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Enginius

Segmentation

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Table of Contents

Segmentation options

Options selected

Option	Selection
Clustering method	K-means
Standardization method	standard
Segments forced	3
Run discriminant analysis	No
Run classification analysis	No
Date and time	2025-02-24 18:17:47 UTC

Options selected.

Data description

	Data	Number of Rows	Number of columns	Column names
1	Segmentation data	69	6	C0, Price, Fragrance Variety, Brand loyalty, Packaging, ...

Data description.

Data transformation

The segmentation data has been scaled column wise

	Mean	Standard deviation
Price	3.841	1.171
Fragrance Variety	3.841	1.120
Brand loyalty	3.536	1.170
Packaging	3.580	1.205
Quality	4.087	1.172

Mean and standard deviation column wise.

Segment solution

3-segment solution

The ideal number of segments is a function of statistical fit (what the data say), managerial relevance (what makes the most sense from a managerial point of view), and targetability (can the segments be easily targeted).

When the three criteria do not perfectly converge, selecting the right number of segments becomes a judgment call.

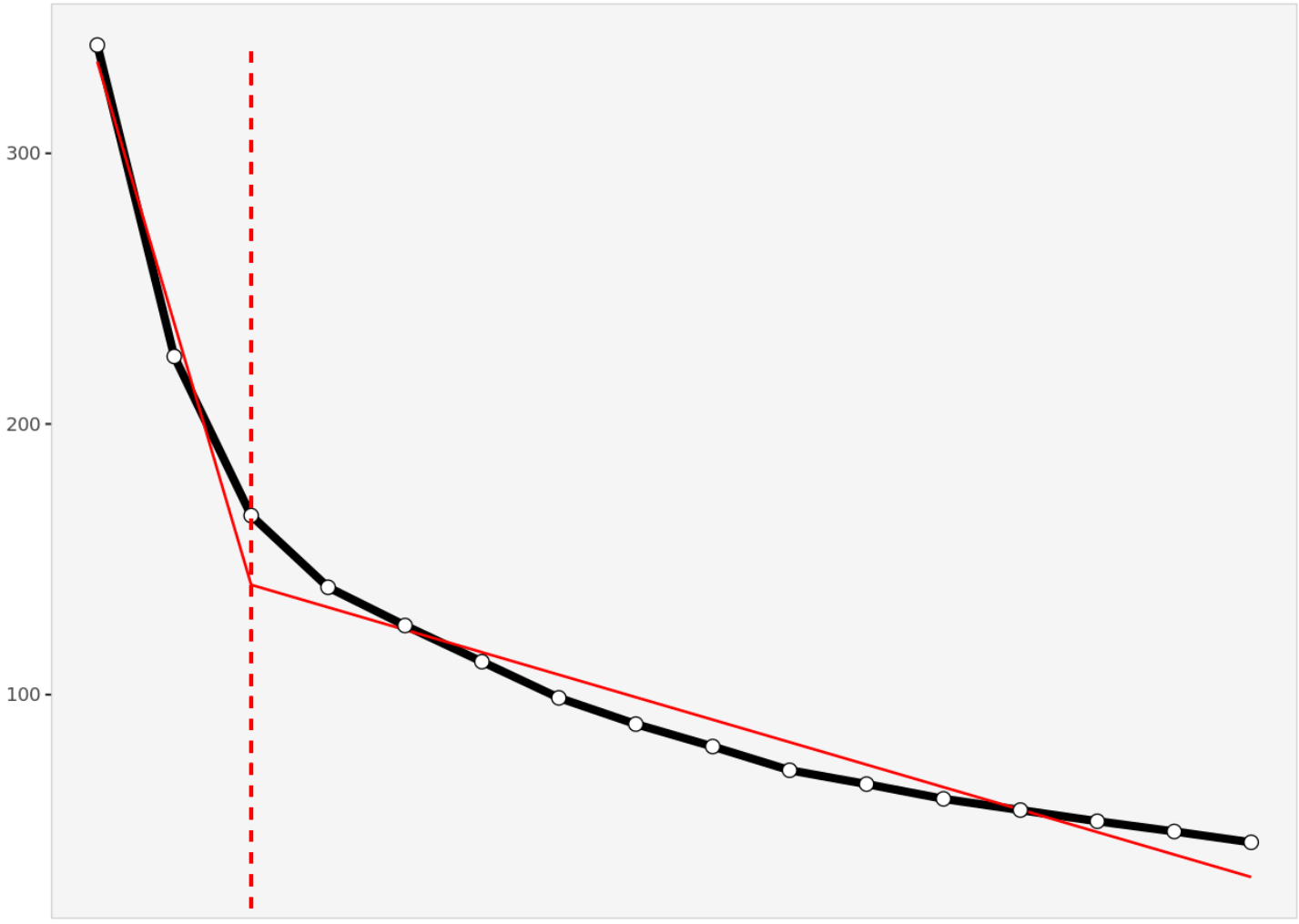
You have decided to perform the analysis with 3 segments.

