Final Project

Morgan

2023-08-13

1. Open Libraries & Open included data set

library(rfm)  
library(dplyr)  
library(magrittr)  
library(lubridate)  
library(devtools)  
  
# library(rfm) includes a sample data set rfm\_data\_orders  
df <- rfm\_data\_orders   
df

1. RFM analysis for 12/31/2006

date <- lubridate::as\_date("2006-12-31") # specify the date  
  
# use “rfm\_table()” function for generating a report. Output is a table  
report <- rfm\_table\_order(df, customer\_id, order\_date, revenue, date)  
report

2.1 RFM Data Visualization - Histogram, Customers by Orders as a barplot, and Heat Map

rfm\_order\_dist(report)  
  
rfm\_histograms(report)  
  
rfm\_heatmap(report)  
  
rfm\_rm\_plot(report)  
  
rfm\_fm\_plot(report)  
  
rfm\_rf\_plot(report)

1. Segments: segment titles, categorize segments by RMF

segment\_titles <- c("First Grade", "Loyal", "Likely to be Loyal",  
 "New Ones", "Could be Promising", "Require Assistance", "Getting Less Frequent",  
 "Almost Out", "Can't Lose Them", "Don’t Show Up at All")  
  
# Categorize segments by RFM numerical results  
r\_low <- c(4, 2, 3, 4, 3, 2, 2, 1, 1, 1)  
r\_high <- c(5, 5, 5, 5, 4, 3, 3, 2, 1, 2)  
f\_low <- c(4, 3, 1, 1, 1, 2, 1, 2, 4, 1)  
f\_high <- c(5, 5, 3, 1, 1, 3, 2, 5, 5, 2)  
m\_low <- c(4, 3, 1, 1, 1, 2, 1, 2, 4, 1)  
m\_high <- c(5, 5, 3, 1, 1, 3, 2, 5, 5, 2)  
  
# rfm\_segment() to divide tibble into segments, as defined by RFM results above  
divisions <- rfm\_segment(report, segment\_titles, r\_low, r\_high, f\_low, f\_high, m\_low, m\_high)  
  
# Output: tibble by segment totals  
divisions %>% count(segment) %>% arrange(desc(n)) %>% rename(Segment = segment, Count = n)

3.1 Data Visualization by Segments - Medians by Frequency (F), Recency (R) and Monetary (M)

rfm\_plot\_median\_frequency(divisions)  
  
rfm\_plot\_median\_recency(divisions)  
  
rfm\_plot\_median\_monetary(divisions)

library(factoextra)  
library(cluster)  
  
class(report)