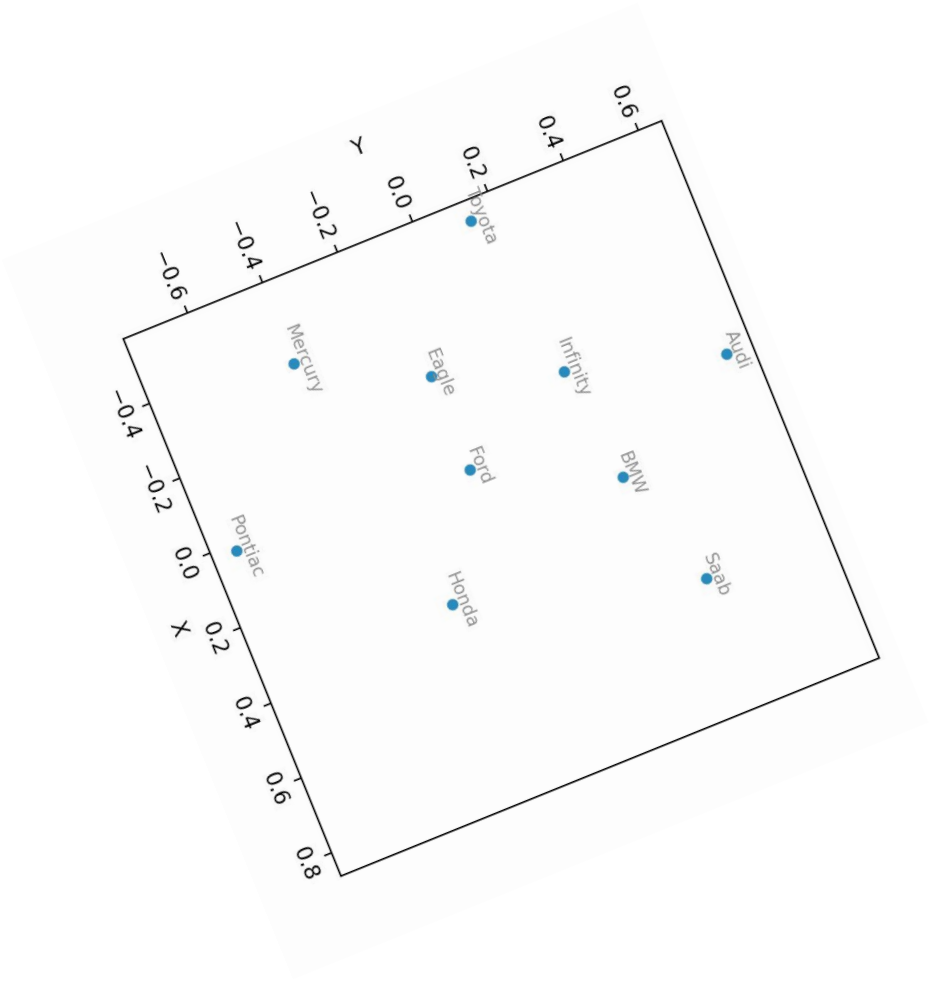
(1)

After evaluating the plot, K = 3 seems like the best candidate.



(2)





Rotate the graph by 68 degrees clockwise. Kindly see the interpretations below:

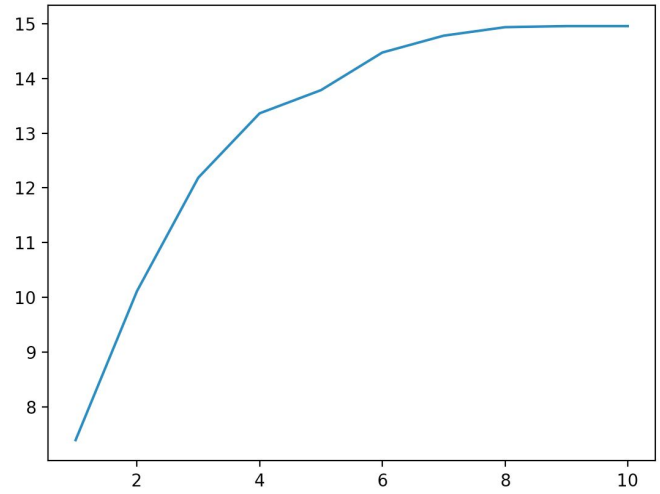
Y-axis:

