Data Science Bootcamp

CROWDFUNDING

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Background

Crowdfunding is a way for innovators and entrepreneurs to raise capital from investors ranging from wealthy individual advocates to worldwide groups throughout the global marketplace. Raising money is the purpose common to all crowdfunding intermediaries. However, they differ in terms of investor or donor return agreements. For example, crowdfunding can be divided into four types: donations, rewards, debt securities, and equity financing. Complexity and risks also differ among these crowdfunding types. Our data set presents projects and start-ups representative of the whole industrial spectrum.

Each adopts campaign strategies that best align with its market positioning, from technology to theater, from food to film. A successful campaign launch is dependent on many things. Cost signaling rises to the top of the list. Entrepreneurs and innovators able to exercise strong product life cycle management, including pre and post-launch strategies, tend to gain more support from Backers. Why? Investors (backers) are still drawn more to low risk with high returns. Whether we consider service providers or product manufacturers, these truths still hold. Whether we're talking about B2B or B2C, effective cost management, multi-channel marketing, manufacturing, and strategic distribution networks appeal to potential investors.

For example, let's consider the all-or-nothing (AON) and the keep-it-all (KIA) funding models germane to reward-based crowdfunding. We notice more and more significant pledges as entrepreneurs shoulder more risk. With AON, the entrepreneur keeps none of the capital unless the goal is achieved. (Cumming, et al. 2020). Our data set does not capture many of these nuances. A keener perspective allows us to factor these differences into our conclusion. Aside from all this, entrepreneurs and innovators able to deliver products or services to the market that provide market demand and consumer-based solutions in a socially responsible manner attract venture capitalists, donors, and marketplace investors.

Data-based Conclusions

Our data included variables that appeared insignificant or had little impact on the outcomes. Consider Kickstarter as an example, spotlight should not be used to predict the outcome as it depends on the outcome. Like spotlight, staff pick also does not guarantee success despite the extra exposure. As stated earlier, innovators and entrepreneurs must exploit multi-channel marketing strategies to compete and win in the global marketplace. Speed is essential, but timing is crucial.

Our pivot tables showed that while plays and theater had the highest number of successful projects, they also had the highest number of failures and cancels.

Our line chart, which shows time-series data, indicates seasonality conditions with larger success rates occurring during the summer between July and August.

Data Limitations

This data lacks more advanced statistical analysis, which would allow us to standardize the data. Depending on the various data types, many more advanced statistical tools and procedures would yield a better analytical perspective and facilitate better data comparisons. In addition, to the industry-specific nuances, we should consider things like sampling distribution, data biases, and size and scope differences.

Additional Graphs, Tools, and Tables

A histogram would allow us to better assess the shape of our data (distribution). The distribution of our data determines the appropriateness of other statistical tools and techniques. If linearity is determined, a scatter plot can show relatedness and test for the strength of the relationship. Once we have the correlation coefficient, we can determine the coefficient of determination. This is also known as R2. This captures the amount of variation in the dependent variable explained by that which is present in the independent variable. An R2 of 1 suggests that 100% of the variation Y, the dependent variable, is defined by the variation in X, the independent variable (Kellar 2018). Regression analysis can be used to render predictability. Again, many tools are at our disposal, depending on our data and needs.

Bonus Conclusions

Avg Number of backers:	851
Med Number of backers:	201
Min Number of backers:	16
Max Number of bakers:	7295
Var Number of backers:	1606217
Std Dev of Number of backers:	1267

Avg Number of backers:	586
Med Number of backers:	115
Min Number of backers:	0
Max Number of bakers:	6080
Var Number of backers:	924113
Std Dev of Number of backers:	961

Use your data to determine whether the mean or the median better summarizes the data.

Answer: The median best summarizes the data in both cases because the median is less than the average, indicating high-side outliers, which would inflate the average or mean.

Use your data to determine if there is more variability between successful or unsuccessful campaigns. Does this make sense? Why or Why not?

Answer: There is more variation among the successful campaigns. Given that successful campaigns have more variance, the standard deviation is also more prominent than unsuccessful ones. Yes, it does make sense.

References

Cumming, D., & Johan, S. A. (2020). *Crowdfunding: Fundamental cases, facts, and insights*. Academic press, An imprint of Elsevier.

Keller, G. (2018). *Statistics for Management and Economics* (11th ed.). Cengage.