

Kickstarter Crowdfunding: How the Predictors of Success Vary by Project

Category

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I. Introduction:

The Web 2.0 term “crowdfunding” refers to the process by which an individual with an investment opportunity or project idea can raise money to support this endeavor from many different backers via the internet. In return for pledging funds, these backers can receive a variety of rewards, often of modest value, ranging from product pre-orders to production credits. Crowdfunding backers do not receive any form of legal ownership in return for pledging their funds for a designated project (equity crowdfunding websites are currently illegal in the United States). Many backers are first or second degree relations of the individual but often they are complete strangers.

The concept of crowdfunding via the internet was first implemented in the year 2000 and has since been growing rapidly all over the world. According to an industry report gathered by Crowdsourcing.org from 52 crowdfunding platforms worldwide, the estimated total crowdfunding volume will double by the end of 2012 to \$2.8 billion. This leads to a crowdfunding platform growth rate of 48.8% since 2007. Despite the growing use of this new method of project financing, few scholarly articles have studied the mechanism and almost none have estimated the factors that determine whether or not the proposed project is successfully funded. Obvious candidate variables include the rewards offered to backers, the fundraising goal, the duration of the project, the size of the project owner’s social network, and more.

Professor Mollick of the Wharton School of the University of Pennsylvania is one of the authorities in this field, having examined data from Kickstarter.com to try to help answer these questions regarding variables that contribute to the success or failure of fundraising campaigns. In this paper, I will be extending his analysis by examining how

the variables affecting project-funding success on Kickstarter vary from category to category. These categories include: Art, Comics, Dance Design, Fashion, Film & Video, Food, Games, Music, Photography, Publishing, Technology and Theater.

II. Background:

Kickstarter.com was launched in April of 2009 and serves as a platform for individuals to raise small donations from “crowds” in order to finance creative and technological projects. The company has raised over \$10 million in funding from backers such as the NYC venture firm Union Square Ventures and angel investors including Jack Dorsey, the founder of Twitter. As a project owner, you must specify the duration that the proposed project will be open for donations and designate a monetary fundraising goal. If the fundraising goal is met, then the owner is under legal obligation to complete their project and distribute any promised rewards. If the fundraising goal is not met by the duration set, then the creator is not entitled to the funds raised and is under obligation to refund the backers. Kickstarter.com does not take responsibility for refunds. If the fundraising goal is met or exceeded, then the owner receives the full amount pledged after Kickstarter’s standard fee of 4%.

Before I dive into my data and empirical model, I’d like to give some context on the crowdfunding industry as a whole and why this study is relevant. In the study, “Crowdfunding Industry Report Market Trends, Composition and Crowdfunding Platforms” conducted by crowdfunding.org, \$1.5 billion was raised by crowdfunding platforms worldwide and an estimated \$2.8 billion dollars will be pledged worldwide in 2012, with the majority of growth coming from equity-based crowdfunding. This is an

overall compounded annual growth rate of 63% over the last 3 years. In 2011, reward-based crowdfunding grew at a rate of 79%, while donation based grew at 41%. The fastest growing category of crowdfunding is equity-based which grew at 114%. When looking at donation or reward-based projects, the majority fundraising amount was less than \$5,000. On Kickstarter.com alone, \$404 million has been pledged since 2009 with 11 projects reaching the \$1 million funding mark. Clearly, this is a rapidly developing industry that will play an important role in producing new innovations.

III. Literature Review

Professor Mollick, of the Wharton School of the University of Pennsylvania conducted a scholarly analysis of Kickstarter in his study, “The Dynamics of Crowdfunding: Determinants of Success and Failure.” In this report, Mollick examined data from Kickstarter to better determine what makes a crowdfunded project successful. He took into account the following factors for Kickstarter projects: geography, number of facebook friends of founders, number of tiers of rewards advertised, number of comments, number of updates given by founders, duration of project fundraising campaign, fundraising goal, percentage of goal funded, the number of backers, percentage of first time backers, and finally pledge per backer.

Mollick’s study was focused on the variables that affect the success of Kickstarter projects overall. He found that 47.90% of proposed projects were successful and that the average project goal was \$9,755. In addition, he found that the average pledge per backer was \$64.04 and the average number of backers was 57.90. Kickstarter.com itself reports

the number of successful projects at 46%, the average goal as \$5,000, the average pledge as \$71 and the average number of backers as 85.

