

Marketing_Mix_Brands

Partial R Code

```
# Marketing Mix - Brands
# Customer ratings for - perceptual adjectives and 4 brands.
# Within marketing analytics - perceptual adjectives to be linked to perceptual maps.
d <- read.csv("C:/Users/Rohit/Desktop/Marketing Mix - Brands/d.csv")
head(d)

##  cheap snappy effective luxurious artistic bold caring casual charming
## 1      9      7         2         10      7      5      9      1      3
## 2      4      2         2         8      5      4      9      7      2
## 3      5      6        10        10      1      8     10     10      8
## 4      8     10         5         5     10      2      9      2      1
## 5      9      5         3        10      3      8     10      5      3
## 6     10     10         4         9      9      3      5      1     10
##  contemporary creative daring elegant energetic exciting festive fresh
## 1             2         10      5         4         10         10      2     10
## 2             2         9       1         2          8          8      3      8
## 3            10         9       4         1          8          8      3      8
## 4             5         9       9         9          8          8      4      8
## 5             3         9       6         6          8          8      5      8
## 6             4        10       5         4        10         10      7     10
##  fun graceful hip brand.name
## 1  10         9  10         1
## 2   9         9   9         3
## 3   8         9   8         3
## 4  10         4  10         4
## 5   9         7   9         4
## 6   8         1   8         3
```

summary(d)

##	cheap	snappy	effective	luxurious
##	Min. : 1.000	Min. : 1.000	Min. : 1.000	Min. : 1.000
##	1st Qu.: 4.000	1st Qu.: 4.000	1st Qu.: 4.000	1st Qu.: 3.000
##	Median : 8.000	Median : 8.000	Median : 6.000	Median : 6.000
##	Mean : 7.079	Mean : 7.074	Mean : 5.786	Mean : 5.642
##	3rd Qu.:10.000	3rd Qu.:10.000	3rd Qu.: 8.000	3rd Qu.: 8.000
##	Max. :10.000	Max. :10.000	Max. :10.000	Max. :10.000
##	artistic	bold	caring	casual
##	Min. : 1.000	Min. : 1.000	Min. : 1.000	Min. : 1.00
##	1st Qu.: 3.000	1st Qu.: 3.000	1st Qu.: 3.000	1st Qu.: 3.00
##	Median : 6.000	Median : 5.000	Median : 6.000	Median : 6.00
##	Mean : 5.529	Mean : 5.486	Mean : 5.505	Mean : 5.54
##	3rd Qu.: 8.000	3rd Qu.: 8.000	3rd Qu.: 8.000	3rd Qu.: 8.00
##	Max. :10.000	Max. :10.000	Max. :10.000	Max. :10.00
##	charming	contemporary	creative	daring
##	Min. : 1.000	Min. : 1.0	Min. : 1.000	Min. : 1.000
##	1st Qu.: 3.000	1st Qu.: 3.0	1st Qu.: 4.000	1st Qu.: 3.000
##	Median : 6.000	Median : 6.0	Median : 7.000	Median : 5.000
##	Mean : 5.637	Mean : 5.8	Mean : 6.085	Mean : 5.473
##	3rd Qu.: 8.000	3rd Qu.: 8.0	3rd Qu.: 9.000	3rd Qu.: 8.000
##	Max. :10.000	Max. :10.0	Max. :10.000	Max. :10.000
##	elegant	energetic	exciting	festive
##	Min. : 1.000	Min. : 1.000	Min. : 1.000	Min. : 1.000
##	1st Qu.: 3.000	1st Qu.: 4.000	1st Qu.: 4.000	1st Qu.: 3.000
##	Median : 5.000	Median : 7.000	Median : 7.000	Median : 5.500
##	Mean : 5.502	Mean : 6.082	Mean : 6.072	Mean : 5.478
##	3rd Qu.: 8.000	3rd Qu.: 9.000	3rd Qu.: 9.000	3rd Qu.: 8.000
##	Max. :10.000	Max. :10.000	Max. :10.000	Max. :10.000
##	fresh	fun	graceful	hip
##	Min. : 1.000	Min. : 1.000	Min. : 1.000	Min. : 1.000
##	1st Qu.: 4.000	1st Qu.: 3.000	1st Qu.: 3.000	1st Qu.: 3.000
##	Median : 7.000	Median : 6.000	Median : 5.000	Median : 6.000
##	Mean : 6.103	Mean : 5.961	Mean : 5.494	Mean : 6.005

```
## 3rd Qu.: 9.000 3rd Qu.: 9.000 3rd Qu.: 8.000 3rd Qu.: 9.000
## Max. :10.000 Max. :10.000 Max. :10.000 Max. :10.000
## brand.name
## Min. :1.000
## 1st Qu.:2.000
## Median :3.000
## Mean :2.508
## 3rd Qu.:4.000
## Max. :4.000
```