Determines how less feasible the car (taking Ford as a baseline).
(+ve) dictates how less economical the model is
(-ve) dictates how feasible the car is

X-axis:

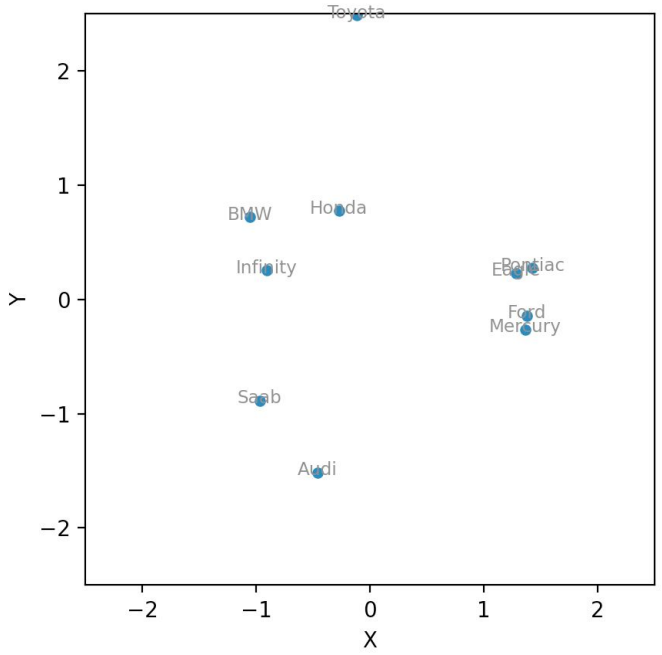
Determines how roomy and comfortable the car (keeping infinity as a baseline), mostly for people with families
(+ve) dictates how comfortable the car is / could be more quiet
(-ve) dictates how uncomfortable the car is / could be more sporty

Part (C) Factor Analysis

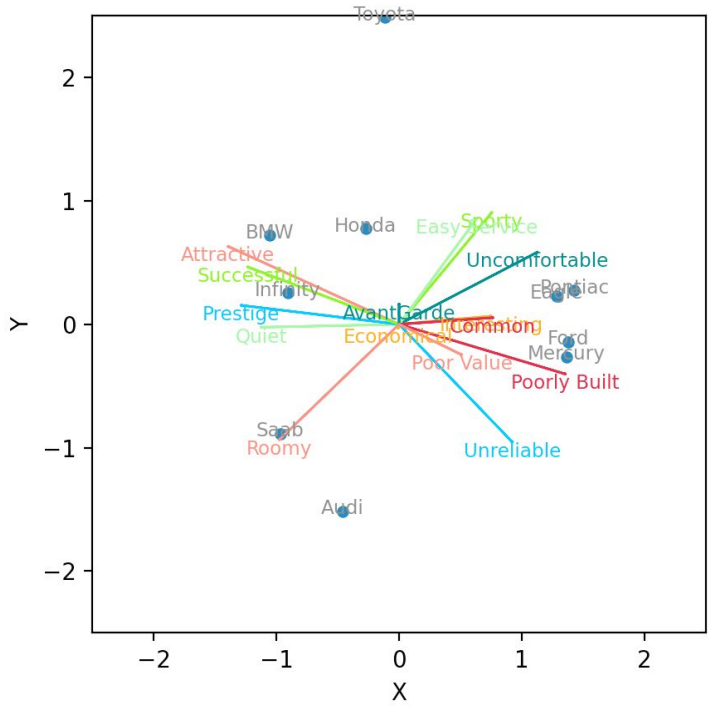


Looking at the graph, the most appropriate value for the number of factor seems to be 4.