Mollick also determined that the “mean amount funded of failed projects is 10.3% of the goal. Only ten percent of projects that fail raise 30% of their goal, and only three percent raise 50% of their goal.” This data shows that projects generally will fail to reach their funding goal by a large margin. In addition, he found that “Twenty five percent of projects that are funded are 3% or less over their goal, and only fifty percent are about 10% over their goal. Only about 1 project in 9 receives 200% of its goal.” This shows that projects generally will succeed by a small margin. Finally, overall, he determined that increasing fundraising goal level is negatively associated with success. Being featured on the front page of the website is strongly associated with success. “An unfeatured project has a 30% chance of success, while a featured project has an 89% chance.” Longer durations decrease the chances of success. “A 30 day duration project has a 35% chance of success, while a 60 day project has a 29% chance.”

It has been widely reported that gaming, music and film are the more successful categories on Kickstarter in terms of dollars raised, where as categories like photography and comics are less successful in aggregate funding. However, categories that have low amounts of total pledged dollars like dance can have high success rates (70 %). The weight given to the variables affecting success could vary from category to category.

IV. Hypothesis and Test

Mollick’s analysis is centered on the variables that affect success for an average Kickstarter project. I will further his study by focusing more on how the weight given to

the variables that affect project success vary from category to category. This could yield important information for Kickstarter project owners when both deciding which category to place their project and on which elements to focus. Once I establish the regression I will use the odds estimate ratios to test my predictions.

Statistical Hypothesis: Null = $\beta = 0$, Alt = $\beta \neq 0$

$y = \alpha + \beta_1 \text{ Goal} + \beta_2 \text{ Pledged} + \beta_3 \text{ Fper} + \beta_4 \text{ Backers} + \beta_5 \text{ Levels} + \beta_6 \text{ Updates} + \beta_7 \text{ Comments} + \beta_8 \text{ Duration}$

V. Data and Empirical Model

I will be using a data set comprised of 45,815 projects from 5/3/2009 until 8/1/2012 that have been gathered using a PHP scraper script. These projects have the following attributes: category, status (live/not live), outcome (success/failure meeting goal), fundraising goal, dollars pledged, funded percentage, number of backers, number of reward levels, number of comments, number of updates, duration of project fundraising campaign, and date funded. I scrubbed this data set by separating projects by category, removing outliers, and deleting projects that are “live” and therefore are still gathering pledges.

I will conduct a multiple logistic regression for each Kickstarter category to determine the effects of the variables gathered on the dependent variable of whether or not the project was successful, meaning that the fundraising goal was met. I will then compare these categories to determine whether certain independent variables have more effect on the dependent variable in one category than in others. The regression failure will categorically be represented by 0 and the regression success will be categorically

represented by 1. The results with a lower AIC and SC show a better fit to the model.

This would lead to less error statistically in those categories. See appendix for logistical regression results.

VI. Results

Table 1

Logistic Regression Odds Ratio Estimate Comparison								
Category	Goal	Pledged	Funded Percentage	Backers	Levels	Updates	Comments	Duration
Art	0.997	1.003	1.037	1.038	1.01	1.017	1.003	1.003
Comic	0.999	1.001	1.112	0.999	0.928	1.109	0.953	1.002
Dance	0.998	1.001	1.298	1.042	0.83	1.872	0.96	0.984
Design	1	1	1.144	1.001	0.923	1.189	0.97	1.004
Fashion	0.999	1.001	1.203	0.994	1.102	1.085	1.091	1.002
Film	0.999	1.001	1.096	1.014	0.945	1.012	0.978	1
Food	1	1	1.356	1.005	1.053	1.019	1.015	0.955
Games	1	1	1.351	0.997	1.049	0.984	1.002	0.995
Music	0.997	1.003	1.336	0.998	0.958	1.032	1.149	0.985
Photography	1	1	1.584	0.985	1.216	1.048	1.271	0.972
Publishing	0.999	1.001	1.229	1.014	0.964	0.988	1.071	0.991
Technology	1	1	1.538	1.002	0.953	1.137	1.009	0.995
Theater	0.999	1.001	1.224	0.995	1.261	1.043	0.983	1.025
	Negative effect on odds							
	Positive effect on odds							
	No effect on odds							

