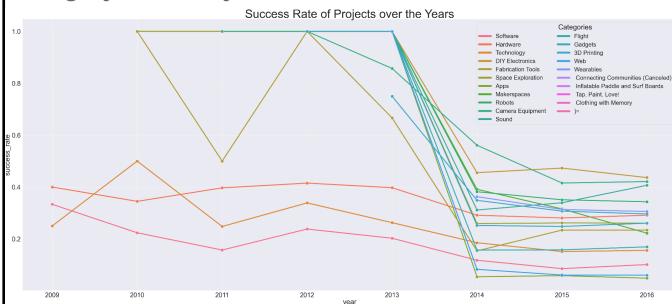
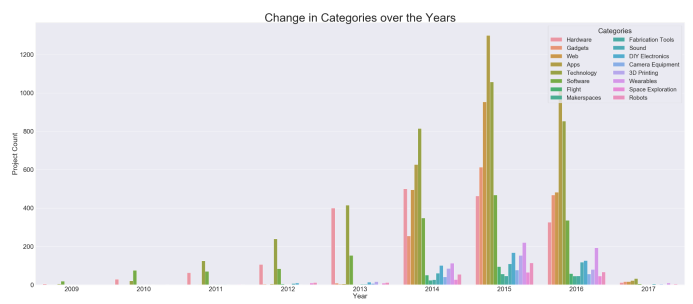
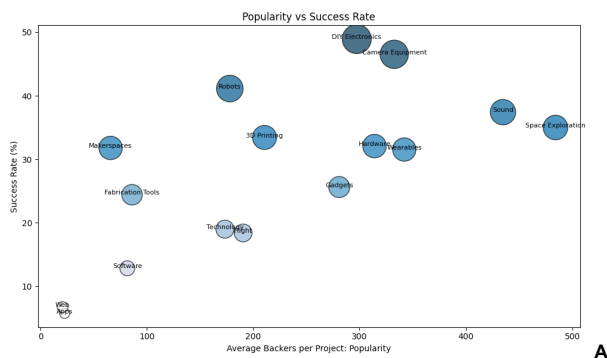


Change in the success rates of the projects for each category over the years.

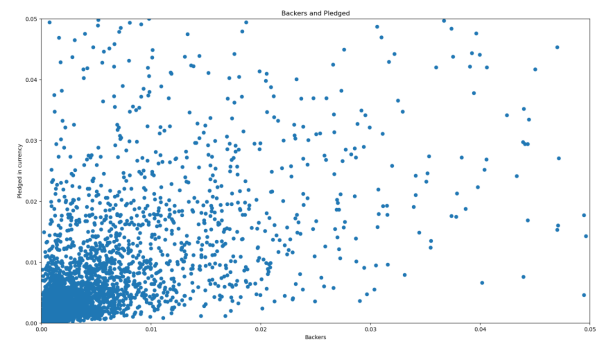
A line graph with the year as the x-axis and the success rate as the y-axis because it is convenient to observe the changes over the years in a line graph. And we used the colour of the lines to differentiate among different categories. To indicate these details we can also use a bar chart, but with the large number of categories, it would be difficult to read.

Change in Categories over the years.

We used a grouped bar chart to visualize the change in categories over the years, with the Year as the x-axis and the Project Count as the y-axis. We use color encoding to represent each category. We can also use a line graph to represent this, but it is difficult to read different categories distinguishably and a bar chart makes it simple to read the changes over the years.

Relationship between Popularity and Success Rate

Scatter plot to visualize the popularity and the success rate of each category. By representing the average number of backers per project on the x-axis and the success rate on the y-axis, we can easily observe the relationship between these two variables for different categories. The color shading and the size of the dots further enhance the visualization by indicating the relative success rates.

Correlation between Numerical Columns

Correlation between goal and pledged: 0.002 .
Correlation between backers and pledged: 0.657

Correlation between backers and goal: -0.003

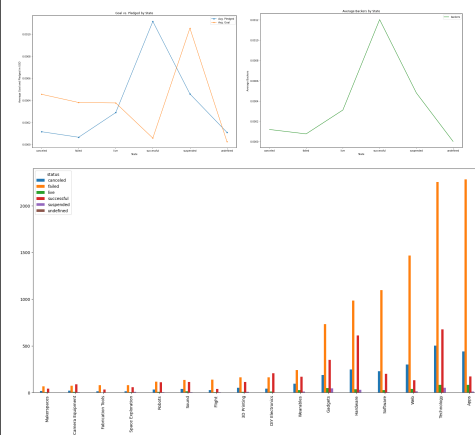
Here used various methods including subplot, grouped line-plot to visualize numerical columns that would affect the number of backers on a project. The correlation between backers and pledges was 0.657, which is considerably high compared to the other outcomes. Finally, the scatter plot confirmed the theory that more backers lead to high amounts of money pledged to projects.

Cramers V statistic for the categorical-categorical association.

3D Printing	31	1.6e+02	6	1.1e+02	6	1
Apps	6.6e+02	2.3e+03	82	1.7e+02	11	0
Camera Equipment	20	71	6	87	3	0
DIY Electronics	42	1.6e+02	9	2e+02	1	0
Fabrication Tools	14	78	2	31	2	0
Flight	27	1.4e+02	3	39	5	0
Gadgets	1.1e+02	7.3e+02	47	3.5e+02	45	0
Hardware	2.5e+02	8.8e+02	34	6.1e+02	29	0
Makerspaces	19	49	5	41	1	0
Robots	31	1.2e+02	7	1.1e+02	3	0
Software	2.3e+02	1.1e+03	27	2e+02	5	2
Sound	37	1.3e+02	14	1.1e+02	4	0
Space Exploration	14	60	4	56	6	0
Technology	5e+02	2.3e+03	61	8.8e+02	49	0
Wearables	89	2.4e+02	25	1.7e+02	9	0

In state two, we represent the changes in Categories over the year.

Only by having such behavior, we can't gain knowledge regarding how technology fields affected to the overall outcome. So, calculate two statistics: Categorical-Categorical associativity by calculating Cramers V-statistic and crosstab status as the independent variable with failed rate in ascending order.

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