scaling the raw data - creating a scaled matrix

```
dsc<-scale(d[,1:20])
```

creating a Data Frame of same name - "dsc" from scaled matrix

```
dsc<-as.data.frame(dsc)
```

```
summary(dsc)
```

```
##      cheap      snappy      effective      luxurious
## Min.   :-1.9334  Min.   :-1.9356  Min.   :-1.77078  Min.   :-1.5973
## 1st Qu.: -0.9793  1st Qu.: -0.9797  1st Qu.: -0.66072  1st Qu.: -0.9092
## Median : 0.2929  Median : 0.2950  Median : 0.07933  Median : 0.1230
## Mean   : 0.0000  Mean   : 0.0000  Mean   : 0.00000  Mean   : 0.0000
## 3rd Qu.: 0.9290  3rd Qu.: 0.9323  3rd Qu.: 0.81937  3rd Qu.: 0.8112
## Max.   : 0.9290  Max.   : 0.9323  Max.   : 1.55941  Max.   : 1.4993
##      artistic      bold      caring      casual
## Min.   :-1.5710  Min.   :-1.5652  Min.   :-1.5577  Min.   :-1.5768
## 1st Qu.: -0.8772  1st Qu.: -0.8674  1st Qu.: -0.8662  1st Qu.: -0.8821
## Median : 0.1634  Median : -0.1696  Median : 0.1711  Median : 0.1599
## Mean   : 0.0000  Mean   : 0.0000  Mean   : 0.0000  Mean   : 0.0000
## 3rd Qu.: 0.8571  3rd Qu.: 0.8771  3rd Qu.: 0.8626  3rd Qu.: 0.8545
## Max.   : 1.5509  Max.   : 1.5749  Max.   : 1.5541  Max.   : 1.5492
##      charming      contemporary      creative      daring
## Min.   :-1.5899  Min.   :-1.76217  Min.   :-1.7559  Min.   :-1.5594
## 1st Qu.: -0.9042  1st Qu.: -1.02798  1st Qu.: -0.7200  1st Qu.: -0.8622
## Median : 0.1243  Median : 0.07331  Median : 0.3159  Median : -0.1649
## Mean   : 0.0000  Mean   : 0.00000  Mean   : 0.0000  Mean   : 0.0000
```

	elegant	energetic	exciting	festive
## 3rd Qu.:	0.8100	0.80750	1.0065	0.8811
## Max. :	1.4957	1.54170	1.3518	1.5783
## Min. :	-1.5707	-1.7515	-1.7434	-1.556096
## 1st Qu.:	-0.8729	-0.7176	-0.7122	-0.861158
## Median :	-0.1750	0.3162	0.3190	0.007514
## Mean :	0.0000	0.0000	0.0000	0.000000
## 3rd Qu.:	0.8717	1.0055	1.0064	0.876186
## Max. :	1.5695	1.3501	1.3502	1.571123
	fresh	fun	graceful	hip
## Min. :	-1.7679	-1.66693	-1.564	-1.691154
## 1st Qu.:	-0.7286	-0.99490	-0.868	-1.015407
## Median :	0.3107	0.01315	-0.172	-0.001785
## Mean :	0.0000	0.00000	0.000	0.000000
## 3rd Qu.:	1.0035	1.02120	0.872	1.011836
## Max. :	1.3499	1.35722	1.568	1.349710

as seen in summary - "mean" for all - dimensions - is now "0.00"

*# Now we create a merged data frame "dsc1" - adding the "brand.name" variable to the
scaled data frame created earlier*

```
dsc1<-cbind(dsc,d$brand.name)
```

change the - "d\$brand.name" to just "brand.name"

```
names(dsc1) [21] <- "brand.name"
```

```
library(corrplot)
```

varied permutations of the bi variable correlation plot....

