

Brainstation Admissions Challenge

Kickstarter Trends Consulting

Karam Elabd

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Introduction/Problem

A small board game company needs help setting up their first kickstarter. They have decided that they need a minimum of USD \$15,000 to kickstart the project and as such, they need help answering the following questions:

- What is a realistic Kickstarter campaign goal (in dollars) should the company aim to raise?
- How many backers will be needed to meet their goal?
- How many backers can the company realistically expect, based on trends in their category?

Key Findings

- 25k USD is a realistic kickstarter goal for successful table-top kickstarters with goals \geq 15k USD
- Based on the average \$\$ pledged per backer for similar kickstarters, 130-150 backers are needed to meet the 15k USD goal
- The average number of backers for table-top category kickstarters is ~450

Recommendations

- The company is advised to proceed with the kickstarter campaign
- The company is advised to set a goal of 20k USD to maximize earnings and probability of campaign success

Assumptions

- The data provided is clean
- All monies are reported in USD dollar amounts (unless otherwise noted)

Limitations

- The models used are minimally complex
- No safety margins considered (conservative vs liberal estimates)

What is a realistic Kickstarter campaign goal (in dollars) should the company aim to raise?

```
SELECT
    MEDIAN(goal) AS median_goal
FROM campaign
WHERE outcome = 'successful'
AND
sub_category_id = 14
AND
GOAL >= 15000
```

MEDIAN_GOAL
24974.32

The median fundraising goal
for successful *tabletop*
kickstarters
(with goals set equal to or
higher than 15000)

How many backers will be needed to meet their goal?

```
SELECT
    15000 / AVG(pledged / backers) AS
    estimated_backers_needed
FROM campaign
WHERE outcome = 'successful'
AND
    sub_category_id = 14
AND goal >= 15000
```

ESTIMATED_BACKERS_NEEDED
132.09

How many backers can the company realistically expect, based on trends in their category?

```
SELECT
    AVG(backers) AS average_backers
FROM campaign
WHERE sub_category_id = 14;
```

