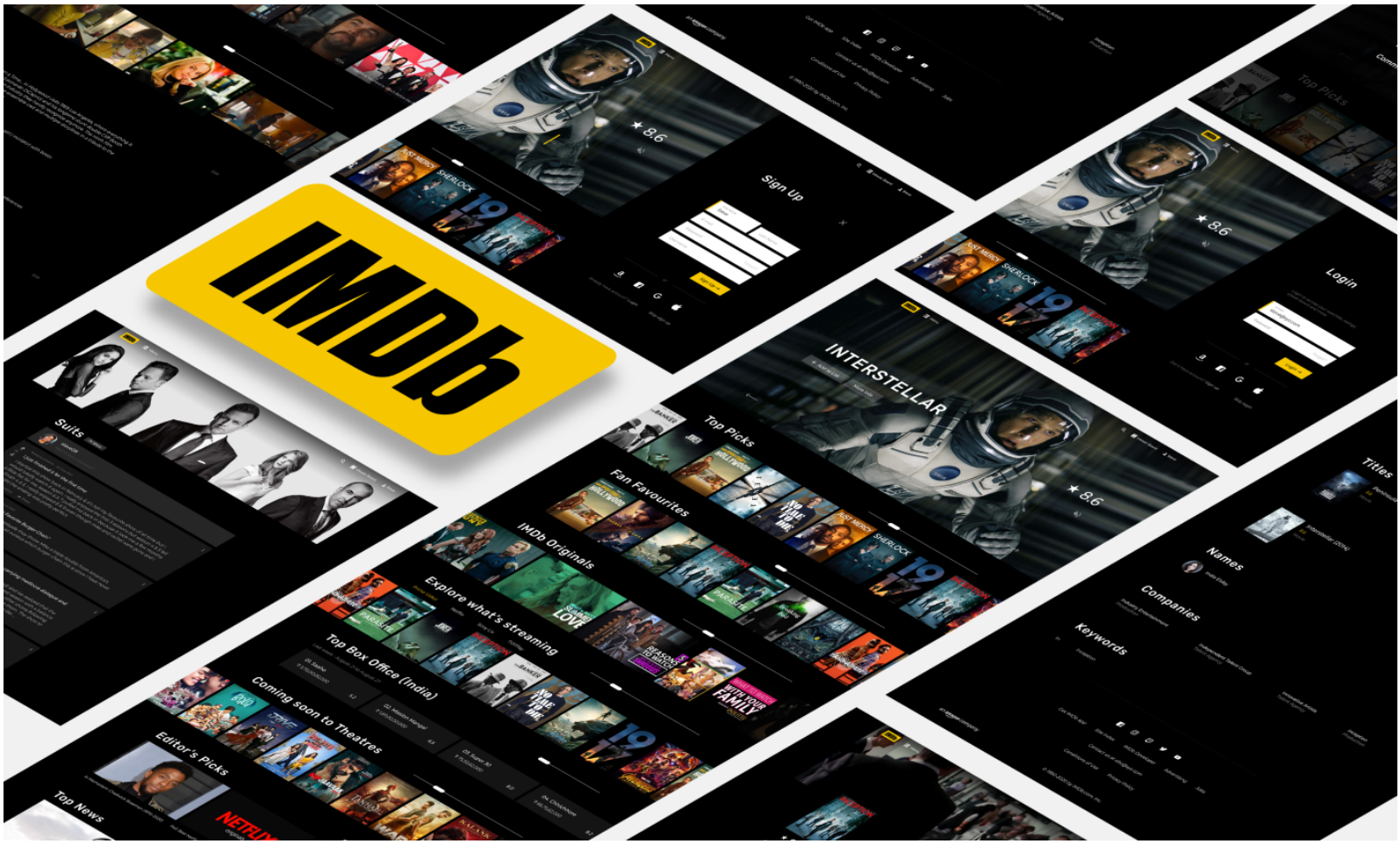
# IMDB Movie Analysis

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## Project Description

Project is about movie analysis based on the parameter of IMDB rating, to analyses all aspect that effect IMDB rating of a movie such as duration, actor, director, language.

The impact of this problem is significant for movie producers, directors, and investors who want to understand what makes a movie successful to make informed decisions in their future projects.

## Approach

Started this project by first looking at columns and its values by applying filter on column to make sure there is no blank cells by deleting it, then removed unnecessary column that were not important for analysis or that had no impact on IMDB rating for example color column.

Separated Genre across the columns by delimiter "|" made a separate row named genre by using unique () function and calculated descriptive statistics.

