**Excel Homework: Kickstart my chart**

Crowdfunding has now become a quite common method to raise capital for specific projects, companies, inventions, etc by using contributions from either investors, clients, acquaintances, friends, and family. Kickstarter, who’s stated mission says it “exists to bring creative projects to life” is one, if not the most popular crowdfunding platform in the United States and the rest of the world, where many projects have been able to find massive amounts of success and have been given the ability to be brought to life, whether it be in art, film, entertainment, theater, games and more.

Now, not every project has been able to find the success they sought after. When looking at the data from projects across many categories from 2009-2017 we can see some common trends about what kind of projects have seen the most vs the least amount of success, where these projects are being launched from, and what is making some of these projects stand out.

As we dig into the data, we can find that music and theater are the most popular categories in Kickstarter with 2093 projects out of the 4114 that sought to raise capital on the platform. If we look at it on a relative basis versus all the other categories, they also had the highest success rate with 1,139 campaigns combined reaching or surpassing their pledged goals. Music-related projects had a 77% success rate and those being categorized as 'theater' had a 60% success rate. On the other hand, even though 'technology' was the third most common category with 600 projects, those projects only attained a 34.8% success rate. Film and video would come third with 300 successful campaigns.

'Music' as mentioned before is the category with the highest success rate; however, it only represents 5.9% of the projects seeking to raise funds outside of the United States. It does come to represent 21% of all projects in the United States highlighting the category’s popularity and ability to raise funds mainly in the United States.

We now know music and theaters popularity, what if we dug deeper into these categories by looking at the “sub-categories” to see what is driving success? Well, theater plays are by far the most common and popular sub-category and it is not even close. There were a total of 1066 plays that sought after capital using Kickstarter, this represents 25% of all subcategories. The second most popular subcategory was 'Rock' with 260 projects. Of those sub-categories with over 150 projects, rock-related (260 projects) and documentaries (180 projects) each saw all their projects reach their pledged amount, which maybe tells us these sub-categories have found a good niche market in Kickstarter to raise funds. On the other side animation and videogame-related projects (100 each) had zero projects reach their goal, which tells us Kickstarter may not be the best platform for these types of projects to raise the money needed to bring these to fruition.

If we split the projects by the month they were launched we see that May saw the greatest amount of successful projects, while December saw the least. As a matter of fact December is the only month were historically more projects that launched during this month failed to meet their goal than those that were able to achieve it. Also, as an introduction in the limitations of the data it is worth to point out that beyond the initial statement from this paragraph it is challenging to tell a story that helps us depict a successful project vs a failed one using this representation of the data per month of project launch.

While the data available is extremely helpful in looking at what types of projects were successful and how successful they were (funds raised vs their initial goal), it is difficult to see why specifically these projects were successful. Were the projects in the categories and sub-categories that met and beat their funding goals inherently better than the other projects? or were the investor using Kickstarter just more interested in projects related to rock music and theater plays?

Some other things that also would have helped us paint the picture of what is going on within Kickstarter are to be able to look at success/failure rates on a relative basis. Especially within subcategories, where there is more data and just by looking at the number of projects in a bar graph may fail to tell the full story. Pie or bar charts that show categories/sub-categories on a relative basis could help us show who is reaching their goals in Kickstarter. As in what percentage of projects in a specific category/sub-category are finding success compared to the total amount of ideas that are being displayed in the platform. We could also look at trends in the US vs the rest of the world, given that the US represents 73.84% of all projects in the platform. Finally, another idea would be to use scatter plot graphs to compare average amounts raised vs their goal as well as the amount of backers per project vs their goal. This would help us see if the most successful projects are getting there because of viral popularity or because they are finding larger donors willing to support them in their endeavor. We could also create a table that represents the average donation and average amount of backers per category and subcategory.

**BONUS: STATISTICAL ANALYSIS**

1. The median of the data is more helpful for us to summarize the data in a more meaningful way given the number of outliers. The median amount of backers for successful projects was 62 backers; however, some campaigns had as many as 26,457 and 20,242 backers which skews the average. You also cannot have a negative amount of backers, so there will be a lot of projects with single-digit amount of investors.
2. The successful campaigns had a lot more variability than the failed ones. This makes sense because there is a wide range of successful campaigns that achieve it with very different numbers of investors, as mentioned before the number of investors cant be negative and there is no limit as to how many investors a successful campaign will have. On the other hand, on failed campaigns it is common for the number to be a lot less. There will be a lot more projects with 0 investors as well as single-digits investors. In other words on both scenarios the minimum is 0-1 but successful campaigns will tend to have a lot more investors which increases the range and variability than is the case with failed campaigns .