AVERAGE_BACKERS

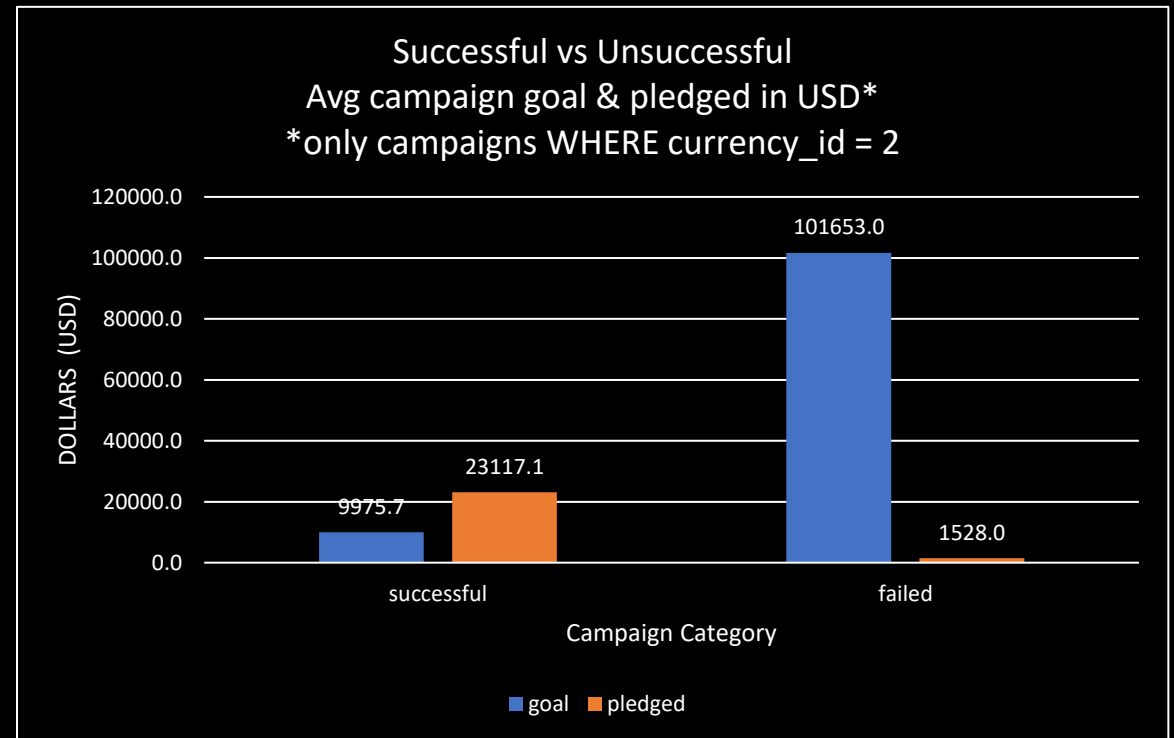
446.871609403255

The executives would like answers to the following questions

1. Are the goals for dollars raised significantly different between campaigns that are successful and unsuccessful?
2. What are the top/bottom 3 categories with the most backers? What are the top/bottom 3 subcategories by backers?
3. What are the top/bottom 3 categories that have raised the most money? What are the top/bottom 3 subcategories that have raised the most money?
4. What was the amount the most successful board game company raised? How many backers did they have?
5. Rank the top three countries with the most successful campaigns in terms of dollars (total amount pledged), and in terms of the number of campaigns backed.
6. Do longer, or shorter campaigns tend to raise more money? Why?

Are the goals for dollars raised significantly different between campaigns that are successful and unsuccessful?

```
WITH successful_campaigns AS (  
  SELECT goal, pledged  
  FROM campaign  
  WHERE outcome = 'successful' AND currency_id = 2  
)  
failed_campaigns AS (  
  SELECT goal, pledged  
  FROM campaign  
  WHERE outcome = 'failed' AND currency_id = 2  
)  
SELECT  
  AVG(successful_campaigns.goal) AS avg_goal_successful,  
  AVG(successful_campaigns.pledged) AS avg_pledged_successful,  
  AVG(failed_campaigns.goal) AS avg_goal_failed,  
  AVG(failed_campaigns.pledged) AS avg_pledged_failed  
FROM successful_campaigns, failed_campaigns;
```



Yes, when considering successful vs unsuccessful campaigns* we see an average of ~900% (USD 92000) higher *goals* for failed campaigns

Where we also observe roughly ~95% (USD ~22000 higher \$\$ *pledged* for successful campaigns

What are the top/bottom 3 categories with the most backers

```
SELECT
    category.name,
    SUM(campaign.backers) AS total_backers
FROM category
JOIN sub_category ON category.id = sub_category.category_id
JOIN campaign ON sub_category.id = campaign.sub_category_id
GROUP BY sub_category.name
ORDER BY total_backers DESC
LIMIT 3;
```

```
SELECT
    category.name,
    SUM(campaign.backers) AS total_backers
FROM category
JOIN sub_category ON category.id = sub_category.category_id
JOIN campaign ON sub_category.id = campaign.sub_category_id
GROUP BY sub_category.name
ORDER BY total_backers ASC
LIMIT 3;
```

CATEGORY_NAME	TOTAL_BACKERS
Games	411671
Technology	329751
Design	262245

NAME	TOTAL_BACKERS
Crafts	2
Journalism	12
Music	13

What are the top/bottom 3 subcategories by backers

```
SELECT
  sub_category.name AS subcategory_name,
  SUM(campaign.backers) AS total_backers
FROM sub_category
JOIN campaign ON sub_category.id = campaign.sub_category_id
GROUP BY subcategory_name
ORDER BY total_backers DESC
LIMIT 3;
```

```
SELECT
  sub_category.name AS subcategory_name,
  SUM(campaign.backers) AS total_backers
FROM sub_category
JOIN campaign ON sub_category.id = campaign.sub_category_id
GROUP BY subcategory_name
ORDER BY total_backers ASC
LIMIT 3;
```

SUBCATEGORY_NAME	TOTAL_BACKERS
Tabletop Games	247120
Product Design	221931
Video Games	141052