The segmentation method relies on the k-means approach. This approach does not generate a dendrogram.

Scree plot

The screeplot displays, for each cluster solution, a measure of within-cluster heterogeneity. If clusters group observations that are widely different (which will happen if the number of clusters is too small to capture the variability in the data), the value will be high.

A good cluster solution might be where the screeplot displays an 'elbow', that is, where increasing the number of clusters beyond a certain point does not dramatically decreases within-cluster heterogeneity.



Scree plot. The scree plot compares the sum of squared error (SSE) for each cluster solution. A good cluster solution might be when the SSE slows dramatically, creating an 'elbow'. Such elbow does not always exist. If number of segments is equal to maxumum possible segments elbow cannot be created.

From a statistical point of view, the SSE reported in the screeplot is computed as the sum of squared error between each observation and its cluster centroid (or center), summed over all the observations.

Segment description

Segment size

	Population	Segment 1	Segment 2	Segment 3
Size	69	11	28	30
Relative size	100%	16%	41%	43%

Segment size.

Segment description

	Population	Segment 1	Segment 2	Segment 3
Price	3.84	2.45	4.14	4.07
Fragrance Variety	3.84	2.27	3.61	4.63
Brand loyalty	3.54	2.82	2.75	4.53
Packaging	3.58	3.09	2.79	4.50
Quality	4.09	1.91	4.25	4.73

Segment description. Average value of each segmentation variable, overall for each segment (centroid). Segmentation variables that are statistically different from the rest of the population are highlighted in red (lower) or green (higher).