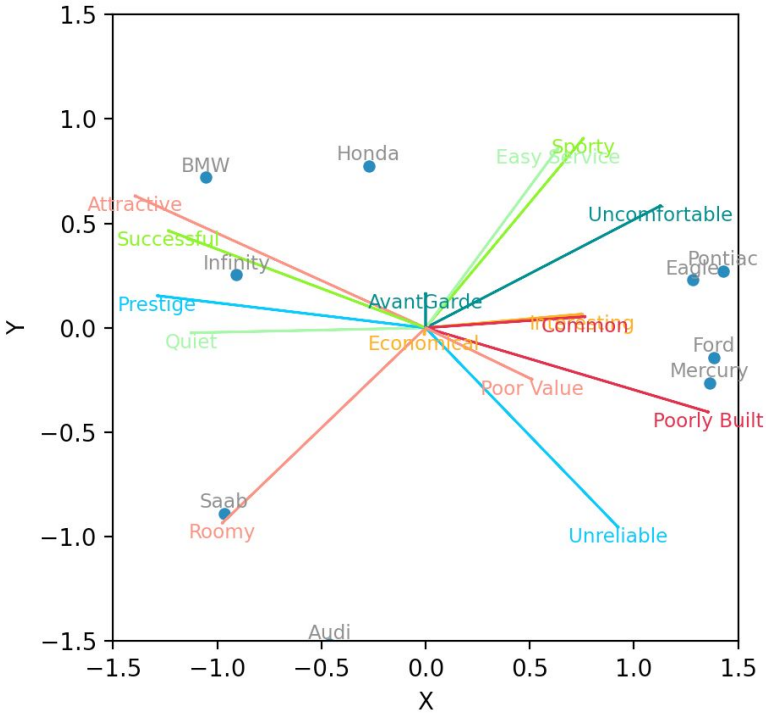
i) Perceptual map without attribute vectors

