Question 1- Movie Profitability

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Abstract

This paper attempts to investigate the claims made by one of the authors school friends, at a braai, that reviews by movie critics are near perfect predictors of movies' popularity and profitability among moviegoers.

Introduction

This paper attempts to address four statements, posited by a friend at a braai. The first is whether movie critics are 'near perfect' predictors of movies' profitability and popularity among audiences. The second relates to the review platform 'Rotten Tomatoes', which is claimed to be a consistently good review platform. Whether Disney movies are the most profitable, and finally whether audiences are drawn to the highest grossing films.

Summary Statistics

The dataset used to investigate the above claims is sourced from an associate at Mr Video, and contains info on movie critic and grossing data; with 74 observations in 8 variables. In our sample, the two most common genres are comedies and romances, which are 55% and 20.3%, respectively, of the sample movies. The average audience score is 64, the lowest score is 35, and the highest score is 89. Whereas the mean, lowest, and highest Rotten Tomatoes scores are 47.36, 3, and 96. The summary statistics can be found below, and although some aspects are not intuititve, they provide a snapshot of the data.

```
## df_mov
##
##  8  Variables      74  Observations
## --------------------------------------------------------------------------------
## Film
##        n  missing distinct
##       74        0       74
##
## lowest : (500) Days of Summer              27 Dresses                       A Dangerous Method
## highest: What Happens in Vegas             When in Rome                     You Will Meet a Tall
## --------------------------------------------------------------------------------
## Genre
##        n  missing distinct
##       74        0        6
##
## lowest : Action    Animation Comedy    Drama     Fantasy
## highest: Animation Comedy    Drama     Fantasy   Romance
##
## Value          Action Animation   Comedy    Drama   Fantasy   Romance
## Frequency           1         3       41       13         1        15
## Proportion      0.014     0.041    0.554    0.176     0.014     0.203
## --------------------------------------------------------------------------------
## Lead.Studio
```

```
##        n  missing distinct
##       73        1       13
##
## lowest : 20th Century Fox       CBS                     Disney                 Fox                    Ind
## highest: Sony                    Summit                  The Weinstein Company Universal              Warn
##
## 20th Century Fox (2, 0.027), CBS (1, 0.014), Disney (7, 0.096), Fox (6, 0.082),
## Independent (19, 0.260), Lionsgate (2, 0.027), New Line (1, 0.014), Paramount
## (4, 0.055), Sony (4, 0.055), Summit (5, 0.068), The Weinstein Company (3,
## 0.041), Universal (7, 0.096), Warner Bros. (12, 0.164)
## -------------------------------------------------------------------------------
## Audience..score..
##        n  missing distinct     Info     Mean      Gmd      .05      .10
##       73        1       40    0.999    64.14    15.81     44.6     47.0
##      .25      .50      .75      .90      .95
##     52.0     64.0     76.0     82.0     84.0
##
## lowest : 35 40 41 44 45, highest: 82 83 84 88 89
## -------------------------------------------------------------------------------
## Profitability
##        n  missing distinct     Info     Mean      Gmd      .05      .10
##       71        3       71        1    4.742    5.009   0.7392   1.2453
##      .25      .50      .75      .90      .95
##    1.7907   2.6424   4.8510   8.0960  10.6349
##
## lowest :  0.0050000  0.2528949  0.4486447  0.6526032  0.8258000
## highest: 10.1800270 11.0897415 14.1964000 22.9131365 66.9340000
## -------------------------------------------------------------------------------
## Rotten.Tomatoes..
##        n  missing distinct     Info     Mean      Gmd      .05      .10
##       73        1       49    0.999    47.36    30.34      9.8     14.2
##      .25      .50      .75      .90      .95
##     27.0     45.0     65.0     86.6     89.8
##
## lowest :  3  6  8 11 13, highest: 87 89 91 93 96
## -------------------------------------------------------------------------------
## Worldwide.Gross
##        n  missing distinct     Info     Mean      Gmd      .05      .10
##       74        0       74        1    136.4    151.8    13.05    19.76
##      .25      .50      .75      .90      .95
##    32.45    73.20   190.19   332.75   452.36
##
## lowest :   0.025000   8.258000   8.972895  10.700000  14.310000
## highest: 415.253258 521.283432 609.473955 702.170000 709.820000
## -------------------------------------------------------------------------------
## Year
##        n  missing distinct     Info     Mean      Gmd
##       74        0        5    0.953     2009    1.536
##
## lowest : 2007 2008 2009 2010 2011, highest: 2007 2008 2009 2010 2011
##
## Value        2007   2008   2009   2010   2011
## Frequency      11     19     12     19     13
## Proportion  0.149  0.257  0.162  0.257  0.176
```