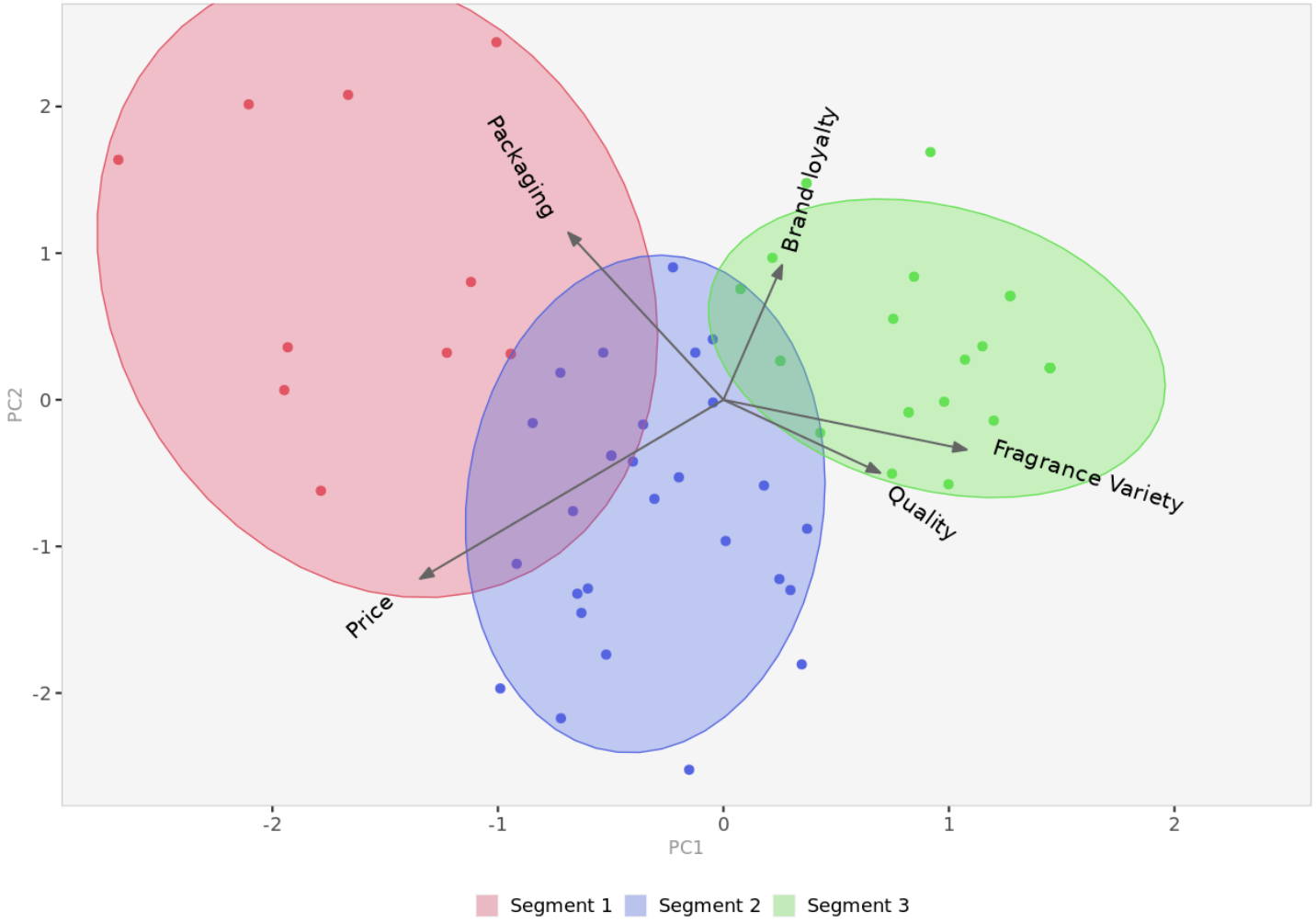
Segment differences per segment. Cell colors indicate to what extent a segment is statistically different from the rest of the population on each segmentation variable.

Segmentation space

The chart below is a graphical representation of the various segments, segment members, and segmentation variables. It is obtained by plotting the first two dimensions of a principal component analysis performed on the (standardized) segmentation data, on top of which segment information has been overlaid.

Because only the first two dimensions of the PCA are displayed, and these two dimensions capture only 73.3% of the variance in the data, some differences between segments might not appear here. Note that segmentation variables with no variance, if any, have been excluded.

> Two clusters that appear to overlap on the first two dimensions might be distinct on other dimensions. Consequently, this chart is a useful guide, for checking which variables are correlated, but may be misleading if used to select the optimal number of segments.



Segment space. Spatial representation of segments and segmentation variables, using principal component analysis.

