Kickstarter Campaign Data Analysis Report

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5. Introduction

Kickstarter is an online fundraising platform that allows individuals and early-stage companies to crowd source their projects through user donations. This report analyzes Kickstarter fundraising campaigns dating from May 2009 to March 2017. The data is analyzed for possible trends in successful and failed campaigns based on campaign category, money goal, creation date, and backer count. Data set limitations are also discussed. A successful campaign is defined as the total amount of pledge money exceeding the goal amount.

In the following sections, these questions will be addressed:

1. Given the provided data, what are three conclusions we can draw about Kickstarter campaigns?
2. What are some limitations of this dataset?
3. What are some other possible tables and/or graphs that we could create?
4. Analysis

**Question: Given the provided data, what are three conclusions we can draw about Kickstarter campaigns?**

**2.1 Campaign Outcome per Creation Month**

Chart, line chart

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Figure 1: Number of Successful, Failed, Canceled, and Live Kickstarter Campaigns per Creation Month across entire data set.

Figure 1 indicates that on average, independent of other factors like goal amount and category, a campaign is more likely to be successful in the months of February through June. The peak success rate is 60.6% in May, and the lowest success rate is 44.1% in December.

One potential cause of low campaign success rate in December is that individuals may be less likely to donate money near the holiday season. In December, many people are spending money on gifts for major holidays like Christmas. This would lead them to have fewer financial resources to devote to fundraising efforts.

**2.2 Campaign Outcome per Category & Sub-Category**

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Figure 2: Number of Successful, Failed, Canceled, and Live Kickstarter Campaigns per Category across entire data set.

Figure 2 shows that the most frequent Kickstarter campaign category is theater. The greatest number of successful (839) and total (1393) campaigns are categorized primarily as theater. However, the music category holds the highest success rate of 77%. The food category holds the lowest success rate of 17%, although limited by small sample size of 200 fundraising attempts (4114 total).

Chart

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Figure 3: Number of Successful, Failed, Canceled, and Live Kickstarter Campaigns per Sub-Category across entire data set.

Figure 3 indicates the most popular sub-category is plays. This is expected since plays is the predominate sub-category of the theater main category. There are 12 sub-categories that have a 100% success rate: classical music, documentary, electronic music, hardware, metal, nonfiction, pop, radio and podcasts, shorts, small batch, tabletop games, and television. Rock has the highest total campaigns in this 100% group with 260 campaigns.

**2.3 Campaign Outcome vs. Goal Amount (Bonus 1)**

Chart, line chart

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Figure 4: Percentage of Successful, Failed, and Canceled Kickstarter Campaigns per Goal Amount Bin across entire data set. Including Trendlines for each Outcome.

Figure 4 clearly indicates that the campaign success rate is inversely proportional to the goal amount. The success rate is 71% for goals under 1,000 and 19% for goals greater than or equal to 50,000.

**2.4 Backer Count Statistical Analysis (Bonus 2)**

Table 1: Statistical Analysis of Backer Count Totals for Successful and Failed Campaigns.

|  |  |  |
| --- | --- | --- |
| Statistical Analysis | | |
|  | Successful | Failed |
| Mean | 194 | 18 |
| Median | 62 | 4 |
| Minimum | 1 | 0 |
| Maximum | 26457 | 1293 |
| Variance | 712841 | 3773 |
| Std Deviation | 844 | 61 |
| 1st Quartile | 29 | 1 |
| 3rd Quartile | 141 | 12 |
| InterQuartile Range | 112 | 11 |
| Lower Outlier Bound | -139 | -16 |
| Upper Outlier Bound | 309 | 29 |
| Adjusted Mean (excluding Outliers) | 75 | 5 |

The median value for the number of backers for successful and failed campaigns summarizes the data set more meaningfully than the mean. The large difference between the 3rd quartile values and the maximum values in each case indicate that the mean value is heavily skewed by the highest values.

Data points outside the upper outlier bound are removed from the mean value (Adjusted Mean) utilizing ± 1.5 x IQR Outlier bounds. This adjusted mean value is significantly closer to the median value than the total mean value for each data set. This further indicates the median value is a better representation of central tendency for these two data sets.

The variance of the number of backers for successful campaigns is 712,841, compared to 3773 for failed campaigns. Therefore, the number of backers for successful campaigns is much more volatile compared to the failed campaigns.

Successful campaigns have a much higher number of backers on average so it makes sense that the variability in successful campaigns is larger since each backer can contribute an arbitrarily high amount. A campaign can be successful with just one backer if the donation size is large enough to satisfy goal. However, failed campaigns will have a reduced tendency to have large single contributions, otherwise they would most likely be a successful campaign.

**Question: What are some limitations of this dataset?**

The goal amount money value is not appropriately scaled based on the currency conversions between different countries. Since the conversion rates change on a day-to-day basis, it would be necessary to utilize conversion rates based on the campaign creation date. Historical currency rates are readily available online.