Table 2

Relative Effect on Odds of Fundraising Success								
Category	Goal	Pledged	Funded Percentage	Backers	Levels	Updates	Comments	Duration
Art	0.997	1.003	1.037	1.038	1.01	1.017	1.003	1.003
Comic	0.999	1.001	1.112	0.999	0.928	1.109	0.953	1.002
Dance	0.998	1.001	1.298	1.042	0.83	1.872	0.96	0.984
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Theater	0.999	1.001	1.224	0.995	1.261	1.043	0.983	1.025
Positive		Negative		Neutral				
	low		low					
	medium		medium					
	high		high					

Table 3

95% Wald Confidence Limits																
Category	Goal LL	Goal UL	Pledged LL	Pledged UL	FP LL	FP UL	Backers L	Backers U	Levels LL	Levels UL	Updates L	Updates UL	Comments LI	Comments UL	Duration LL	Duration UL
Art	0.997	0.998	1.002	1.004	1.026	1.047	1.011	1.066	0.939	1.086	0.944	1.094	0.891	1.13	0.989	1.018
Comic	0.997	0.998	1.002	1.004	1.026	1.047	1.011	1.066	0.939	1.086	0.944	1.094	0.891	1.13	0.989	1.018
Dance	0.99	1.007	0.993	1.01	0.796	2.117	0.928	1.17	0.389	1.772	0.543	6.449	0.428	2.156	0.888	1.091
Design	0.999	1	1	1.001	1.087	1.205	0.984	1.018	0.735	1.159	0.931	1.518	0.896	1.049	0.959	1.052
Fashion	0.996	1.002	0.998	1.005	1.06	1.364	0.911	1.084	0.68	1.787	0.702	1.676	0.647	1.839	0.924	1.085
Film	0.999	1	1	1.001	1.085	1.107	1.003	1.025	0.892	1.001	0.968	1.057	0.918	1.041	0.989	1.012
Food	0.998	1.002	0.998	1.002	1.073	1.713	0.962	1.049	0.527	2.102	0.701	1.483	0.727	1.417	0.851	1.072
Games	1	1	1	1.001	1.157	1.578	0.978	1.016	0.52	2.117	0.707	1.369	0.948	1.061	0.851	1.164
Music	0.994	1.001	0.999	1.006	1.188	1.502	0.963	1.034	0.793	1.157	0.868	1.226	0.77	1.713	0.945	1.027
Photograph	0.994	1.006	0.994	1.006	0.983	2.551	0.901	1.077	0.287	5.151	0.442	2.485	0.203	7.964	0.86	1.1
Publishing	0.997	1	0.999	1.003	1.133	1.334	0.984	1.045	0.782	1.188	0.901	1.085	0.782	1.467	0.944	1.04
Technology	1	1	0.999	1.001	1.038	2.279	0.913	1.1	0.299	3.041	0.313	4.126	0.688	1.479	0.83	1.194
Theater	0.996	1.002	0.998	1.004	1.11	1.35	0.955	1.037	0.926	1.719	0.813	1.337	0.704	1.372	0.971	1.082

VII. Discussion of Results

I reject the null hypothesis and conclude that beta does not equal zero. Since at least one beta does not equal zero, I reject the null at an alpha of .05, which allows me to use the odd ratio estimate for the analysis.

For the fundraising goal variable, overall the results showed that for each dollar increase in the fundraising goal, the odds of fundraising success decreased from between .1% to .3%. The only categories where the goal variable had no effect on odds was design, food, games, photography, and technology.

For the dollars pledged variable, overall, the results showed that for each dollar increase in the dollars pledge, the odds of fundraising success increased from between .1% to .3%. The categories of music and art showed the most increase in odds and the categories of design, food, games, photography, and technology showed no effect.

For the number of backers variable, overall, the results were mixed. For the categories of art, dance, design, film, food, publishing, and technology an increase in the number of backers had a positive effect on the odds of fundraising success varying between .1% and 4%. An increase in the number of backers had the most positive effect on the odds of success for the categories of dance and art. It has the least positive effect

on the categories of design and technology. For the categories of comics, fashion, games, music, photography, and theater, an increase in the number of backers had a negative effect on the odds of success varying from .1% to 1.5%. Photography stood out as category where an increase in the number of backers caused a larger relative negative effect on the odds of fundraising success.