too many variables thus creating seperate Correlation Plots

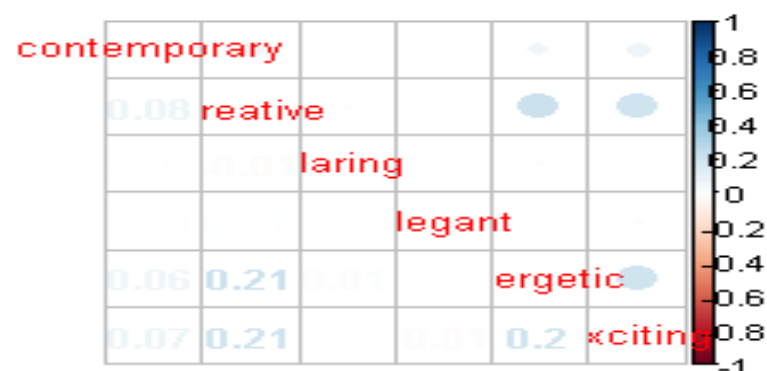
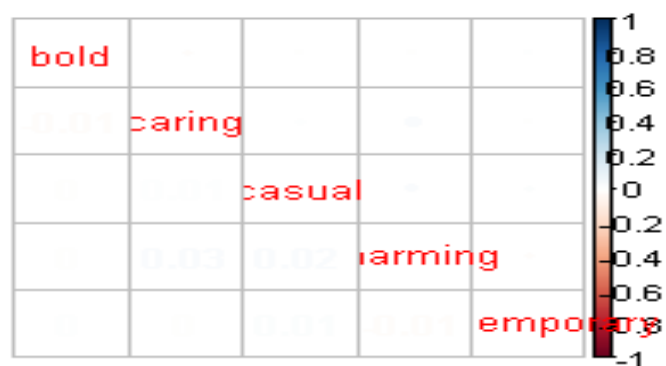
```
c1<-cor(dsc1[, 1:5])
```

```
c2<-cor(dsc1[, 6:10])
```

```
c3<-cor(dsc1[, 10:15])
```

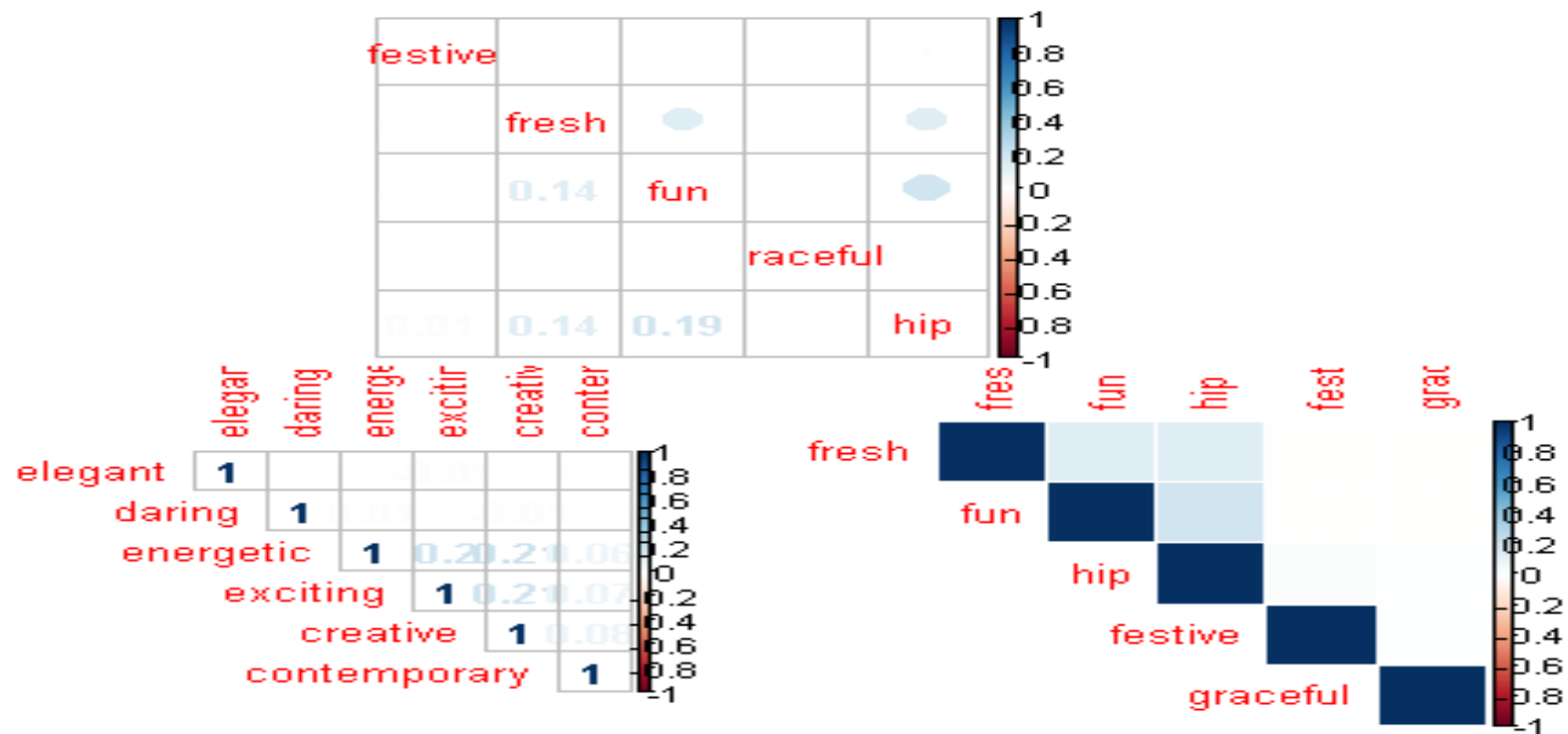
```
c4<-cor(dsc1[, 16:20])
```

```
layout(matrix(c(1, 1, 2, 3), 2, 2, byrow = TRUE))
corrplot.mixed(c1,lower="number", upper="circle")
corrplot.mixed(c2,lower="number", upper="circle")
corrplot.mixed(c3,lower="number", upper="circle")
```