## Tech – Stack Used

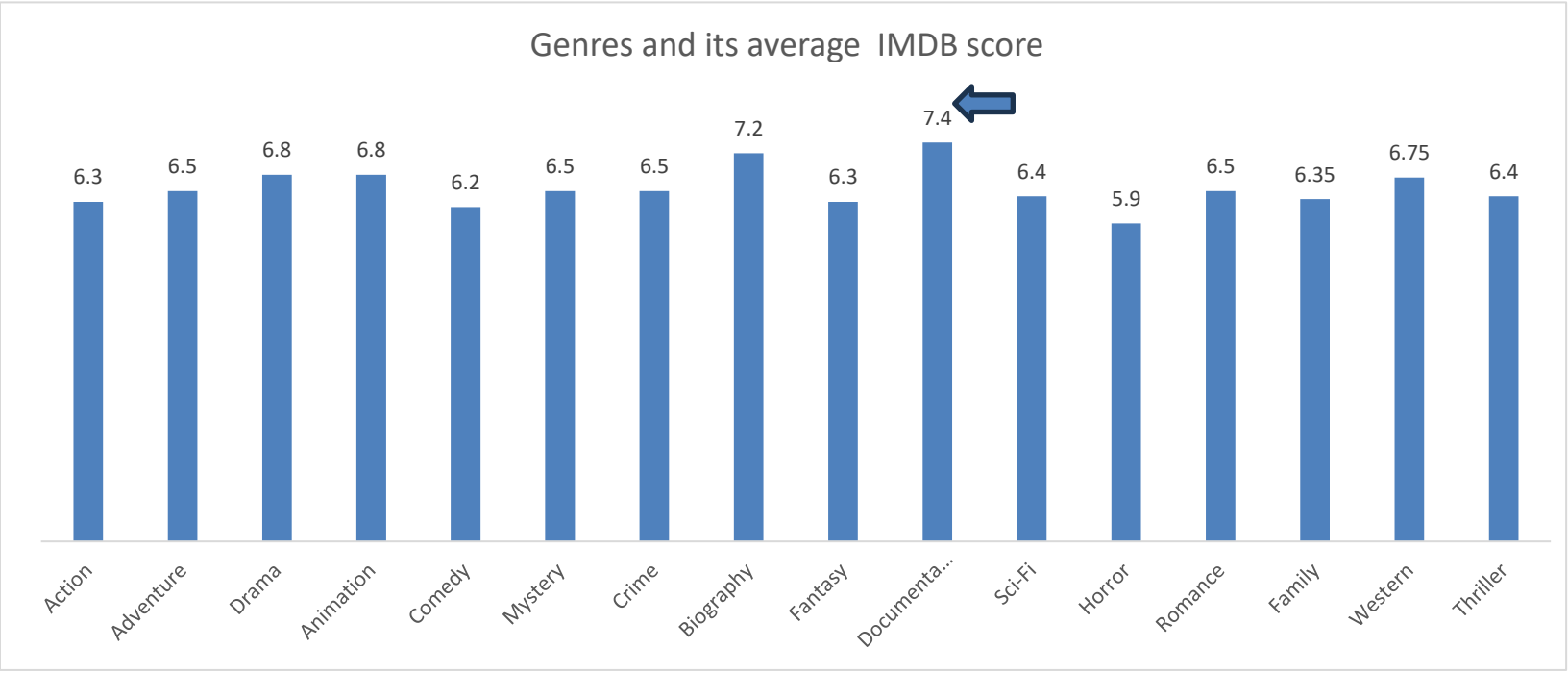
To complete the project, I used MS Excel as it is a both analysis and data visualization tool and provided with its variety of function, complex analysis were made easily.

## Result

By working on this I learned about how analysis are made and what factors have to be kept in consideration like making analysis with simplicity of insight so that team can interpret insights easily and help team in decision making and this learning also greatly enhanced my data analytics skills .

# Task -1 Movie Genre Analysis

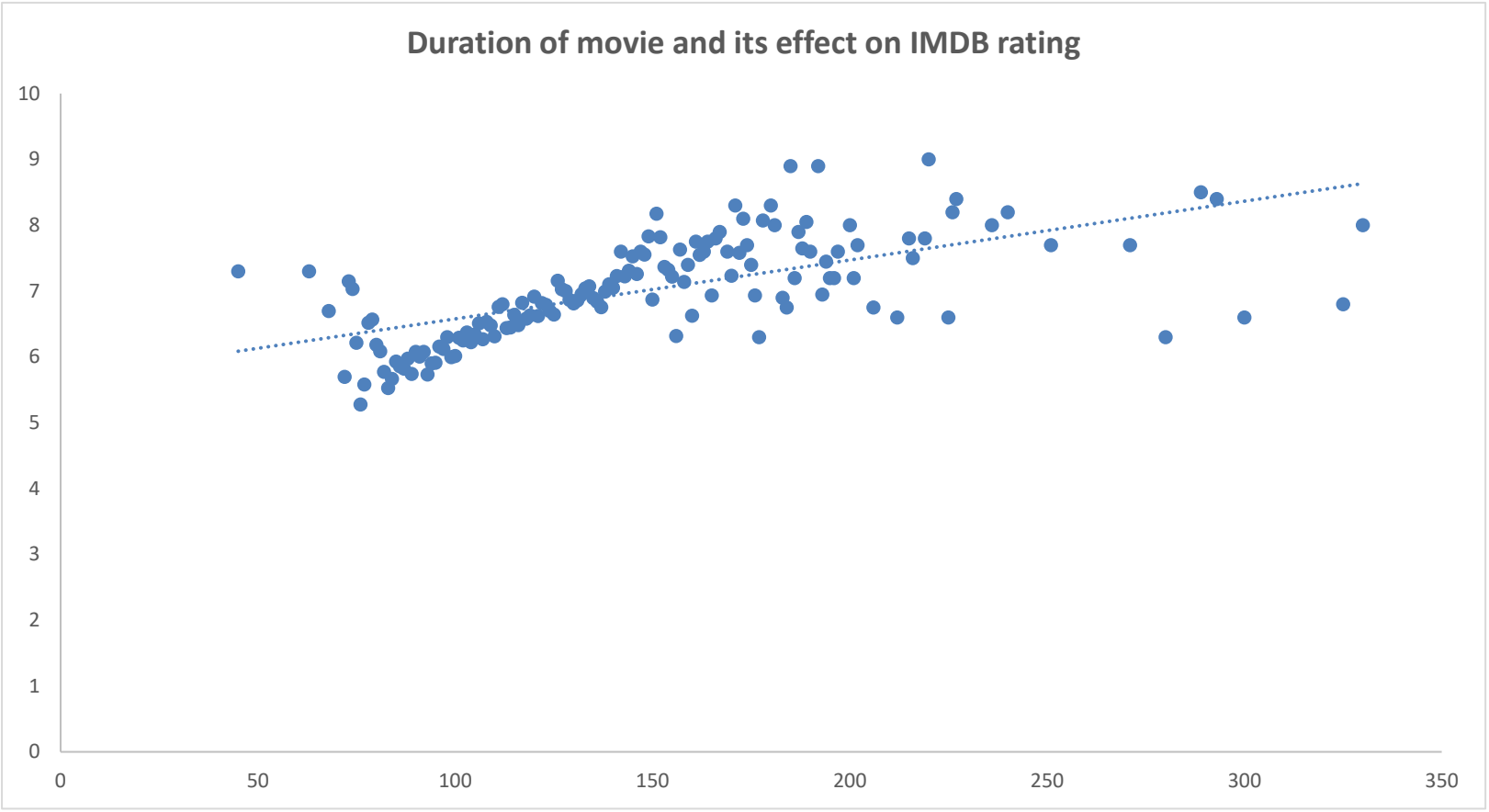
| Genre | Number of Movie | Average IMDB score(Mean) | Median | Mode | Max | Min | Variance | STDDEV |
|---|---|---|---|---|---|---|---|---|
| Action | 879 | 6.279863481 | 6.3 | 6.1 | 9 | 2.1 | 1.066728 | 1.032825 |
| Adventure | 325 | 6.559692308 | 6.5 | 6.7 | 8.9 | 2.3 | 1.252062 | 1.118956 |
| Drama | 554 | 6.812274368 | 6.8 | 6.7 | 9.3 | 2.1 | 0.796006 | 0.892192 |
| Animation | 40 | 6.6675 | 6.8 | 6.7 | 8.6 | 4.1 | 0.899863 | 0.948611 |
| Comedy | 811 | 6.121331689 | 6.2 | 6.2 | 8.8 | 1.9 | 1.076027 | 1.037317 |
| Mystery | 16 | 6.6125 | 6.5 | 6.6 | 8.6 | 3.1 | 0.977793 | 0.988834 |
| Crime | 206 | 6.923786408 | 6.5 | 6.6 | 9.3 | 2.4 | 0.971844 | 0.985822 |
| Biography | 166 | 7.16746988 | 7.2 | 7 | 8.9 | 4.5 | 0.481719 | 0.69406 |
| Fantasy | 32 | 6.184375 | 6.3 | 6.7 | 8.9 | 2.2 | 1.276752 | 1.129934 |
| Documentary | 20 | 6.91 | 7.4 | 7.8 | 8.3 | 1.6 | 1.679834 | 1.296084 |
| Sci-Fi | 7 | 6.628571429 | 6.4 | 6.7 | 8.8 | 1.9 | 1.325937 | 1.151494 |
| Horror | 141 | 5.85248227 | 5.9 | 5.9 | 8.5 | 2.3 | 1.040074 | 1.01984 |
| Romance | 1 | 7.1 | 6.5 | 6.5 | 8.5 | 2.1 | 0.919586 | 0.95895 |
| Family | 2 | 5.8 | 6.35 | 5.4 | 8.6 | 1.9 | 1.337982 | 1.156712 |
| Western | 2 | 8.1 | 6.75 | 6 | 8.9 | 4.8 | 0.960437 | 0.980019 |
| Thriller | 1 | 4.8 | 6.4 | 6.5 | 9 | 2.7 | 0.918748 | 0.958513 |