For the number of reward levels variable, the results were also mixed. For the categories of art, fashion, food, games, photography, and theater an increase in the number of reward levels had a positive effect on the odds of fundraising success varying between .1% and 21.6%. An increase in the number of reward levels had the most effect on the categories of photography, theater, and fashion by a far larger margin than other categories. This leads to the conclusion that for the Kickstarter categories of photography, theater, and fashion, special attention should be paid for the number of reward levels that project owners create to incentivize their backers. An increase in the number of reward levels had a negative effect on the rest of the categories in terms of the odds of fundraising success varying from 3.6% to 17%. Dance, comics, and design should be noted as categories where an increase in the number of rewards levels caused a larger relative negative effect on the odds of fundraising success.

For the number of updates variable, the results were relatively uniform. Except for the games and publishing category, an increase in the number of updates had a positive effect on the odds of fundraising success varying between 1.7% to 87%. For the dance, comics, design, and technologies categories, an increase in the number of updates had a significantly larger effect on the odds of fundraising success compared to the other categories. This was especially true for the dance category. An increase in the number of

updates had a negative effect on the rest of the categories in terms of odds of fundraising success varying from 1.2% to 1.6%.

For the number of comments variable, an increase in the number of comments had a negative effect on the odds of fundraising success for the comics, dance, design, film, and theater categories varying from 1.7% to 4.7%. The other categories experienced a positive effect on the odds of fundraising success ranging from .2% to 27.1%. Notably, an increase in the number of comments had a relatively high positive effect on the odds of success for the photography and music categories. It has a relatively medium positive effect for the fashion and publishing categories and a relatively low positive effect for the remaining categories.

Lastly, for the duration of the project, the results were mixed. An increase in the duration of the project had a positive effect on the odds of fundraising success for the categories of theater, art, comics, design, and fashion varying from .2% to 2.5%. This effect was essentially of the same weight across the board except for the theater category, where an increase in project duration had a relatively strong effect on the odds of fundraising success. For the rest of the categories, an increase in the duration of the project had a negative effect on the odds of fundraising success ranging from .5% to 4.5% except for the film category, which experienced no effects. It should be noted that an increase in the duration of the project had a strong relative negative effect on the odds of success for the food category.

VIII. Conclusion

From the results, it can be concluded that the weight given to the variables impacting fundraising success vary from category to category. However, not all variables had the same level of variation. Number of backers, number of levels, number of updates, number of comments, and project duration had the most variation.

Overall, for a one-unit increase in the number of backers in the categories of art and dance, there are stronger relative positive effects on the probability of fundraising success than for the rest of the categories and for a one-unit increase in the category of photography, there is a stronger relative negative effect.

For a one-unit increase in the number of reward levels in the categories of fashion, photography, and theater, there are stronger relative positive effects on the probability of success than the rest of categories and for a one-unit increase in the category of dance, there is a stronger relative negative effect.

For a one-unit increase in the number of updates by the project creator in the categories of dance and design, there are stronger relative positive effects on the probability of success than the rest of categories.

For a one-unit increase in the number of comments on the project in the categories of music and photography, there are stronger relative positive effects on the probability of success than the rest of categories and for a one-unit increase in the category of comics, there is a stronger relative negative effect.

For a one-unit increase in the duration of the project in the category of food, there is a stronger relative positive effect on the probability of success than the rest of categories.

Strangely, the category of dance had results that seem to vary from the norm for almost every variable except number of comments and the duration of the project. Even for those two variables, dance displayed moderate deviation from the norm. Should Kickstarter project owners decide to start a dance fundraising campaign, they should take these results into consideration, as the general guidelines established by Professor Mollick will not apply for this category. Otherwise, project owners will be less likely to conduct a successful fundraising campaign. Project creators should also take this study's results into account when they create a campaign in any of the above listed categories, as the weight given to variables that affect success will deviate from Mollick's findings.

Lastly, although several of these independent variables such as the number of backers and comments are out of the hands of project creators, many, like the duration of the project and number of updates or reward levels can be altered in order to improve the odds of fundraising success. Since the variables in this study have different impacts depending on the project category, this information can help project owners when they are deciding which category to list their project on Kickstarter. This information holds enormous financial value. A great example is the famous Pebble: E-Paper Watch, which raised \$10 M on Kickstarter. The owners decided to place this project in the design category, instead of the technology category, due to anticipation of better reception. Now, by utilizing the results of this study, project owners can help improve the odds of fundraising success and get a better idea of which project elements to focus on and to what degree, which varies from category to category.