Segment membership

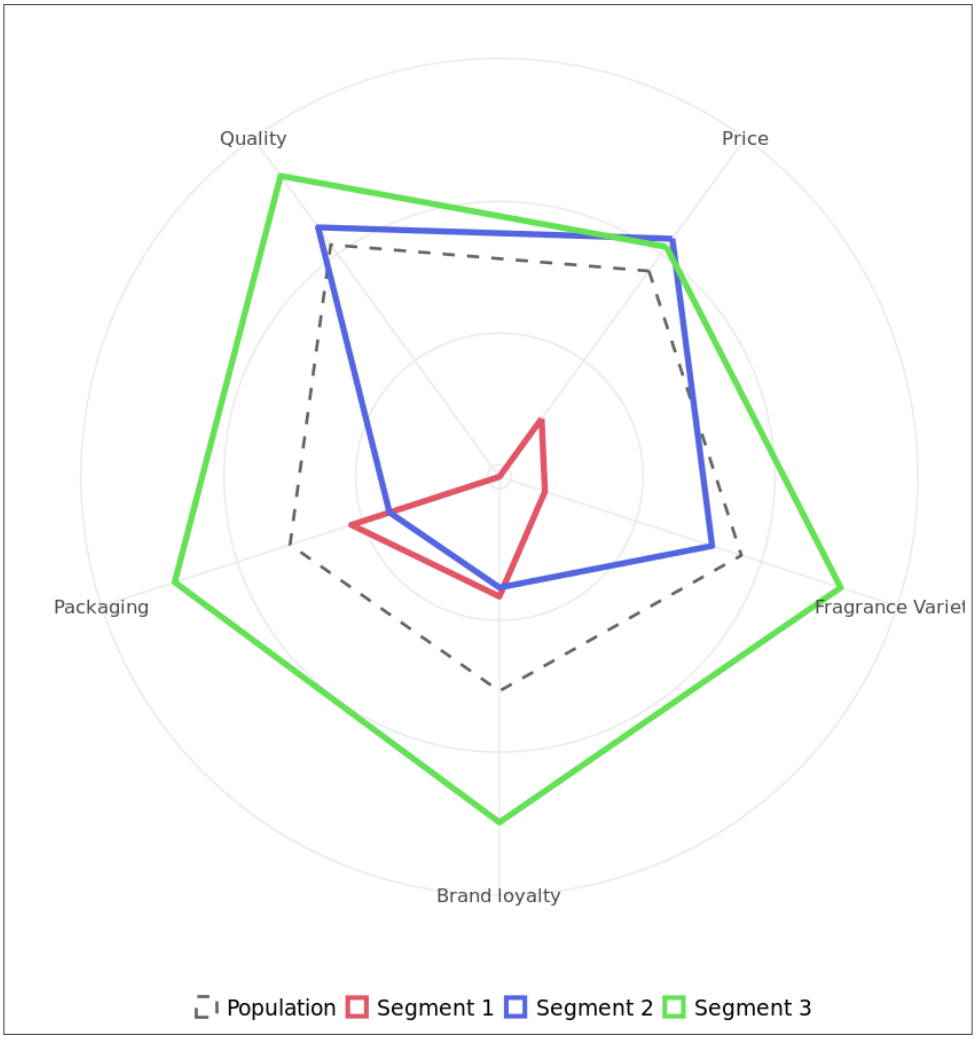
	Segment
1	1
2	2
3	2
4	3
5	2
6	2
7	2
8	2
9	3
10	1

Segment membership (excerpt). Segment to which each member of the population belongs to. The complete membership list is only available in the Excel formatted output.

Segment profiles

Spider chart

Spider chart comparing the averages of the segmentation variables across all segments.