- ➔ Documentary Genre have highest average IMDB score which viewers rate higher among all other genre.
- ➔ Horror genre have the lowest average IMDB score which means viewers don't find it in their likings.
- ➔ Most common genre is "Drama" since it has the greatest number of movies i.e. 1916
- ➔ **Formulas Used**
- ➔ STD.EV(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))
- ➔ COUNTIF($AC$2:$AC$3204,$A2)
- ➔ AVERAGEIF($AC$2:$AI$3204,$A2,$AB$2:$AB$3204)
- ➔ MEDIAN(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))
- ➔ MODE.SNGL(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))
- ➔ MAX(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))
- ➔ MIN(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))
- ➔ VAR.P(IF($AC$2:$AI$3204=$A2,$AB$2:$AB$3204))

# Task -2 Movie Duration Analysis

| Duratior | No. of Movie | Average IMDB score(Me | Mediai | STDdde |
|---|---|---|---|---|
| 178 | 7 | 8.071428571 | 8.2 | 0.531075 |
| 169 | 4 | 7.6 | 7.85 | 1.06066 |
| 148 | 9 | 7.555555556 | 7.9 | 0.758816 |
| 164 | 4 | 7.75 | 7.55 | 0.438748 |
| 156 | 5 | 6.32 | 6.7 | 1.407693 |
| 100 | 89 | 6.015730337 | 6.1 | 1.113744 |
| 141 | 14 | 7.228571429 | 7.2 | 0.509101 |
| 153 | 9 | 7.366666667 | 7.5 | 0.851143 |
| 183 | 1 | 6.9 | 6.9 | 0 |
| 106 | 78 | 6.508974359 | 6.6 | 0.725221 |
| 151 | 4 | 8.175 | 8.3 | 0.562917 |
| 150 | 14 | 6.871428571 | 6.8 | 0.564963 |
| 143 | 13 | 7.223076923 | 7.3 | 0.614133 |
| 173 | 2 | 8.1 | 8.1 | 0 |
| 136 | 17 | 6.841176471 | 6.9 | 0.769307 |
| 186 | 2 | 7.2 | 7.2 | 0.7 |
| 113 | 51 | 6.439215686 | 6.4 | 0.838785 |
| 201 | 3 | 7.2 | 7.2 | 0 |
| 194 | 2 | 7.45 | 7.45 | 0.25 |
| 147 | 7 | 7.6 | 7.5 | 0.489898 |
| 131 | 27 | 6.859259259 | 6.9 | 0.817521 |
| 124 | 44 | 6.697727273 | 6.9 | 0.787253 |
| 135 | 27 | 6.896296296 | 7 | 0.685015 |
| 195 | 1 | 7.2 | 7.2 | 0 |
| 108 | 62 | 6.533870968 | 6.4 | 0.843369 |
| 104 | 77 | 6.224675325 | 6.3 | 1.059669 |
| 165 | 3 | 6.933333333 | 6.6 | 1.167143 |
| 130 | 32 | 6.815625 | 6.8 | 0.748795 |
| 142 | 13 | 7.6 | 7.6 | 0.951921 |
| 125 | 35 | 6.645714286 | 6.7 | 0.995803 |
| 123 | 44 | 6.790909091 | 6.85 | 0.712811 |
| 103 | 64 | 6.371875 | 6.3 | 0.815374 |
| 118 | 49 | 6.583673469 | 6.6 | 0.677434 |
| 140 | 16 | 7.05 | 7.25 | 0.723706 |
| 149 | 3 | 7.833333333 | 8 | 0.309121 |
| 132 | 27 | 6.951851852 | 6.8 | 0.592153 |
| 114 | 46 | 6.45 | 6.55 | 0.740667 |
| 116 | 52 | 6.484615385 | 6.5 | 0.893219 |
| 154 | 8 | 7.325 | 7.35 | 0.61998 |
| 122 | 39 | 6.817948718 | 6.8 | 0.803158 |
| 93 | 70 | 5.735714286 | 5.95 | 1.257098 |
| 98 | 88 | 6.302272727 | 6.3 | 0.952625 |
| 91 | 69 | 6.005797101 | 6.1 | 0.966374 |
| 158 | 5 | 7.14 | 7.6 | 0.884534 |
| 96 | 70 | 6.155714286 | 6.1 | 0.872703 |
| 127 | 28 | 7.028571429 | 7 | 0.916459 |
| 110 | 68 | 6.316176471 | 6.3 | 0.981237 |
| 144 | 12 | 7.308333333 | 7.2 | 0.51065 |
| 172 | 5 | 7.58 | 7.7 | 0.934666 |
| 87 | 42 | 5.823809524 | 5.65 | 1.177732 |
| 216 | 1 | 7.5 | 7.5 | 0 |
| 192 | 1 | 8.9 | 8.9 | 0 |
| 137 | 12 | 6.758333333 | 6.55 | 0.93849 |
| 83 | 21 | 5.528571429 | 5.7 | 1.10244 |
| 139 | 15 | 7.106666667 | 7.2 | 0.434307 |
| 86 | 35 | 5.857142857 | 6.1 | 0.952976 |
| 162 | 2 | 7.55 | 7.55 | 0.15 |