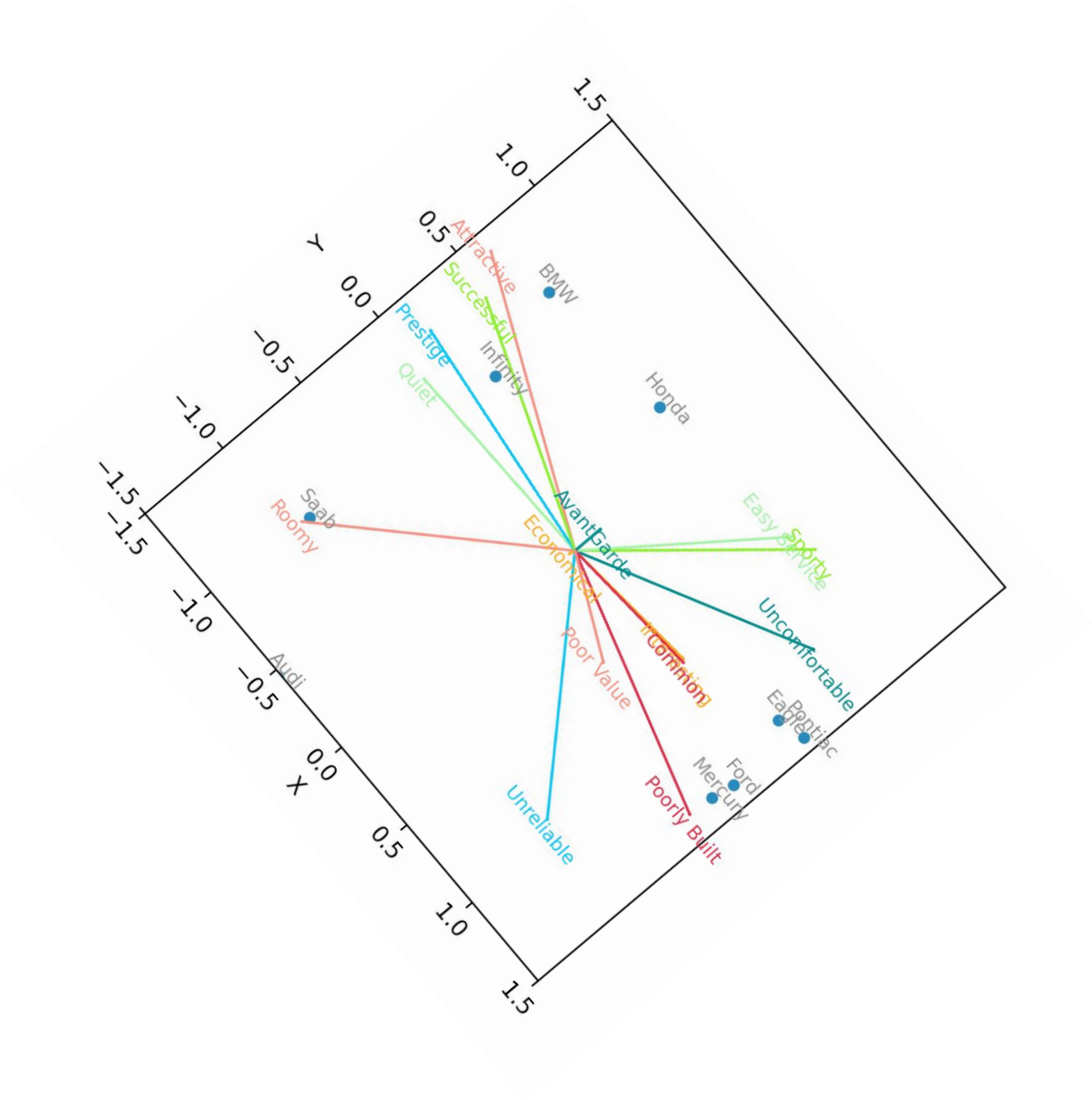


ii) Perceptual map with the points and the attribute vectors together



(zoomed in version)



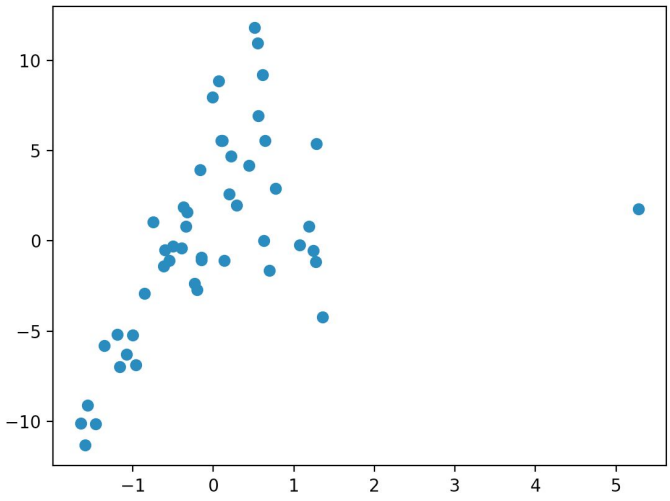


Rotate clockwise by 50 degrees.
Interpretations:
Y-axis: (+ve) dictates the attractiveness and success metric
(-ve) dictates the poor built and poor value of the car

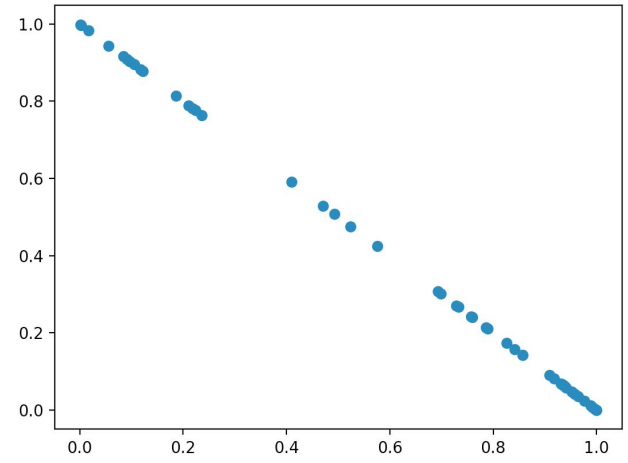
X-axis: (+ve) dictates how sporty and easy service the car has
(-ve) dictates the roominess of the car