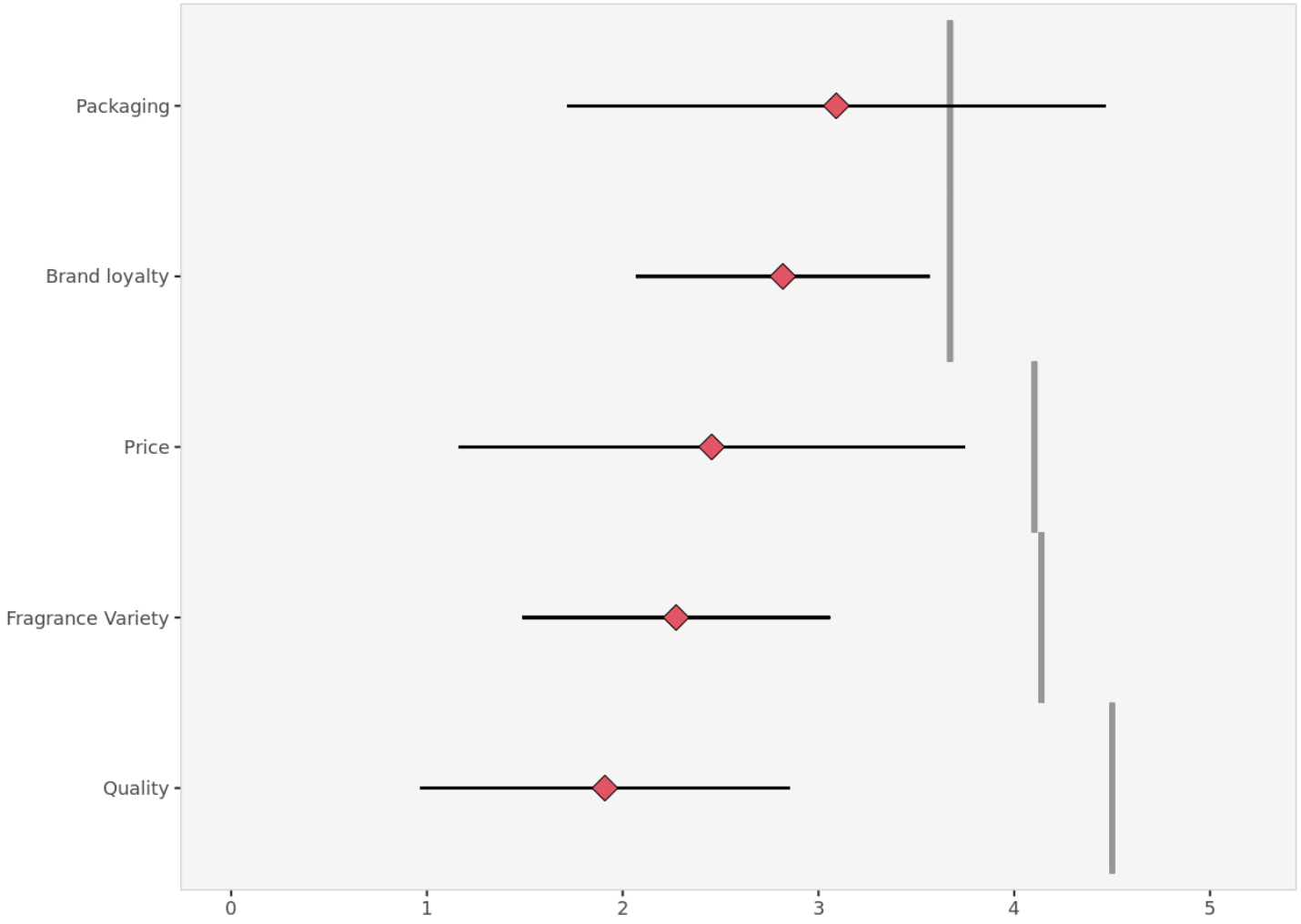


Spider chart.