| 80 | 15 | 6.186666667 | 6.7 | 1.558575 |
| 177 | 2 | 6.3 | 6.3 | 0.3 |
| 73 | 2 | 7.15 | 7.15 | 1.35 |
| 163 | 1 | 7.6 | 7.6 | 0 |
| 212 | 1 | 6.6 | 6.6 | 0 |
| 187 | 1 | 7.9 | 7.9 | 0 |
| 189 | 2 | 8.05 | 8.05 | 0.45 |
| 81 | 14 | 6.085714286 | 6.05 | 0.880631 |
| 188 | 2 | 7.65 | 7.65 | 0.35 |
| 74 | 3 | 7.033333333 | 6.5 | 0.899383 |
| 280 | 1 | 6.3 | 6.3 | 0 |
| 155 | 5 | 7.22 | 7.2 | 0.453431 |
| 190 | 1 | 7.6 | 7.6 | 0 |
| 75 | 7 | 6.214285714 | 6.7 | 1.074947 |
| 160 | 4 | 6.625 | 6.75 | 0.892679 |
| 325 | 1 | 6.8 | 6.8 | 0 |
| 251 | 2 | 7.7 | 7.7 | 0.7 |
| 202 | 1 | 7.7 | 7.7 | 0 |
| 330 | 1 | 8 | 8 | 0 |
| 289 | 1 | 8.5 | 8.5 | 0 |
| 161 | 2 | 7.75 | 7.75 | 0.55 |
| 79 | 3 | 6.566666667 | 6.5 | 0.410961 |
| 63 | 1 | 7.3 | 7.3 | 0 |
| 167 | 1 | 7.9 | 7.9 | 0 |
| 193 | 2 | 6.95 | 6.95 | 0.95 |
| 175 | 1 | 7.4 | 7.4 | 0 |
| 185 | 1 | 8.9 | 8.9 | 0 |
| 219 | 1 | 7.8 | 7.8 | 0 |
| 271 | 1 | 7.7 | 7.7 | 0 |
| 68 | 2 | 6.7 | 6.7 | 0.3 |
| 225 | 1 | 6.6 | 6.6 | 0 |
| 236 | 1 | 8 | 8 | 0 |
| 180 | 1 | 8.3 | 8.3 | 0 |
| 227 | 1 | 8.4 | 8.4 | 0 |
| 220 | 1 | 9 | 9 | 0 |
| 72 | 1 | 5.7 | 5.7 | 0 |
| 293 | 1 | 8.4 | 8.4 | 0 |
| 200 | 1 | 8 | 8 | 0 |
| 197 | 1 | 7.6 | 7.6 | 0 |
| 152 | 5 | 7.82 | 7.7 | 0.679412 |
| 94 | 72 | 5.904166667 | 6.05 | 1.077089 |
| 126 | 23 | 7.156521739 | 7.2 | 0.573188 |
| 112 | 55 | 6.801818182 | 6.8 | 0.771183 |
| 176 | 3 | 6.933333333 | 6.9 | 0.694422 |
| 95 | 76 | 5.914473684 | 6.05 | 1.189284 |
| 97 | 70 | 6.124285714 | 6.3 | 1.133318 |
| 128 | 26 | 7.003846154 | 7.1 | 0.674526 |
| 102 | 68 | 6.252941176 | 6.4 | 0.910635 |
| 101 | 96 | 6.291666667 | 6.3 | 0.953466 |
| 120 | 54 | 6.916666667 | 7 | 0.882284 |
| 109 | 71 | 6.477464789 | 6.5 | 0.768242 |
| 121 | 47 | 6.623404255 | 6.8 | 1.192568 |
| 166 | 1 | 7.8 | 7.8 | 0 |
| 184 | 2 | 6.75 | 6.75 | 0.65 |
| 206 | 2 | 6.75 | 6.75 | 1.25 |
| 138 | 17 | 6.994117647 | 7.3 | 0.801815 |
| 157 | 3 | 7.633333333 | 7.6 | 0.20548 |
| 115 | 60 | 6.638333333 | 6.7 | 0.987099 |
| 111 | 52 | 6.759615385 | 6.8 | 0.71824 |
| 89 | 55 | 5.741818182 | 5.8 | 1.319048 |
| 105 | 65 | 6.341538462 | 6.4 | 0.776163 |
| 119 | 48 | 6.63125 | 6.7 | 1.023303 |
| 129 | 32 | 6.86875 | 6.9 | 0.752262 |
| 146 | 10 | 7.26 | 7.6 | 1.11463 |
| 88 | 56 | 5.973214286 | 6 | 1.30514 |
| 99 | 76 | 5.996052632 | 6 | 0.988678 |
| 90 | 74 | 6.078378378 | 6.25 | 1.090533 |
| 85 | 29 | 5.931034483 | 5.9 | 1.122836 |
| 92 | 58 | 6.075862069 | 6.2 | 1.081555 |
| 196 | 1 | 7.2 | 7.2 | 0 |
| 133 | 22 | 7.040909091 | 7.25 | 0.725296 |
| 215 | 3 | 7.8 | 7.7 | 0.216025 |
| 117 | 40 | 6.8225 | 6.9 | 0.861536 |
| 107 | 81 | 6.27037037 | 6.4 | 0.934714 |
| 82 | 25 | 5.772 | 6 | 1.154996 |
| 159 | 2 | 7.4 | 7.4 | 0.1 |
| 134 | 21 | 7.071428571 | 7.2 | 1.044324 |
| 77 | 5 | 5.58 | 5.4 | 1.213919 |
| 170 | 6 | 7.233333333 | 7.55 | 0.912262 |
| 76 | 5 | 5.28 | 5.6 | 1.316662 |
| 171 | 3 | 8.3 | 8.5 | 0.509902 |
| 84 | 25 | 5.668 | 5.8 | 0.804348 |
| 145 | 7 | 7.528571429 | 7.3 | 0.314934 |
| 174 | 2 | 7.7 | 7.7 | 0.3 |
| 78 | 5 | 6.52 | 6.6 | 0.607947 |
| 240 | 1 | 8.2 | 8.2 | 0 |
| 181 | 1 | 8 | 8 | 0 |
| 300 | 1 | 6.6 | 6.6 | 0 |
| 45 | 1 | 7.3 | 7.3 | 0 |
| 226 | 1 | 8.2 | 8.2 | 0 |