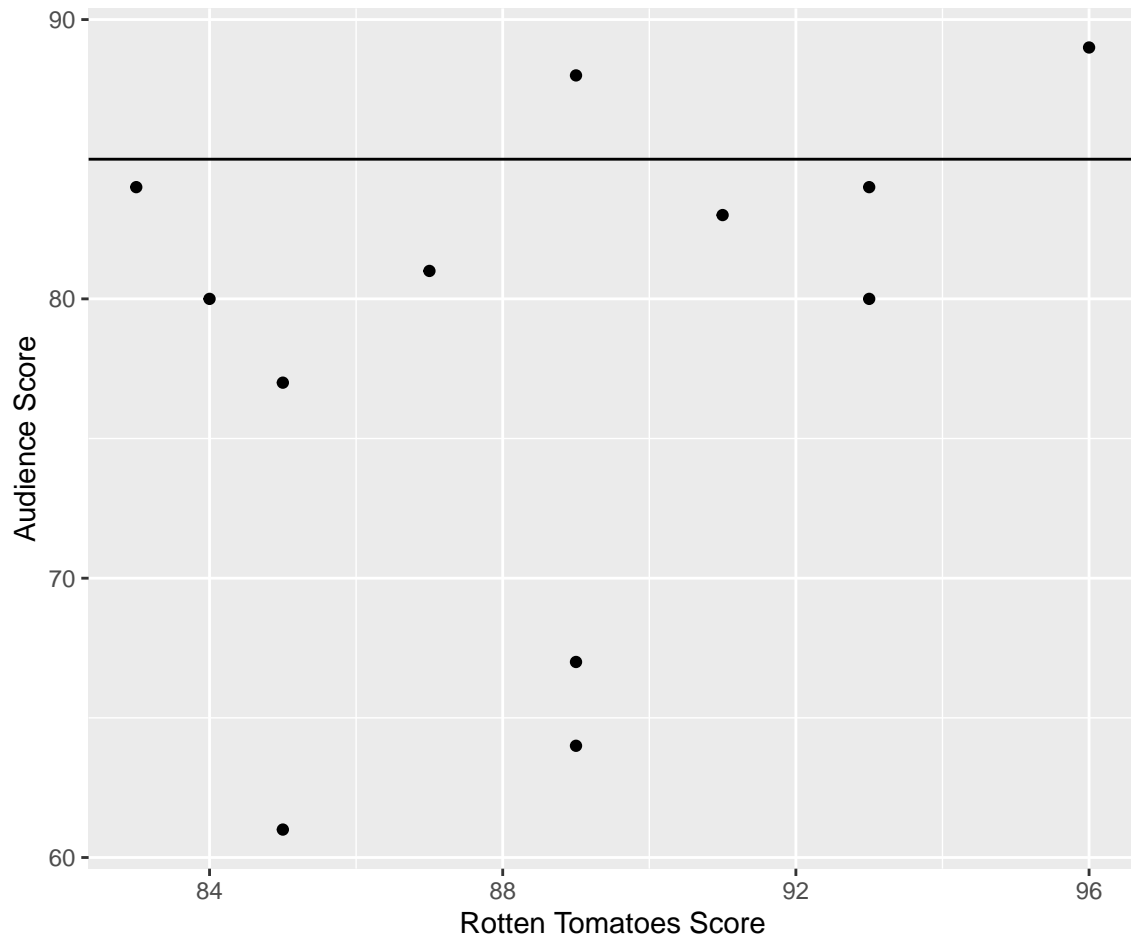# Comparing Rotten Tomatoes Reviews & Audience Reviews

Figure 1: Comparing Rotten Tomatoes & Audience Scores

As we can see from Figure 1,