Further study is required regarding the emerging crowdfunding industry. Recently, niche platforms have sprung into existence covering music, publishing, and

many of the categories that exist on Kickstarter. Is it more beneficial for project owners to post their proposed project on Kickstarter or one of these niche sites? How does the weight given to variables affecting fundraising success change from platform to platform? In addition, when equity crowdfunding is legalized towards the end of 2013 after the SEC has finished crafting regulations, studies will need to be conducted to investigate these equity crowdfunding portals and how their activity differs from project crowdfunding platforms. The weight given to the variables affecting success may be completely different. Clearly, there is ample opportunity for further scholarly study of this new financial instrument.

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Appendix

Art

The LOGISTIC Procedure

Model Information

Data Set	c:\users\ias1120\Documents\My Sas Files\9.3\artfpperc.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 3684

Number of Observations Used 3684

Response Profile

Ordered Value	status	Total Frequency
1	1	2102
2	0	1582

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	5035.464	215.991
SC	5041.676	271.897
-2 Log L	5033.464	197.991

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4835.4733	8	<.0001
Score	860.0426	8	<.0001
Wald	434.8080	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.3920	0.5128	21.7563	<.0001
goal	1	-0.00266	0.000399	44.4401	<.0001
pledged	1	0.00288	0.000446	41.8225	<.0001
fper	1	0.0360	0.00513	49.1548	<.0001
backers	1	0.0373	0.0133	7.8151	0.0052
levels	1	0.00973	0.0370	0.0691	0.7926
updates	1	0.0164	0.0377	0.1901	0.6629
comments	1	0.00335	0.0604	0.0031	0.9558
duration	1	0.00332	0.00756	0.1924	0.6609

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.997	0.997	0.998
pledged	1.003	1.002	1.004
fper	1.037	1.026	1.047
backers	1.038	1.011	1.066
levels	1.010	0.939	1.086
updates	1.017	0.944	1.094
comments	1.003	0.891	1.130
duration	1.003	0.989	1.018

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.490
Pairs	3325364	c	1.000

Comics

The LOGISTIC Procedure

Model Information

Data Set	c:\users\ias1120\Documents\My Sas Files\9.3\comicsperc.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 3684

Number of Observations Used 3684

Response Profile

Ordered Value	status	Total Frequency
1	1	2102
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Score	860.0426	8	<.0001
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Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.3920	0.5128	21.7563	<.0001
goal	1	-0.00266	0.000399	44.4401	<.0001
pledged	1	0.00288	0.000446	41.8225	<.0001
fper	1	0.0360	0.00513	49.1548	<.0001
backers	1	0.0373	0.0133	7.8151	0.0052
levels	1	0.00973	0.0370	0.0691	0.7926
updates	1	0.0164	0.0377	0.1901	0.6629
comments	1	0.00335	0.0604	0.0031	0.9558
duration	1	0.00332	0.00756	0.1924	0.6609

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.997	0.997	0.998
pledged	1.003	1.002	1.004

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Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.490
Pairs	3325364	c	1.000

Dance

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\dancelogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 704

Number of Observations Used 704

Response Profile

Ordered Value	status	Total Frequency
1	1	525
2	0	179

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	800.292	24.665
SC	804.848	65.676
-2 Log L	798.292	6.665

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	791.6268	8	<.0001
Score	186.8628	8	<.0001
Wald	8.6295	8	0.3745

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-20.3891	25.1730	0.6560	0.4180
goal	1	-0.00161	0.00422	0.1456	0.7028
pledged	1	0.00118	0.00425	0.0778	0.7803
fper	1	0.2610	0.2495	1.0939	0.2956
backers	1	0.0412	0.0591	0.4856	0.4859
levels	1	-0.1865	0.3870	0.2322	0.6299
updates	1	0.6270	0.6311	0.9872	0.3204
comments	1	-0.0404	0.4127	0.0096	0.9220
duration	1	-0.0159	0.0527	0.0909	0.7630

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.998	0.990	1.007
pledged	1.001	0.993	1.010

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
fper	1.298	0.796	2.117
backers	1.042	0.928	1.170
levels	0.830	0.389	1.772
updates	1.872	0.543	6.449
comments	0.960	0.428	2.156
duration	0.984	0.888	1.091

