Motion picture industry managerial report

Business

When creating a movie to release in such a competitive industry, assurance is needed that there will be a return on investment as well as that their movie will be well-received by the public and entertaining to make it a popular hit at the box office. Using a sample of 100 motion pictures from 2005 and numerical methods of descriptive statistics, including measures of location, variability, distribution shape and the detection of outliers, the motion picture industry can be analyzed more specifically in order to learn how these variables play a part in the success of a motion picture.

The main concern of management in this case would be with regard to revenue, profit, and entertainment. In this case study it was found that there was a high correlation between the total gross sales and the opening gross sales, time spent in the Top 60 and the number of theaters played in, indicating that movie makers should take these variables into consideration when trying to predict or plan for a successful movie. The motion picture industry is a cutthroat, multi-billion dollar industry involving a diverse number of contributors to making a successful movie.

From production crews, actors, and directors to marketing crews, distribution companies and movie theaters, there is substantial time and effort put into these creations and there are four variables commonly used to measure the return on this investment. These variables include the opening weekend gross sales, total gross sales, number of theaters showing the movie, and weeks in the top sixty of gross sales. The first variable, opening gross, can inform movie makers how anticipated and well-received a movie is and can be a good indication of how much money the movie will earn overall.

After calculating several central tendency measures (mean, median, and mode), one can create a histogram and see the opening weekend gross sales are heavily skewed to the right. The median opening gross sales of 0. 40, indicating 50% of the opening gross sales values were less than 0.

40 and 50% were greater than 0. 40, would be a more appropriate central tendency measure than the mean due to this skewness. The range of opening gross sales was 108. 43, from 0. 01 (Caterina in the Big City) to 108. 44 (Star Wars: Episode III), and the standard deviation was 18.

87.

However, the interquartile range of 12. 37 would be a more appropriate measure of variability because the distribution is skewed and has extreme values. Once a box-plot is created, one can see the extreme values are 108. 44 (Star Wars: Episode III), 102.

69 (Harry Potter and the Goblet of Fire), 77. 06 (War of the Worlds), 50. 34 (Mr. and Mrs. Smith), 48.

75 (Batman Begins), and 33. 90 (Wedding Crashers). Total Gross will demonstrate how much money a movie has earned overall. This can serve as an indicator of which types of movies will resonate with movie-goers and do well in the future.

This could also serve as a guide of whether to make a sequel and if it would or would not maximize profits.

As with the opening gross, total gross also has a right tail, therefore, median would be a more appropriate central tendency measure than the mean. The

median total gross was 5. 85, indicating 50% of the total gross values were less than 5. 85 and 50% were above 5. 85.

The range of total gross was 380. 15; from 0. 03 to 380. 18 and the standard deviation was 63. 16. Again, the interquartile range of 47.

03 ould be a more appropriate measure of variability due to the skewness. Based on the box-plot, extreme values were 380. 18 (Star Wars: Episode III), 287. 18 (Harry Potter and the Goblet of Fire), 234. 21 (War of the Worlds), 209.

22 (Wedding Crashers), 205. 28 (Batman Begins), and 186. 22 (Mr. and Mrs. Smith). The number of theaters can also be an indication of a movie's popularity and potentially large profits, as movie theaters will often bring in and continue showing the most high-demand movies in order to bring in revenue to the theater.

The number of theaters is also heavily skewed to the right, indicating the median would be a more appropriate measure than the mean. The median was 410, therefore 50% of the values were less than 410 and 50% of the values were above 410. The range of the number of theaters was 3905, from 5 to 3910 and the standard deviation was 1379. Due to the skewness the interquartile range of 2687 is a better measure of variability. No outliers are identified by creating a box-plot for number of theaters.

Weeks in the Top 60 will correlate with the popularity of a movie after it had been released over a period of time.

Movies will continue showing if audiences consistently continue to view them after their release date, in turn, creating more revenue. As with the other variables weeks in the top 60 is also skewed to the right, meaning the median of 7 would be a more appropriate measure than the mean, indicating 50% of the variables were above 7 and 50% were less than 7. Note that because the data was not highly skewed, the mean and median were close to each other. The range of weeks in the top 60 was 26, from 1 to 27, the standard deviation was 6. 39, and the interquartile range was 10.

There were no outliers observed for this variable. Now that we have taken a look at the four variables we can see that the median opening gross sales was . 40 or $400, 000 meaning half earned more than that and half earned less in the opening weekend. The median total gross sales was 5. 85 or $5.

85 million, indicating half of the movies earned more in total sales and half earned less. The median number of theaters was 410 meaning half of the movies showed in more than 410 theaters and half of the movies showed in less than 410 theaters.

The median number of weeks in the Top 60 was 7 showing that half of the movies shown stayed in Top 6 for less than 7 weeks and half stayed for more than 7 weeks. With regard to the correlation between total gross sales and our other variables it is evident that there is a high correlation between total gross sales and opening gross sales, as well as number of theaters and weeks in the top 60. This indicates that those movies that have a high total gross will tend to have a high opening gross and vice versa with low gross sales.

Also, this proves to be the same for number of theaters and weeks in the top 60 as typically movies with high total gross sales tend to have been played in more theaters and stayed in the Top 60 for a longer period of time.

In conclusion, the use of descriptive statistics can prove to be highly valuable in the evaluation process for any firm or industry. Generally, this can give management a clearer image of where they've been and where they are going, as well as where they want to avoid which can serve so many diverse purposes in the management process.