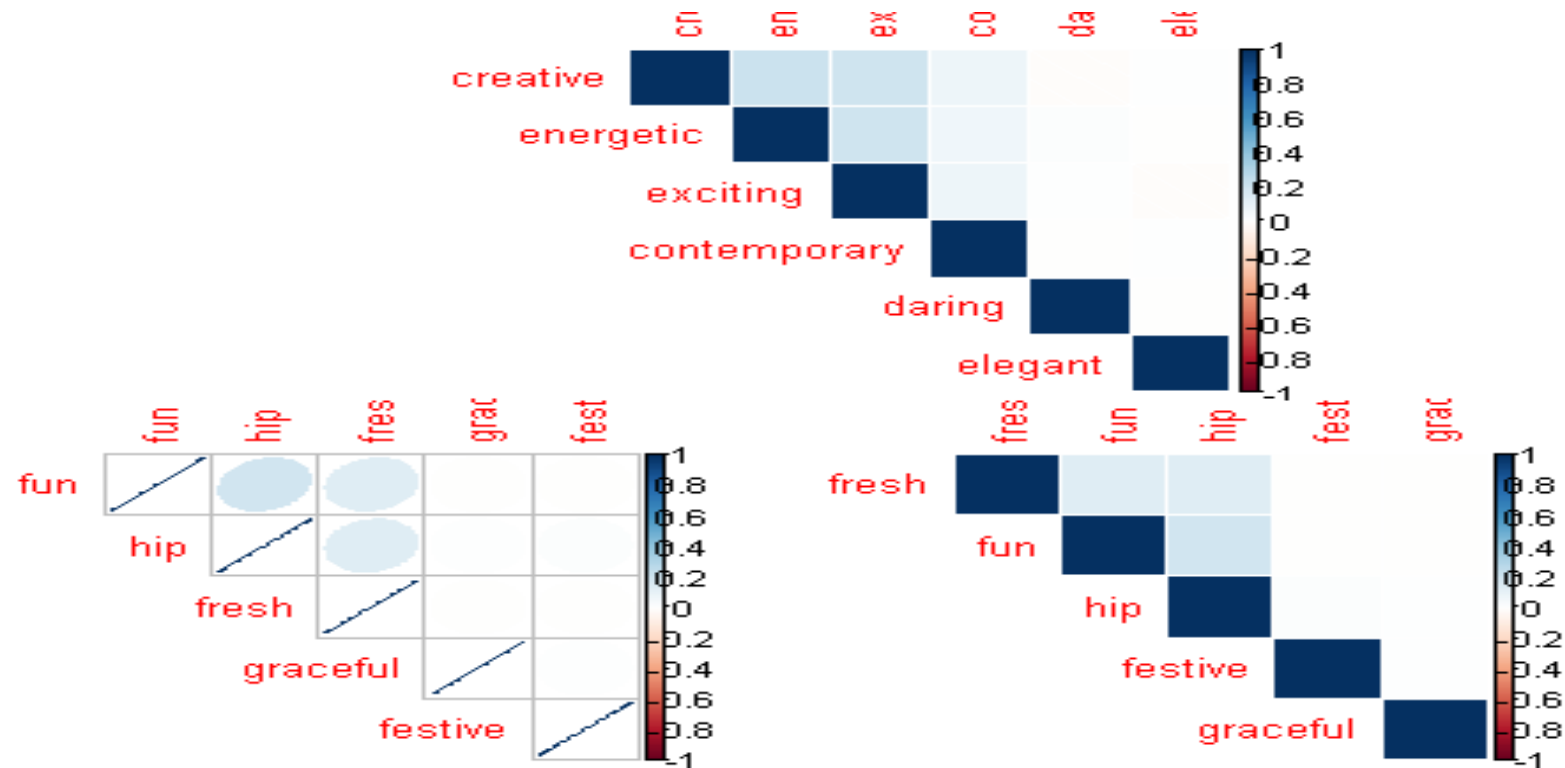


```
corrplot.mixed(c4,lower="number", upper="circle")
```

```
corrplot(c3,type="upper", method="number",order="AOE")
# "AOE" for the angular order of the eigenvectors
corrplot(c4,type="upper", method="shade",order="hclust")
```



```
# "hclust" for the hierarchical clustering order.
corrplot(c3,type="upper", method="shade",order="FPC")
# "FPC" for the first principal component order.
corrplot(c4,type="upper", method="ellipse",order="FPC")
# "FPC" for the first principal component order.
# method="ellipse"
corrplot(c4,type="upper", method="color",order="hclust")
```