4. Optional

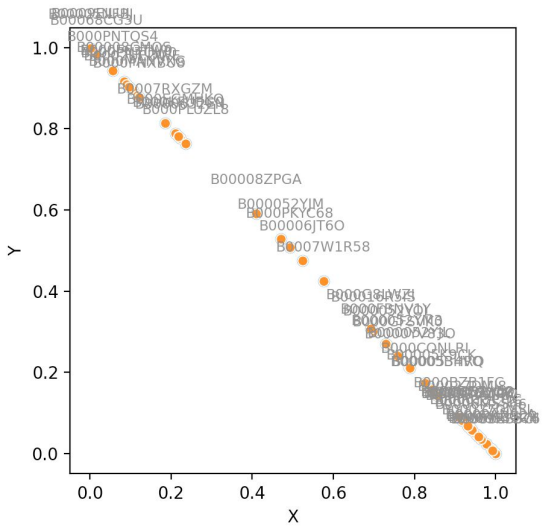
i) Factor Analysis



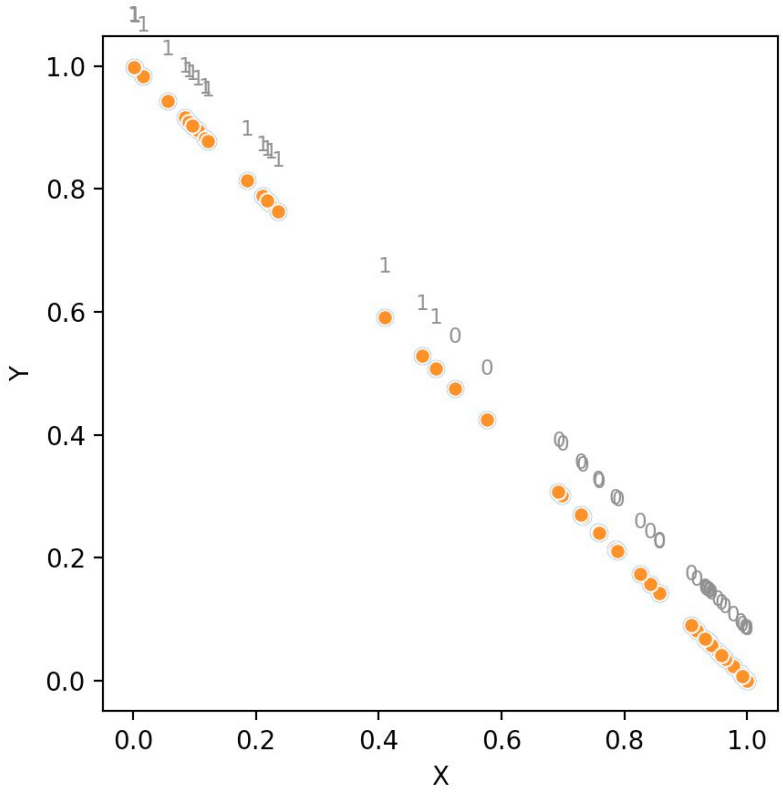
ii) LDA result



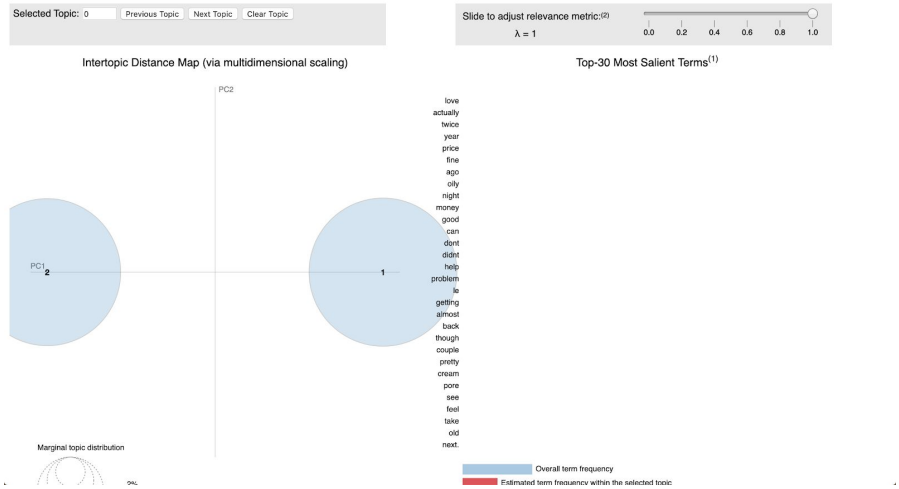
With asin



With topic number



With ldaviz


Selected Topic: 0
Previous Topic
Next Topic
Clear Topic
Slide to adjust relevance metric:(2)
λ = 1
0.0
0.2
0.4
0.6
0.8
1.0
Intertopic Distance Map (via multidimensional scaling)
Top-30 Most Salient Terms(1)
PC2
PC1
2
1
love
actually
twice
year
price
fine
ago
oily
night
money
good
can
dont
didnt
help
problem
lip
getting
almost
back
though
couple
pretty
cream
pore
see
feel
take
old
next.
Marginal topic distribution
Overall term frequency
Estimated term frequency within the selected topic