- ➔ **Movie with duration of between 200-250 minutes have the highest IMDB score**
- ➔ **Formulas used**
- ➔ **COUNTIF($AB$2:$AB$3204,$A2) [ Number of movies ]**
- ➔ **AVERAGEIF($AB$2:$AB$3204,$A2,$AA$2:$AA$3204) [Average IMDB score as per different duration of movies]**
- ➔ **MEDIAN(IF($AB$2:$AB$3204=$A2,$AA$2:$AA$3204)) [Median of IMDB score as per different duration of movies]**
- ➔ **STDEV.P(IF($AB$2:$AB$3204=$A2,$AA$2:$AA$3204)) [Standard deviation or how spread data is from its mean value]**

# Task – 3 Language Analysis

| Language | No. of movies | Mean | Median | Stddev |
|---|---|---|---|---|
| English | 3082 | 6.4 | 6.5 | 1.050809 |
| Mandarin | 13 | 7.1 | 7.4 | 0.744606 |
| Aboriginal | 2 | 7.0 | 6.95 | 0.55 |
| Spanish | 16 | 7.0 | 7.15 | 0.921425 |
| French | 25 | 7.4 | 7.3 | 0.53075 |
| Filipino | 1 | 6.7 | 6.7 | 0 |
| Maya | 1 | 7.8 | 7.8 | 0 |
| Kazakh | 1 | 6.0 | 6 | 0 |
| Cantonese | 6 | 7.4 | 7.4 | 0.35 |
| Japanese | 9 | 7.5 | 7.9 | 0.920279 |
| Italian | 6 | 7.3 | 7.35 | 1.115049 |
| Dutch | 2 | 7.5 | 7.45 | 0.35 |
| Dari | 2 | 7.5 | 7.5 | 0.1 |
| German | 7 | 7.9 | 7.8 | 0.433307 |
| Thai | 3 | 6.6 | 6.6 | 0.368179 |
| Bosnian | 1 | 4.3 | 4.3 | 0 |
| Korean | 4 | 7.5 | 7.5 | 0.414578 |
| Hungarian | 1 | 7.1 | 7.1 | 0 |
| Hindi | 5 | 7.2 | 7.4 | 0.716659 |
| Danish | 3 | 7.9 | 8.1 | 0.432049 |
| Portuguese | 3 | 8.0 | 8 | 0.08165 |
| Norwegian | 4 | 7.2 | 7.3 | 0.497494 |
| Russian | 1 | 6.5 | 6.5 | 0 |
| Zulu | 1 | 7.3 | 7.3 | 0 |
| Vietnamese | 1 | 7.4 | 7.4 | 0 |
| Indonesian | 1 | 7.6 | 7.6 | 0 |
| Persian | 2 | 8.5 | 8.45 | 0.05 |