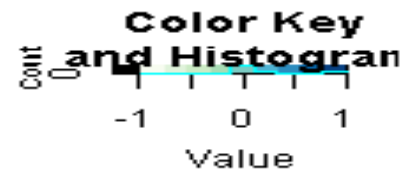
```
# "FPC" for the first principal component order.
# method="color"
corrplot(c3,type="upper", method="shade",order="hclust")
# "FPC" for the first principal component order.
# method="shade" - not very different from "color"

###
# Whats the average or the "mean" rating for each brand
# for all given - 20 - perceptual adjectives ?
###
```

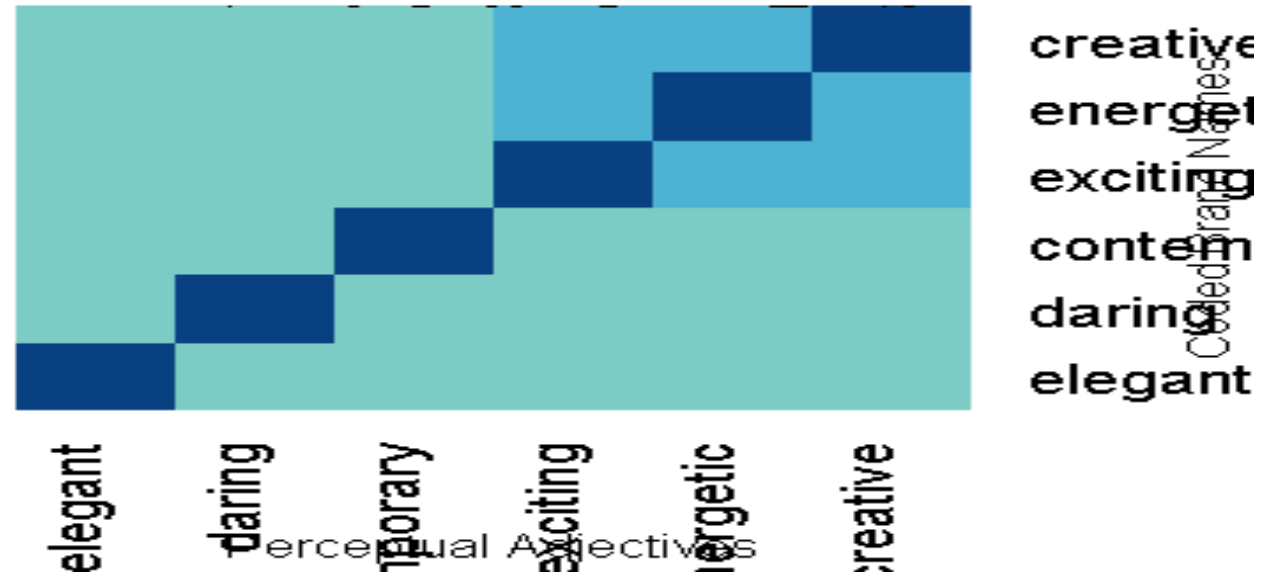
```
avg.ratings <- aggregate(~ brand.name , data=dsc1 , mean)
View(avg.ratings)