Segment 1 profile

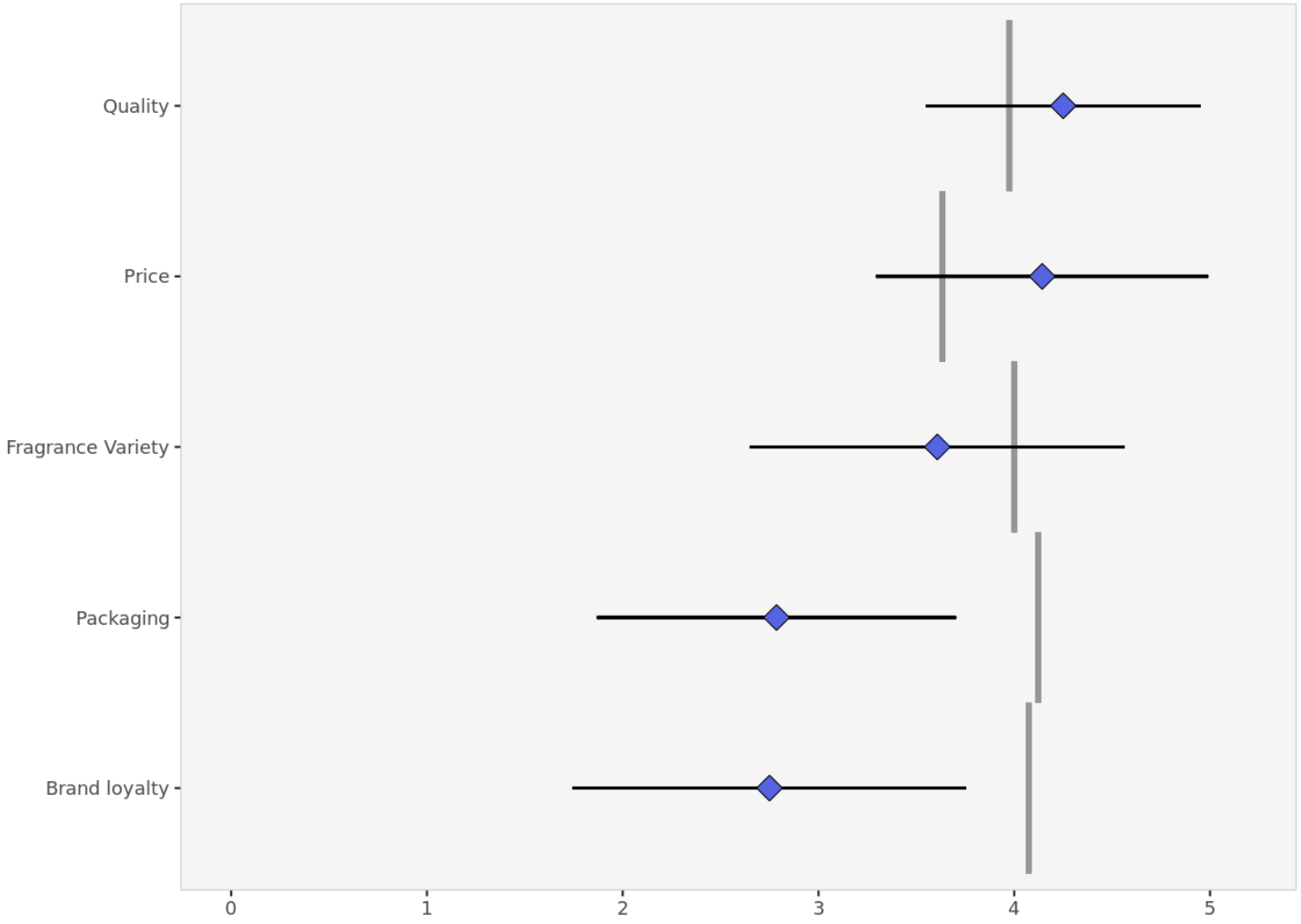
The following charts represent the profile of each segment. These charts are only available when the data are not standardized, hence the model assumes that all segmentation variables use the same scale.

- For each segment, the segmentation variables are ordered in decreasing order of magnitude.
- The colored dots represent the average of the segment.
- The horizontal lines represent the standard deviations within that segment.
- The vertical, gray lines represent the averages of the rest of the population, after excluding members of the segment under scrutiny.