➔ Persian language has the highest average IMDB Score i.e 8.5

➔ Bosanian language has the lowest average IMDB Score i.e 4.3

➔ Most common language is english as it as most number of movies i.e 3082

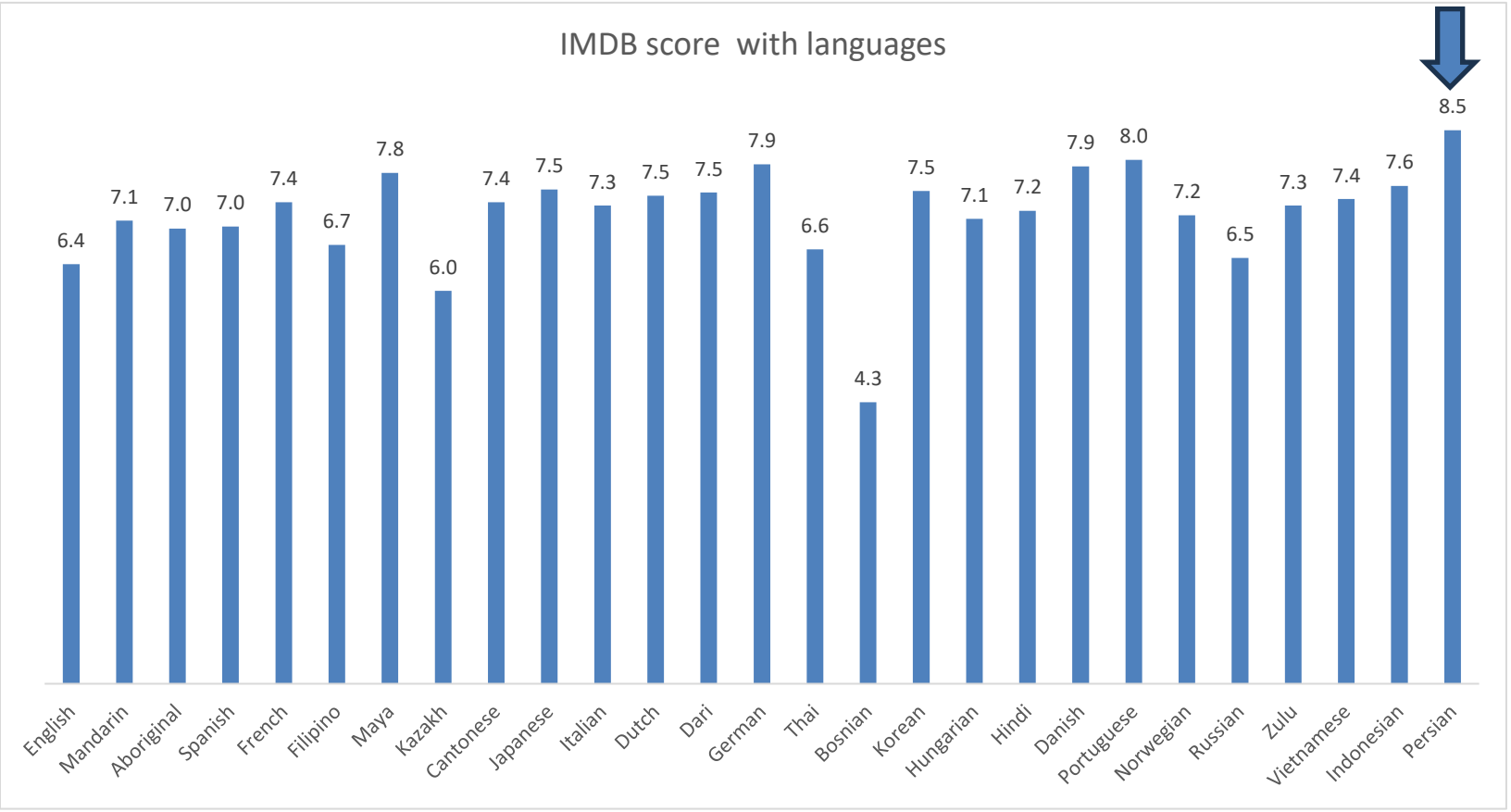
## Formulas used

➔ COUNTIF($AF$2:$AF$3204,$A2)

➔ =AVERAGEIF($AF$2:$AF$3204,$A2,$AE$2:$AE$3204)

➔ =MEDIAN(IF($AF$2:$AF$3204=$A2,$AE$2:$AE$3204))

➔ =STDEV.P(IF($AF$2:$AF$3204=$A2,$AE$2:$AE$3204))