**Question: What are some other possible tables and/or graphs that we could create?**

Another useful plot would be the length of time a campaign was open compared to the success rate. Intuitively, one think that with a long amount of time to gain traction in a campaign the higher the success rate. However, it is possible that a closer deadline encourages donors to act fast.

It would also be interesting to correlate the success rate with whether the campaign was Staff Picked or not. It would be interesting to discover if the Kickstarter Staff has any influence on success rate or the number of backers a campaign receives.

1. Conclusion

The Kickstarter dataset is analyzed from May 2009 to March 2017. The peak success rate is 60.6% in May, and the lowest success rate is 44.1% in December. The greatest number of successful and total campaigns are categorized primarily as theater. However, the music category holds the highest success rate of 77%. The campaign success rate is inversely proportional to the goal amount. The success rate is 71% for goals under 1,000 and 19% for goals greater than or equal to 50,000. The median value of the number of backers for both failed and successful campaigns is a better measure of central tendency due to the large dispersion and variance in both cases. However, the number of backers for successful campaigns is more variable than failed campaigns.

**Appendix I**

Table 1: Successful, failed, and Canceled Campaign Totals and Percentage of Total Campaigns by Month.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **successful** | | **failed** | | **canceled** | | **Total Count of state** |
| **Row Labels** | **Count of state** | **Success Rate** | **Count of state** | **Fail Rate** | **Count of state** | **Cancel Rate** |
| Jan | 182 | 49.86% | 149 | 40.82% | 34 | 9.32% | 365 |
| Feb | 202 | 60.30% | 106 | 31.64% | 27 | 8.06% | 335 |
| Mar | 180 | 56.96% | 108 | 34.18% | 28 | 8.86% | 316 |
| Apr | 192 | 59.81% | 102 | 31.78% | 27 | 8.41% | 321 |
| May | 234 | 60.62% | 126 | 32.64% | 26 | 6.74% | 386 |
| Jun | 211 | 54.81% | 147 | 38.18% | 27 | 7.01% | 385 |
| Jul | 194 | 50.13% | 150 | 38.76% | 43 | 11.11% | 387 |
| Aug | 166 | 49.85% | 134 | 40.24% | 33 | 9.91% | 333 |
| Sep | 147 | 49.33% | 127 | 42.62% | 24 | 8.05% | 298 |
| Oct | 183 | 51.99% | 149 | 42.33% | 20 | 5.68% | 352 |
| Nov | 183 | 54.79% | 114 | 34.13% | 37 | 11.08% | 334 |
| Dec | 111 | 44.05% | 118 | 46.83% | 23 | 9.13% | 252 |
| **Grand Total** | **2185** | **53.76%** | **1530** | **37.65%** | **349** | **8.59%** | **4064** |

Table 2: Successful, Failed, and Canceled Campaign Totals and Percentage of Total Campaigns by Category.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **successful** | | **failed** | | **canceled** | | **Total Count of state** |
| **Row Labels** | **Count of state** | **Rate** | **Count of state** | **Rate** | **Count of state** | **Rate** |
| film & video | 300 | 57.69% | 180 | 34.62% | 40 | 7.69% | 520 |
| food | 34 | 17.00% | 140 | 70.00% | 20 | 10.00% | 200 |
| games | 80 | 36.36% | 140 | 63.64% |  | 0.00% | 220 |
| journalism |  | 0.00% |  | 0.00% | 24 | 100.00% | 24 |
| music | 540 | 77.14% | 120 | 17.14% | 20 | 2.86% | 700 |
| photography | 103 | 46.82% | 117 | 53.18% |  | 0.00% | 220 |
| publishing | 80 | 33.76% | 127 | 53.59% | 30 | 12.66% | 237 |
| technology | 209 | 34.83% | 213 | 35.50% | 178 | 29.67% | 600 |
| theater | 839 | 60.23% | 493 | 35.39% | 37 | 2.66% | 1393 |
| **Grand Total** | **2185** | **53.11%** | **1530** | **37.19%** | **349** | **8.48%** | **4114** |

