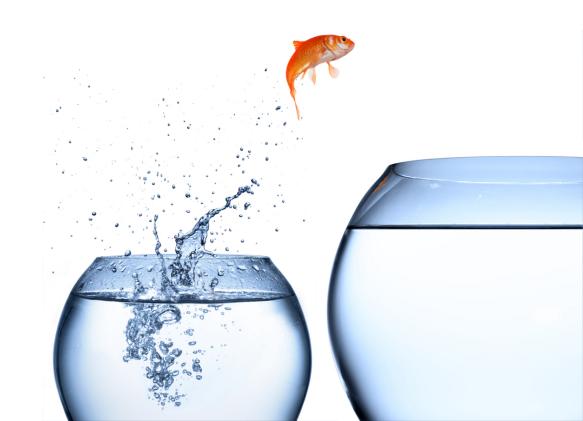


BIG DATA

EMANUELE DELLA VALLE 18 MAGGIO 2018



Success story The Big Data Behind Netflix's "House of Cards"

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Netflix in numbers

- Netflix streaming service is said to account for 1/3
 of peak time internet traffic in the US.
- Last year, Netflix announced that it signed on 50 million accounts worldwide.

understanding viewing habits

- Netflix specialists wade through and capture important information from a variety of different analytics streams:
 - Personalization analytics
 - Messaging analytics
 - Content delivery analytics
 - Device analytics

— ...

Back in 2006 ...

Netflix was a DVD delivery service



The Netflix prize

- Central to the effectiveness of its DVD delivery service was its recommendation engine
- Netflix offered \$1m to the person
 that could come up with the best algorithm for
 predicting how customers would rate a movie
 based on their previous ratings.
- See http://www.netflixprize.com/

With four data points ...

- At the time, Netflix was mainly a DVD delivery service so programmers only had access to four data points:
 - Customer ID
 - Movie ID
 - Rating
 - The date the movie was watched

... Netflix predicts movie preferences

- The sophisticated winning approaches (see http://www.netflixprize.com/leaderboard.html)
 did not made it to production
- A simple scalable (based on Big Data technology) approach made it

Nowadays, with more data points ...

- As streaming video became the primary focus, many more data points became available, giving insights into the customers
- These included...
 - Time of day something was watched
 - User gender and age (based on individual logins)
 - Time spent selecting movies
 - How often a movie or program was paused

... Netflix predicts "perfect situation"

- Netflix can now analyze how these factors impacted viewers' enjoyment (based on ratings given to movies).
- With no ads, Netflix's business model relies on customers who subscribe to their service for the long run. The happier the customers are, the longer they will stay subscribed to the service.
- Using these data points, Netflix developers built models to predict the "perfect situation" in which customers continuously receive programs they enjoy.

... creates "specific" category suggestions

- Another method of data analytics is movie tagging. When a viewer rates a movie highly, the Netflix algorithm suggests other movies they may enjoy based on matching tags
- The service has created 76,897 unique ways to describe types of movies.
- These are called "alt-genres," which is what leads to Netflix's scarily specific category suggestions (e.g., "Comedies Featuring a Strong Female Lead").

... bids on original programming

 When the series House of Cards began shopping around for a home, Netflix aggressively jumped on it, outbidding major cable networks with a massive two-season order.

Why the enthusiasm?

- By analyzing its data, Netflix saw that a large majority of its viewers enjoy programs:
 - directed by David Fincher (who directed Se7en, Fight Club and The Social Network)
 - starring Kevin Spacey.

House of Cards was exactly that!





... promots programs

- Netflix took a data-driven approach to promote House of Cards.
- For example, the company modelled the show's cover image on the colours and styles for successful, similarly tagged programs, to help draw new viewers in



Conclusion

 Netflix disrupted the TV industry using data analytics to provide viewers with exactly the content they want.



Credits

- The Big Data Behind Netflix's "House of Cards".
 Hewlett Packard Enterprise Development
 - https://www.hpematter.com/issue-no-8-winter-2016/
 big-data-behind-netflixs-house-cards

Thank you! Any Question?

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