# Task -4 Director Analysis

- **Directors who surpass 90th percentile in terms IMDB rating.**

| Director Name | No. of Movies | Mean | Median | Stddev |
|---|---|---|---|---|
| James Cameron | 6 | 7.883333 | 7.8 | 0.452462 |
| Christopher Nolar | 7 | 8.414286 | 8.5 | 0.538327 |
| Nathan Greno | 1 | 7.8 | 7.8 | 0 |
| Joss Whedon | 4 | 7.925 | 8.05 | 0.248747 |
| Peter Jackson | 11 | 7.654545 | 7.4 | 0.771496 |
| Lee Unkrich | 1 | 8.3 | 8.3 | 0 |
| Steven Spielberg | 24 | 7.529167 | 7.6 | 0.679141 |
| Andrew Stanton | 2 | 8.3 | 8.3 | 0.1 |
| Pete Docter | 3 | 8.233333 | 8.3 | 0.094281 |
| Martin Scorsese | 16 | 7.675 | 7.5 | 0.562917 |
| Brad Bird | 5 | 7.58 | 8 | 0.587878 |
| Don Hall | 1 | 7.9 | 7.9 | 0 |
| Rich Moore | 1 | 7.8 | 7.8 | 0 |
| Dean DeBlois | 3 | 7.766667 | 7.9 | 0.418994 |
| James Gunn | 1 | 8.1 | 8.1 | 0 |
| David Fincher | 9 | 7.9 | 7.8 | 0.54365 |
| Matthew Vaughn | 4 | 7.65 | 7.7 | 0.15 |
| Chris Buck | 1 | 7.6 | 7.6 | 0 |
| Peter Weir | 2 | 7.75 | 7.75 | 0.35 |
| Alejandro G. IÃ±Ã¡ | 5 | 7.84 | 7.8 | 0.233238 |
| Mark Osborne | 2 | 7.7 | 7.7 | 0.1 |
| Alfonso CuarÃ³n | 4 | 7.8 | 7.8 | 0.070711 |
| Paul Greengrass | 5 | 7.46 | 7.6 | 0.392938 |
| Quentin Tarantino | 8 | 8.2 | 8.2 | 0.396863 |
| Spike Jonze | 4 | 7.575 | 7.75 | 0.460299 |
| Yimou Zhang | 4 | 7.525 | 7.6 | 0.326917 |
| Tony Bancroft | 1 | 7.5 | 7.5 | 0 |
| Edgar Wright | 4 | 7.6 | 7.7 | 0.3937 |
| Jacques Perrin | 1 | 7.8 | 7.8 | 0 |
| Pierre Coffin | 2 | 7.6 | 7.6 | 0.1 |
| Mel Gibson | 2 | 8.1 | 8.1 | 0.3 |
| Frank Darabont | 4 | 7.975 | 7.85 | 0.973075 |
| Alejandro AmenÃ¡ | 2 | 7.65 | 7.65 | 0.45 |
| Tom Hooper | 2 | 7.8 | 7.8 | 0.2 |
| Stanley Kubrick | 2 | 7.8 | 7.8 | 0.5 |
| Tim Miller | 1 | 8.1 | 8.1 | 0 |
| Francis Ford Copp | 8 | 7.4625 | 7.35 | 0.861594 |
| Milos Forman | 2 | 7.85 | 7.85 | 0.45 |
| Bennett Miller | 1 | 7.6 | 7.6 | 0 |
| Wes Anderson | 6 | 7.616667 | 7.7 | 0.33375 |
| Denis Villeneuve | 2 | 7.85 | 7.85 | 0.25 |
| Richard Curtis | 2 | 7.75 | 7.75 | 0.05 |
| Norman Ferguson | 1 | 7.5 | 7.5 | 0 |
| John G. Avildsen | 3 | 7.5 | 7.2 | 0.424264 |
| J.A. Bayona | 2 | 7.55 | 7.55 | 0.05 |
| Paul Thomas And | 6 | 7.516667 | 7.6 | 0.517741 |
| Ryan Coogler | 1 | 7.7 | 7.7 | 0 |
| Ben Affleck | 1 | 7.6 | 7.6 | 0 |
| Jean-Marc VallÃ©e | 3 | 7.466667 | 7.3 | 0.385861 |
| Hayao Miyazaki | 4 | 8.225 | 8.3 | 0.334477 |
| Richard Marquand | 1 | 8.4 | 8.4 | 0 |
| Ted Demme | 1 | 7.6 | 7.6 | 0 |
| Steve Box | 1 | 7.5 | 7.5 | 0 |
| Tim McCanlies | 1 | 7.6 | 7.6 | 0 |
| Tate Taylor | 2 | 7.5 | 7.5 | 0.6 |
| Paul Haggis | 3 | 7.733333 | 7.9 | 0.235702 |
| Sergio Leone | 3 | 8.433333 | 8.4 | 0.368179 |
| David Lean | 3 | 7.933333 | 8 | 0.410961 |
| Philip Kaufman | 2 | 7.65 | 7.65 | 0.25 |
| Bernardo Bertoluc | 1 | 7.8 | 7.8 | 0 |
| Dexter Fletcher | 2 | 7.5 | 7.5 | 0 |
| Giuseppe Tornato | 1 | 7.8 | 7.8 | 0 |
| Christian Carion | 1 | 7.8 | 7.8 | 0 |
| Tom McCarthy | 2 | 7.9 | 7.9 | 0.2 |
| John Patrick Shan | 1 | 7.5 | 7.5 | 0 |
| Alfred Hitchcock | 1 | 8.5 | 8.5 | 0 |
| Sean Penn | 1 | 8.2 | 8.2 | 0 |
| Stephen Chow | 2 | 7.55 | 7.55 | 0.25 |
| Charlie Kaufman | 1 | 7.5 | 7.5 | 0 |
| Katsuhiro Ã"tomo | 2 | 7.5 | 7.5 | 0.6 |
| Brian Percival | 1 | 7.6 | 7.6 | 0 |
| Michael Haneke | 2 | 7.85 | 7.85 | 0.05 |
| Terry George | 1 | 8.1 | 8.1 | 0 |
| George Cukor | 1 | 7.9 | 7.9 | 0 |
| Morten Tyldum | 2 | 7.85 | 7.85 | 0.25 |
| James Ivory | 1 | 7.9 | 7.9 | 0 |
| Tommy Lee Jones | 1 | 7.5 | 7.5 | 0 |
| Gilles Paquet-Bren | 1 | 7.5 | 7.5 | 0 |
| Lars von Trier | 3 | 7.5 | 7.4 | 0.374166 |
| Eric Bress | 1 | 7.7 | 7.7 | 0 |
| Alex Garland | 1 | 7.7 | 7.7 | 0 |
| Stephen Chbosky | 1 | 8 | 8 | 0 |
| Je-kyu Kang | 1 | 8.1 | 8.1 | 0 |