SUBCATEGORY_NAME	TOTAL_BACKERS
Glass	2
Photo	12
Latin	13

What are the top/bottom 3 categories that have raised the most money?*

*no exchange rate information was provided, as such, currency_id is ignored

```
SELECT
  c.name AS category_name,
  SUM(campaign.pledged) AS total_pledged
FROM category c
JOIN sub_category sc ON c.id = sc.category_id
JOIN campaign ON sc.id = campaign.sub_category_id
GROUP BY c.name
ORDER BY total_pledged DESC
LIMIT 3;
```

```
SELECT
  c.name AS category_name,
  SUM(campaign.pledged) AS total_pledged
FROM category c
JOIN sub_category sc ON c.id = sc.category_id
JOIN campaign ON sc.id = campaign.sub_category_id
GROUP BY c.name
ORDER BY total_pledged ASC
LIMIT 3;
```

CATEGORY_NAME	TOTAL_PLEDGED
Technology	28035408.10
Games	27792569.86
Design	24006972.10

CATEGORY_NAME	TOTAL_PLEDGED
Journalism	451976.44
Dance	488335.88
Crafts	574123.38

What are the top/bottom 3 subcategories that have raised the most money?*

*no exchange rate information was provided, as such, currency_id is ignored

```
SELECT
  sub_category.name AS subcategory_name,
  SUM(campaign.pledged) AS total_pledged
FROM campaign
JOIN sub_category ON campaign.sub_category_id = sub_category.id
JOIN currency ON campaign.currency_id = currency.id
-- Perform currency conversion here if needed
GROUP BY sub_category.name
ORDER BY total_pledged DESC
LIMIT 3;
```

```
SELECT
  sub_category.name AS subcategory_name,
  SUM(campaign.pledged) AS total_pledged
FROM campaign
JOIN sub_category ON campaign.sub_category_id = sub_category.id
JOIN currency ON campaign.currency_id = currency.id
-- Perform currency conversion here if needed
GROUP BY sub_category.name
ORDER BY total_pledged ASC
LIMIT 3;
```

SUBCATEGORY_NAME	TOTAL_PLEDGED
Product Design	21111581.59
Tabletop Games	18827697.39
Video Games	7811750.91

SUBCATEGORY_NAME	TOTAL_PLEDGED
Glass	150
Crochet	210.99
Latin	268

What was the amount the most successful board game company raised?

How many backers did they have?

```
SELECT
    campaign.name AS company_name,
    SUM(campaign.pledged) AS total_pledged,
    SUM(campaign.backers) AS total_backers
FROM campaign
    JOIN sub_category ON
        campaign.sub_category_id = sub_category.id
WHERE sub_category.name = 'Tabletop Games'
GROUP BY campaign.name
ORDER BY total_pledged DESC;
```

COMPANY_NAME	TOTAL_PLEDGED	TOTAL_BACKERS
Gloomhaven (Second Printing)	3999795.77	40642

Rank the top three countries with the most successful campaigns in terms of dollars (total amount pledged), and in terms of the number of campaigns backed.

```
SELECT
    country.name AS country_name,
    SUM(campaign.pledged) AS total_pledged,
    COUNT(campaign.id) AS num_campaigns_backed
FROM campaign
JOIN country ON campaign.country_id = country.id
WHERE campaign.outcome = 'successful'
GROUP BY country.name
ORDER BY total_pledged DESC
LIMIT 3;
```

COUNTRY_NAME	TOTAL_PLEDGED	NUM_CAMPAGNS_BACKED
US	100971993.54	4365
GB	8514816.84	487
CA	1804146.70	137

Do longer, or shorter campaigns tend to raise more money? Why?

```
SELECT
  pledged as dollars_pledged,
  JULIANDAY(Deadline) - JULIANDAY(LAUNCHED) AS campaign_duration
FROM
  campaign
```

The results from this query were combined with an accompanying python script (*'trends-pledged-vs-duration.py'*) to determine the relationship between dollars_pledged and campaign_duration

Output from Python: linear regression between dollars_pledged and campaign_duration

```
Slope (Coefficient): 25.844955070787986
Intercept: 8054.846302722816
P-Value: 0.6023662550186466
R-Squared: 1.809897087923229e-05
```

DOLLARS_PLEDGED	CAMPAIGN_DURATION
20	30
413.81	30
1497	30

...

4453.34	29
1488	25

As such, this simplistic linear regression suggests that there is no relationship between campaign_duration and dollars_pledged. However, this model is a simplistic model and can be improved

Trends in campaign durations

Histogram showing the number of campaigns binned by the campaign durations
26-31 days is the most frequent duration for kickstarter campaigns

