# DATA SCIENCE FOR HOLLYWOOD

### **New Trends for Big Data in the Film Industry**



# **Defining Profitability**

Hollywood is just like any other industry when it comes to defining profitability. They use the simple formula of revenues minus expenses. The problem with this model is that it does not take into account overhead and operational costs as part of the profitability equation for a given product. This is further complicated by the fact that attribution is nearly impossible to track. Box office numbers report production costs against box office revenues. This leaves out marketing costs, overhead and operational costs, from the profitability equation. In general, marketing costs for a wide distribution film are equal to, or more than, the production costs. A film with \$50 million production costs, most likely spent upwards of \$50 million in marketing.

Real profitability goes beyond the simple equation of revenue minus expenses.

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## Visualize Real Profitability

Marketing is a direct expense that falls under gross margin (total revenue - total direct cost = gross margin). But executive bonuses are paid on top-line revenue, not gross margin, and certainly not real profitability. This can lead to overspending on marketing for the sake of top-line revenue. The sales team is also compensated on revenue. In this case, product discounts will decrease the profitability of a sales channel, but not the compensation, thereby further eroding the profitability. The ability to track real profitability and then visualize it for the sales force, brings awareness and visibility to the sales team and motivates them to structure truly profitable deals.

An accurate profitability model examines multiple real-time inputs from the organization.

# The Personality Factor

Profitability is idiosyncratic, it's different for each studio. Each studio has their specific model for selecting release dates, leveraging their brand, building their portfolio, supporting franchises and securing screenplay rights. An analysis of a studio's personality will help define the studio's voice. This can be used to build brand awareness that allows the studio to leverage their products and seed the market so that each movie release has a context of market awareness and built-in expectation, resulting in increased profitability.

## Downstream Profitability

The profitability for a given title will change over time as revenue begins to come in from downstream distribution channels like Video On Demand and Netflix. This revenue has higher profitability because the costly marketing campaign for the initial release has already been executed. For wide release movies, box office is the first, and major, revenue stream. However, some movies become more popular over time and develop their own cult following. These are disrupter movies that strike a deep emotional chord with an enthusiastic audience. Big data can help you predict a profitable disruptor by analyzing the emotional and conceptual aspects of a movie or a screenplay.

# The Dating Game

One of the challenges every studio faces in optimizing profitability is the dating game. What is the best possible date to release the movie? What else will release that weekend? When do I begin marketing?

If a studio knew a movie was coming out that would reduce its opening weekend market share, and it's early enough, they will move the date. However, this often this can't be done because marketing has already begun or partnerships are a dependency. Although June 24, 2016 seemed like the



optimum release date for *Independence Day: Resurgence* from 20th Century Fox, it released too close to Disney's highly anticipated blockbuster, *Finding Dory*, and never gained momentum in the box office.

Data science can be used to track various inputs and dimensions, both historical and real-time, to provide on-demand predictions for the best release date. Input variables include global events calendar, studio schedules, competitive research, industry knowledge, market intelligence, social listening, probability speculation and undisclosed titles. These variables have different impact depending on a film's genre, cast, rating and target demographics. Each input is weighted and prioritized for each film and then data analysis is performed to determine the optimum date.

Using undisclosed titles for manipulating dating is a new trend in the industry. You should start tracking it now.

#### **Blind Dates**

A new trend in the industry is pre-booking release dates with undisclosed titles. This allows a studio to pre-book a date whether or not they have an actual title planned for that slot. This forces the competition to guess what the title might be in order to decide if a movie is strong enough to go up against the mystery title. You should start tracking this trend now. Use data science to track how often studios use undisclosed titles, which ones move dates and which ones are gaming the system. This becomes yet another variable for selecting, tracking and potentially moving a release date.

# It's Raining Cash

Even weather data can be an input that influences the selection of the optimum date. February is a risky, rainy month, but it is an excellent choice for a sleeper hit movie. *Deadpool* set the box office record for a February release at \$132 million.

To leverage the February release date, *Deadpool* used romantic ads as a Valentine's Day comedy spoof to help fans woo their girlfriends to go see the raunchy anti-superhero movie. In typical *Deadpool* fashion, they designed mock ads that made the movie look like a romance, not a bawdy superhero action movie. This cheeky approach gave them a bit of leverage with the ladies.



# Targeted Trailers

Multiple trailers that target specific demographics are the best way to widen the audience and turn viewers into ticket purchasers.

A successful example of targeted trailers that expanded the viewership before the release of the program is Netflix's *House of Cards*. First, Netflix used data science and predictive analytics to indicate the series would be a hit before they committed \$100 million for two seasons. Next, they created different trailers geared toward specific demographics including:

- A version for Kevin Spacey fans that prominently featured the star
- A gender-specific trailer that prominently featured women
- A film connoisseur trailer that promoted the participation of critically acclaimed director,
   David Fincher
- A genre-based trailer for political drama fans
- A historical-based trailer for viewers of the original BBC series

This targeted approach expanded their audience reach and created anticipation and buzz around the new series. It was an instant hit.

Similarly, *Deadpool* leveraged a series of trailers to capture interest and build anticipation. The trailers featured spoofs and even a cameo appearance in another trailer for a different superhero movie.

### Social Listening

Everyone tracks social media sentiment to discover trends, predict genre fatigue, track trailer views and gauge passion and reach. However, most companies do not have a proactive, carefully timed social media strategy designed to expand the audience and turn spectators into purchasers.

Deadpool leveraged social media early on to build enthusiasm and anticipation. Ryan Reynolds was tweeting regularly about the movie, the characters and the story. He was funny, raunchy, bawdy and fully in character. He posted photos, memes and quirky, funny poses that went viral.



#### **Rug-ged Super Hero**



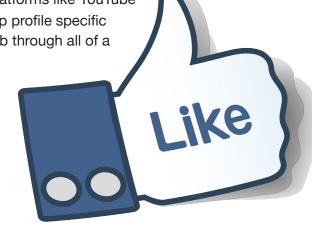
Whenever possible, get the actors, or characters, involved in the social media campaign and provide them with materials and tools to promote the cast and the movie. Track the response and the sentiment in order to adjust and optimize the social media presence.

## Social Profiling

It's now possible to profile the views, likes and comments on platforms like YouTube and Twitter. Cognitive computing tools like IBM Watson can help profile specific users and determine if they are influencers. Algorithms will scrub through all of a

poster's comments, likes and interactions. Natural language processing is then used to develop a psychographic and demographic profile for that user. This personality analysis provides more value than generalized sentiment analysis. It identifies the most influential users. A graph analysis plots the relationships between users and provides keywords and concepts to successfully market a film. This can be used for highly targeted social media campaigns.

A proactive social media strategy, combined with a series of trailers will broaden the market and the appeal.



demographic-specific

# Don't Get Angry, Get Even

The social media strategy should be carefully considered before applying data science. Standard algorithms for social media sentiment may not account for variables that are unique to your film. For example, a text analysis of positive versus negative words in tweets is a basic algorithm that should be applied to all movies. However, the film *Angry Birds* features a negative word in it's title. In this case, the algorithm should be modified to exclude the word "angry" from the sentiment analysis.

#### Data Science is a Must Have

Data science is an emerging and rapidly developing field with applications that can be extended across the business. Data analytics provides the ability to predict dating, box office revenues and social media sentiment.

New algorithms are emerging that allow studios to get an edge against the competition, spot disruptors and track real profitability. These should be planned and implemented in an accessible and flexible manner so you can fine-tune your business in real-time.



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