| | | | | |
|---|---|---|---|---|
| StÃ©phane Aubie | 1 | 7.9 | 7.9 | 0 |
| Brian Henson | 1 | 7.7 | 7.7 | 0 |
| Josh Boone | 1 | 7.8 | 7.8 | 0 |
| Paolo Sorrentino | 1 | 7.7 | 7.7 | 0 |
| Chuan Lu | 1 | 7.7 | 7.7 | 0 |
| John Crowley | 1 | 7.5 | 7.5 | 0 |
| Tony Kaye | 1 | 8.6 | 8.6 | 0 |
| Stanley Kramer | 1 | 7.6 | 7.6 | 0 |
| Mike Leigh | 1 | 7.6 | 7.6 | 0 |
| Dan Gilroy | 1 | 7.9 | 7.9 | 0 |
| Don Siegel | 1 | 7.6 | 7.6 | 0 |
| Mary Harron | 1 | 7.6 | 7.6 | 0 |
| Steve James | 2 | 7.55 | 7.55 | 0.75 |
| Tomm Moore | 1 | 7.7 | 7.7 | 0 |
| John Carney | 2 | 7.65 | 7.65 | 0.25 |
| Thomas Vinterber | 3 | 7.666667 | 8.1 | 0.758654 |
| Vincent Paronnau | 1 | 8 | 8 | 0 |
| Caroline Link | 1 | 7.7 | 7.7 | 0 |
| Wolfgang Becker | 1 | 7.7 | 7.7 | 0 |
| Michael Moore | 3 | 7.666667 | 7.5 | 0.235702 |
| George Roy Hill | 2 | 8.2 | 8.2 | 0.1 |
| Robert Stevenson | 1 | 7.8 | 7.8 | 0 |
| Jerome Robbins | 1 | 7.6 | 7.6 | 0 |
| Kevin Macdonald | 1 | 7.7 | 7.7 | 0 |
| Christophe Barrat | 1 | 7.9 | 7.9 | 0 |
| Michael McGowar | 1 | 7.6 | 7.6 | 0 |
| Billy Bob Thorntor | 1 | 8 | 8 | 0 |
| Chan-wook Park | 1 | 7.7 | 7.7 | 0 |
| Fernando LeÃ³n d | 1 | 7.7 | 7.7 | 0 |
| Victor Fleming | 1 | 8.2 | 8.2 | 0 |
| Jim Abrahams | 1 | 7.8 | 7.8 | 0 |
| Damien Chazelle | 1 | 8.5 | 8.5 | 0 |
| Joshua Marston | 1 | 7.5 | 7.5 | 0 |
| Billy Wilder | 1 | 8.3 | 8.3 | 0 |
| Mel Brooks | 1 | 8 | 8 | 0 |
| Joshua Tickell | 1 | 7.6 | 7.6 | 0 |
| William Wyler | 1 | 8.1 | 8.1 | 0 |
| Petter NÃ¦ss | 1 | 7.6 | 7.6 | 0 |
| Chia-Liang Liu | 1 | 7.6 | 7.6 | 0 |
| Sylvain Chomet | 1 | 7.8 | 7.8 | 0 |
| David Sington | 1 | 8.1 | 8.1 | 0 |
| Ralph Ziman | 1 | 7.8 | 7.8 | 0 |

| | | | | |
|---|---|---|---|---|
| Orson Welles | 1 | 7.7 | 7.7 | 0 |
| James Marsh | 1 | 7.8 | 7.8 | 0 |
| Todd Field | 1 | 7.5 | 7.5 | 0 |
| Ritesh Batra | 1 | 7.8 | 7.8 | 0 |
| Charles Chaplin | 1 | 8.6 | 8.6 | 0 |
| Anna Muylaert | 1 | 7.9 | 7.9 | 0 |
| Gareth Evans | 1 | 7.6 | 7.6 | 0 |
| Chris Paine | 1 | 7.7 | 7.7 | 0 |
| Elia Kazan | 1 | 8.2 | 8.2 | 0 |
| Asghar Farhadi | 1 | 8.4 | 8.4 | 0 |
| Michael Wadleigh | 1 | 8.1 | 8.1 | 0 |
| Barry W. Blaustein | 1 | 7.6 | 7.6 | 0 |
| Whit Stillman | 1 | 7.5 | 7.5 | 0 |
| Henry Alex Rubin | 1 | 7.8 | 7.8 | 0 |
| Tom Putnam | 1 | 7.5 | 7.5 | 0 |
| Majid Majidi | 1 | 8.5 | 8.5 | 0 |
| Andrew Haigh | 1 | 7.7 | 7.7 | 0 |

- 143 directors surpass 90$^{th}$ percentile mark in terms of IMDB rating.
- Formulas used

- COUNTIF($AD$2:$AD$3204,$A2)
- AVERAGEIF($AD$2:$AD$3204,$A2,$AC$2:$AC$3204)
- MEDIAN(IF($AD$2:$AD$3204=$A2,$AC$2:$AC$3204))
- STDEV.P(IF($AD$2:$AD$3204=$A2,$AC$2:$AC$3204))

# Task -5 Budget Analysis

## ➢ Top 5 Movies with the highest profit margin

| | |
|---|---|
| AvatarÂ | 523505847 |
| Jurassic WorldÂ | 502177271 |
| TitanicÂ | 458672302 |
| Star Wars: Episode IV - A New HopeÂ | 449935665 |
| The AvengersÂ | 403279547 |

- The Movie with the highest profit margin is "Avatar"  which is 523505847
- Formulas used
  - CORREL($A$2:$A$3204,$B$2:$B$3204) between budget and gross earning.
  - Profit = Gross Earning – Budget.

Link to the excel sheet -https://docs.google.com/spreadsheets/d/1DgO82Td1Kj4_w3ksz3-vJ8OmICXrNbIi/edit?usp=sharing&ouid=116598383154898349386&rtpof=true&sd=true