Table 3: Successful, Failed, and Canceled Campaign Totals and Percentage of Total Campaigns by Sub-Category.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **successful** | | **failed** | | **canceled** | | **Total Count of state** |
| **Row Labels** | **Count of state** | **Rate** | **Count of state** | **Rate** | **Count of state** | **Rate** |
| animation |  | 0.00% | 100 | 100.00% |  | 0.00% | 100 |
| art books |  | 0.00% |  | 0.00% | 20 | 100.00% | 20 |
| audio |  | 0.00% |  | 0.00% | 24 | 100.00% | 24 |
| children's books |  | 0.00% | 40 | 100.00% |  | 0.00% | 40 |
| classical music | 40 | 100.00% |  | 0.00% |  | 0.00% | 40 |
| documentary | 180 | 100.00% |  | 0.00% |  | 0.00% | 180 |
| drama |  | 0.00% | 80 | 100.00% |  | 0.00% | 80 |
| electronic music | 40 | 100.00% |  | 0.00% |  | 0.00% | 40 |
| faith |  | 0.00% | 40 | 100.00% |  | 0.00% | 40 |
| fiction |  | 0.00% | 40 | 100.00% |  | 0.00% | 40 |
| food trucks |  | 0.00% | 120 | 85.71% | 20 | 14.29% | 140 |
| gadgets |  | 0.00% | 20 | 100.00% |  | 0.00% | 20 |
| hardware | 140 | 100.00% |  | 0.00% |  | 0.00% | 140 |
| indie rock | 140 | 87.50% | 20 | 12.50% |  | 0.00% | 160 |
| jazz |  | 0.00% | 60 | 100.00% |  | 0.00% | 60 |
| makerspaces | 9 | 45.00% | 11 | 55.00% |  | 0.00% | 20 |
| metal | 20 | 100.00% |  | 0.00% |  | 0.00% | 20 |
| mobile games |  | 0.00% | 40 | 100.00% |  | 0.00% | 40 |
| musical | 60 | 42.86% | 60 | 42.86% | 20 | 14.29% | 140 |
| nature |  | 0.00% | 20 | 100.00% |  | 0.00% | 20 |
| nonfiction | 60 | 100.00% |  | 0.00% |  | 0.00% | 60 |
| people |  | 0.00% | 20 | 100.00% |  | 0.00% | 20 |
| photobooks | 103 | 64.38% | 57 | 35.63% |  | 0.00% | 160 |
| places |  | 0.00% | 20 | 100.00% |  | 0.00% | 20 |
| plays | 694 | 66.28% | 353 | 33.72% |  | 0.00% | 1047 |
| pop | 40 | 100.00% |  | 0.00% |  | 0.00% | 40 |
| radio & podcasts | 20 | 100.00% |  | 0.00% |  | 0.00% | 20 |
| restaurants |  | 0.00% | 20 | 100.00% |  | 0.00% | 20 |
| rock | 260 | 100.00% |  | 0.00% |  | 0.00% | 260 |
| science fiction |  | 0.00% |  | 0.00% | 40 | 100.00% | 40 |
| shorts | 60 | 100.00% |  | 0.00% |  | 0.00% | 60 |
| small batch | 34 | 100.00% |  | 0.00% |  | 0.00% | 34 |
| space exploration | 40 | 66.67% | 2 | 3.33% | 18 | 30.00% | 60 |
| spaces | 85 | 46.70% | 80 | 43.96% | 17 | 9.34% | 182 |
| tabletop games | 80 | 100.00% |  | 0.00% |  | 0.00% | 80 |
| television | 60 | 100.00% |  | 0.00% |  | 0.00% | 60 |
| translations |  | 0.00% | 47 | 82.46% | 10 | 17.54% | 57 |
| video games |  | 0.00% | 100 | 100.00% |  | 0.00% | 100 |
| wearables | 20 | 10.00% | 120 | 60.00% | 60 | 30.00% | 200 |
| web |  | 0.00% | 60 | 37.50% | 100 | 62.50% | 160 |
| world music |  | 0.00% |  | 0.00% | 20 | 100.00% | 20 |
| **Grand Total** | **2185** | **53.76%** | **1530** | **37.65%** | **349** | **8.59%** | **4064** |

Table 4: Successful, Failed, and Canceled Campaign Totals and Rates per Goal Amount

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Goal** | **Number Successful** | **Fumber failed** | **Number Canceled** | **Total Projects** | **Percentage Successful** | **Percentage Failed** | **Percentage Canceled** |
| Less than 1000 | 322 | 113 | 18 | 453 | 71.08% | 24.94% | 3.97% |
| 1000 to 4999 | 932 | 420 | 60 | 1412 | 66.01% | 29.75% | 4.25% |
| 5000 to 9999 | 381 | 283 | 52 | 716 | 53.21% | 39.53% | 7.26% |
| 10000 to 14999 | 168 | 144 | 40 | 352 | 47.73% | 40.91% | 11.36% |
| 15000 to 19999 | 94 | 90 | 17 | 201 | 46.77% | 44.78% | 8.46% |
| 20000 to 24999 | 62 | 72 | 14 | 148 | 41.89% | 48.65% | 9.46% |
| 25000 to 29999 | 55 | 64 | 18 | 137 | 40.15% | 46.72% | 13.14% |
| 30000 to 34999 | 32 | 37 | 13 | 82 | 39.02% | 45.12% | 15.85% |
| 35000 to 39999 | 26 | 22 | 7 | 55 | 47.27% | 40.00% | 12.73% |
| 40000 to 44999 | 21 | 16 | 6 | 43 | 48.84% | 37.21% | 13.95% |
| 45000 to 49999 | 6 | 11 | 4 | 21 | 28.57% | 52.38% | 19.05% |
| Greater than or equal to 50000 | 86 | 258 | 100 | 444 | 19.37% | 58.11% | 22.52% |