library(gplots)

##
## Attaching package: 'gplots'
##
## The following object is masked from 'package:stats':
##
##      lowess

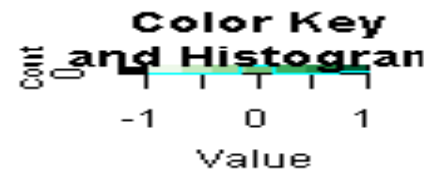
library("RColorBrewer", lib.loc=~R/win-library/3.1")
heatmap.2(as.matrix(c3),col=brewer.pal(9, "GnBu"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```

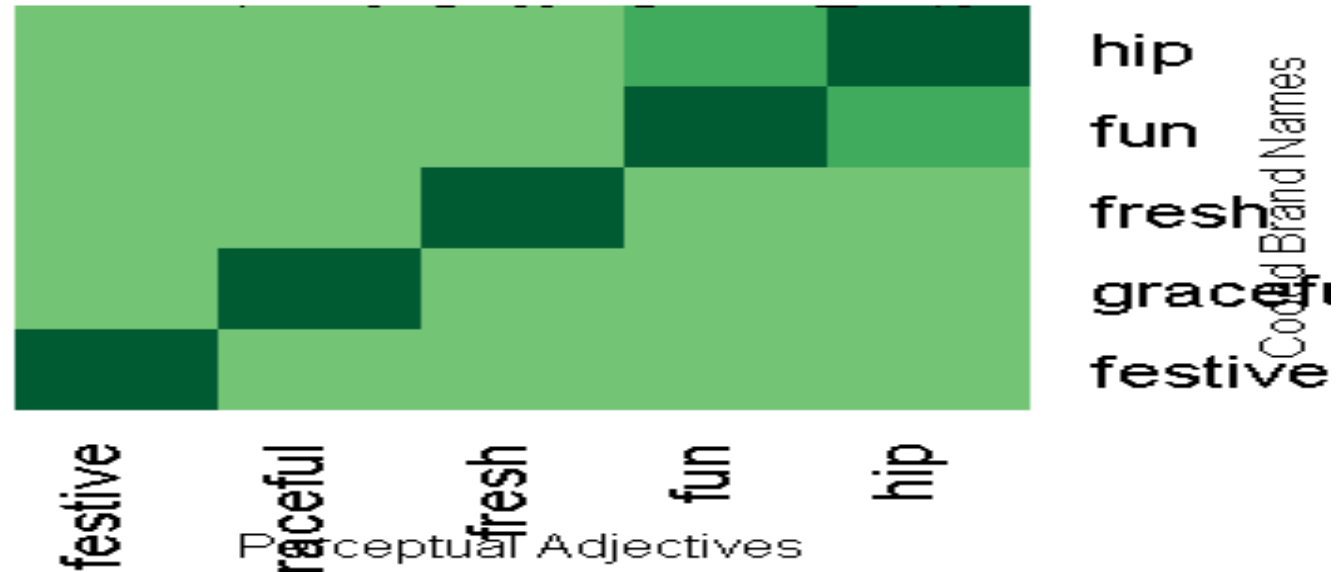
Heat Map



```
heatmap.2(as.matrix(c4),col=brewer.pal(7,"Greens"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```