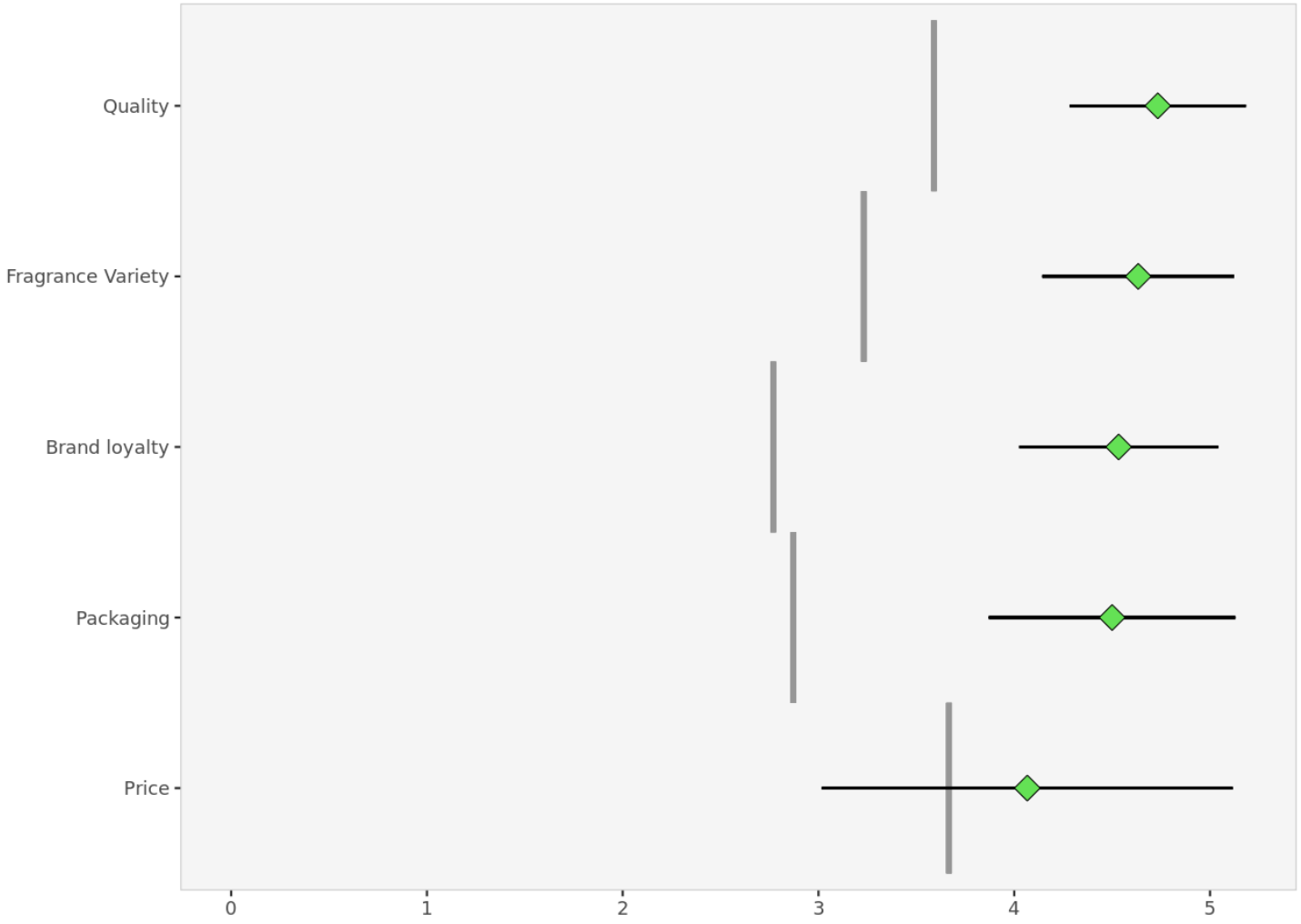
Segment 1 profile.

Segment 2 profile



Segment 2 profile.

Segment 3 profile



Segment 3 profile.