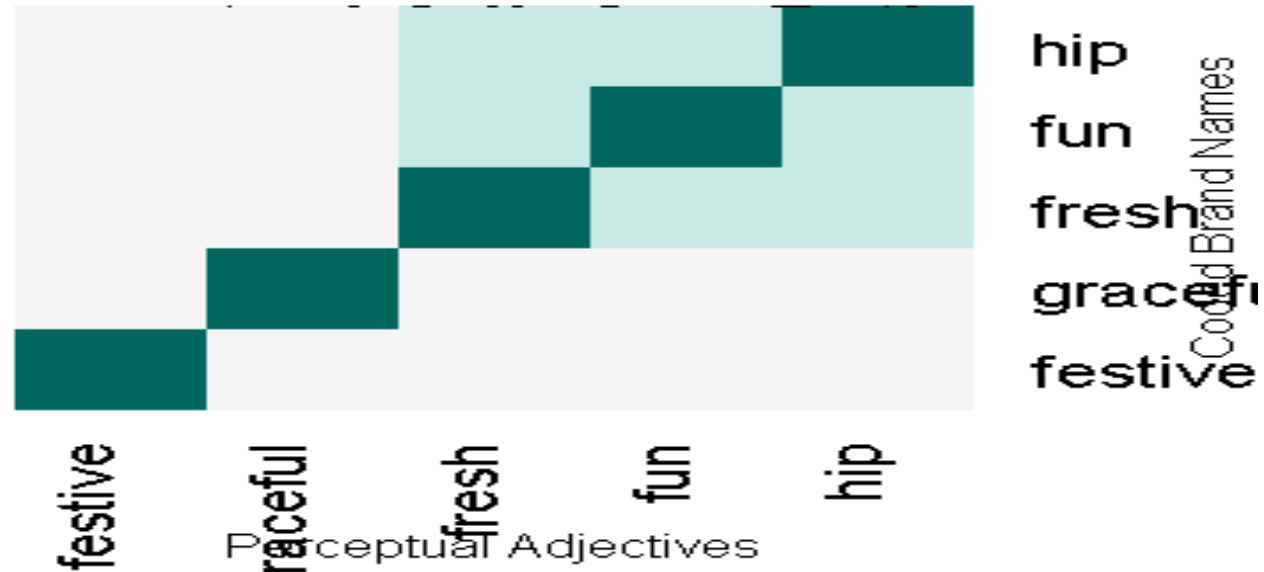
Heat Map



```
#
heatmap.2(as.matrix(c4),col=brewer.pal(9,"BrBG"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```



Heat Map



```
#
heatmap.2(as.matrix(avg.ratings),col=brewer.pal(9,"BrBG"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```

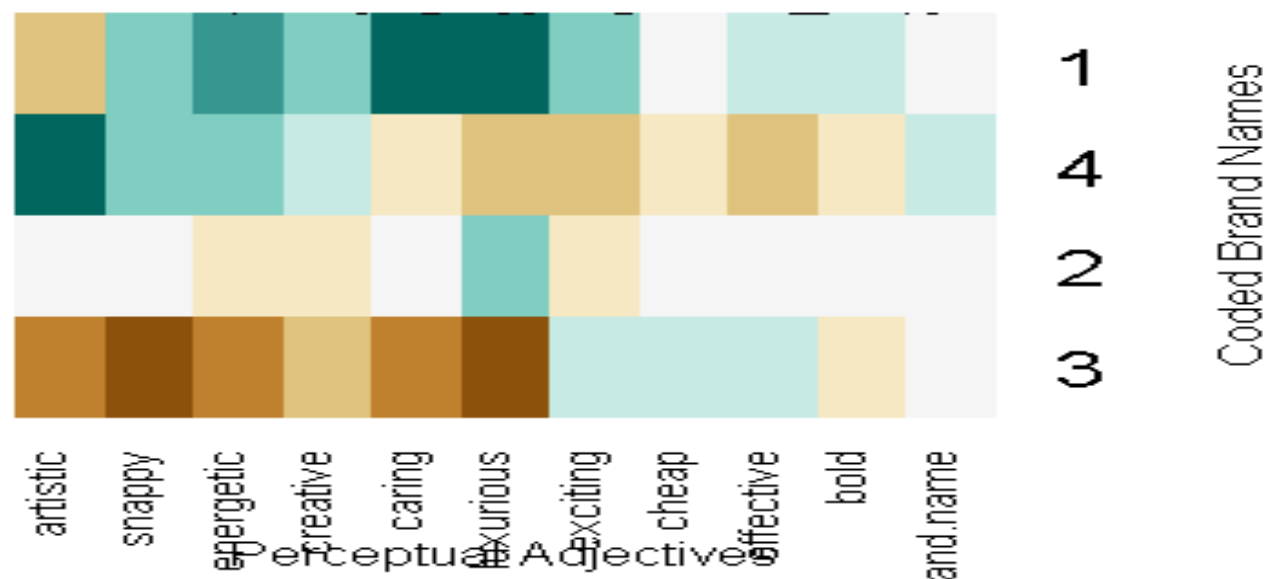
```
#
# As the average ratings are mostly in the "0.000" range we need to
# multiply with "1000" across to get a decent data viz with the HeatMap .
getwd()
```

```
## [1] "C:/Users/Rohit/Desktop/Marketing Mix - Brands"

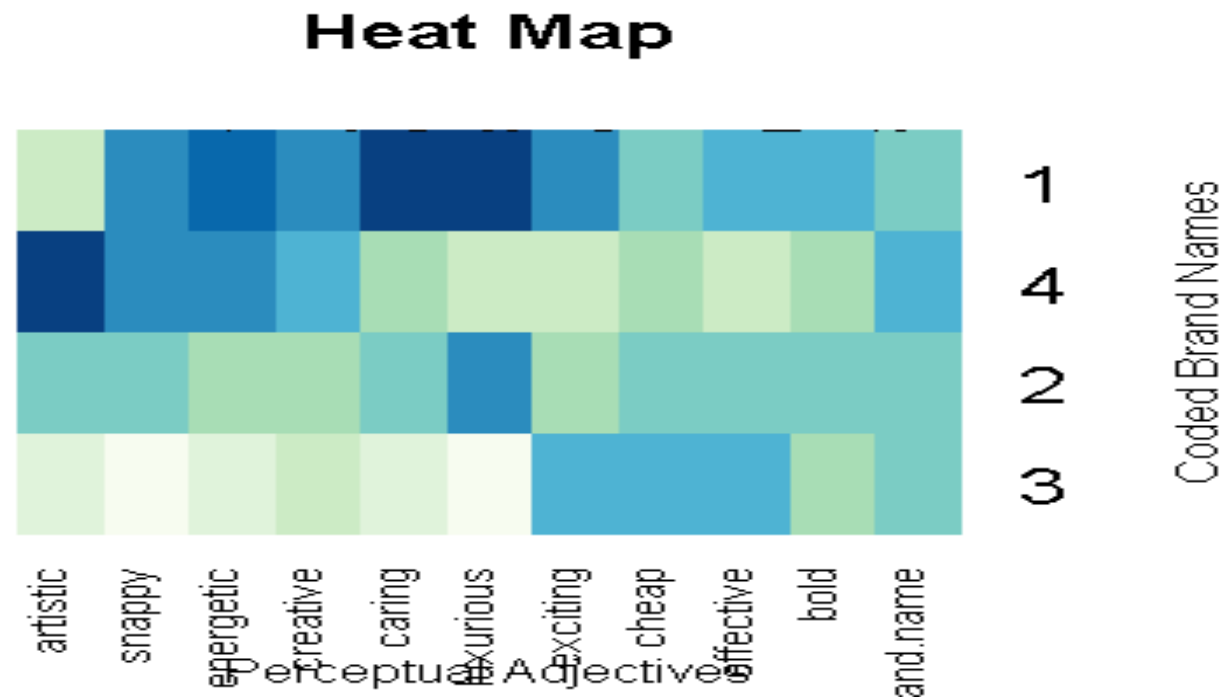
write.table(avg.ratings,"C:/Users/Rohit/Desktop/Marketing Mix - Brands/avg.csv",sep=",")
# Excel calc - external to R - now import avg1.csv
avg1 <- read.csv("C:/Users/Rohit/Desktop/Marketing Mix - Brands/avg1.csv")
View(avg1)
#
heatmap.2(as.matrix(avg1),col=brewer.pal(9,"BrBG"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```



Heat Map



```
#
heatmap.2(as.matrix(avg1),col=brewer.pal(9, "GnBu"),
          xlab=" Perceptual Adjectives ", ylab= "Coded Brand Names",trace="none", key=T, dend="none",main="\n\n\n
Heat Map \n\n Perceptual Adj. Avg Ratings")
```



#to be completed - watch this space for more ...Rohit Dhankar