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.380
Pairs	93975	c	1.000

Design

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\designlogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 1561

Number of Observations Used 1561

Response Profile

Ordered Value	status	Total Frequency
1	1	726
2	0	835

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	2158.388	43.845
SC	2163.741	92.023
-2 Log L	2156.388	25.845

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2130.5433	8	<.0001
Score	539.9225	8	<.0001
Wald	64.0565	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-10.6928	2.6713	16.0231	<.0001
goal	1	-0.00022	0.000337	0.4107	0.5216
pledged	1	0.000268	0.000375	0.5118	0.4744
fper	1	0.1349	0.0265	25.9456	<.0001
backers	1	0.000827	0.00876	0.0089	0.9247
levels	1	-0.0802	0.1161	0.4774	0.4896
updates	1	0.1728	0.1248	1.9172	0.1662
comments	1	-0.0306	0.0402	0.5772	0.4474
duration	1	0.00429	0.0235	0.0334	0.8550

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	1.000	0.999	1.000
pledged	1.000	1.000	1.001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
fper	1.144	1.087	1.205
backers	1.001	0.984	1.018
levels	0.923	0.735	1.159
updates	1.189	0.931	1.518
comments	0.970	0.896	1.049
duration	1.004	0.959	1.052

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.498
Pairs	606210	c	1.000

Fashion

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\-fashionlogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 1018

Number of Observations Used 1018

Response Profile

Ordered Value	status	Total Frequency
1	1	335
2	0	683

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	1291.852	27.264
SC	1296.778	71.594
-2 Log L	1289.852	9.264

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1280.5888	8	<.0001
Score	349.2178	8	<.0001
Wald	26.4368	8	0.0009

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-16.1443	6.1151	6.9699	0.0083
goal	1	-0.00088	0.00141	0.3898	0.5324
pledged	1	0.00112	0.00175	0.4077	0.5231
fper	1	0.1845	0.0643	8.2335	0.0041
backers	1	-0.00629	0.0444	0.0201	0.8873
levels	1	0.0973	0.2465	0.1557	0.6931
updates	1	0.0814	0.2221	0.1342	0.7141
comments	1	0.0872	0.2664	0.1071	0.7435
duration	1	0.00153	0.0409	0.0014	0.9703

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.999	0.996	1.002
pledged	1.001	0.998	1.005

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
fper	1.203	1.060	1.364
backers	0.994	0.911	1.084
levels	1.102	0.680	1.787
updates	1.085	0.702	1.676
comments	1.091	0.647	1.839
duration	1.002	0.924	1.085

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.442
Pairs	228805	c	1.000

Film

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\filmlogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 12550

Number of Observations Used 12550

Response Profile

Ordered Value	status	Total Frequency
1	1	6400
2	0	6150

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	17395.014	318.129
SC	17402.451	385.066
-2 Log L	17393.014	300.129

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	17092.8852	8	<.0001
Score	2890.1429	8	<.0001
Wald	983.9633	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-5.7319	0.5066	128.0312	<.0001
goal	1	-0.00058	0.000112	27.3177	<.0001
pledged	1	0.000630	0.000126	24.7795	<.0001
fper	1	0.0920	0.00514	320.1327	<.0001
backers	1	0.0137	0.00562	5.9790	0.0145
levels	1	-0.0562	0.0294	3.6472	0.0562
updates	1	0.0115	0.0222	0.2670	0.6054
comments	1	-0.0228	0.0320	0.5063	0.4767
duration	1	0.000491	0.00608	0.0065	0.9356

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.999	0.999	1.000

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.001	1.000	1.001
fper	1.096	1.085	1.107
backers	1.014	1.003	1.025
levels	0.945	0.892	1.001
updates	1.012	0.968	1.057
comments	0.978	0.918	1.041
duration	1.000	0.989	1.012

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.500
Pairs	39360000	c	1.000

Food

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\foodlogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 1291

Number of Observations Used 1291

Response Profile

Ordered Value	status	Total Frequency
1	1	652
2	0	639

Probability modeled is status=1.

Model Convergence Status

Complete separation of data points detected.

Warning: The maximum likelihood estimate does not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1791.575	21.530
SC	1796.738	67.999
-2 Log L	1789.575	3.530

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1786.0448	8	<.0001
Score	453.7552	8	<.0001
Wald	19.3461	8	0.0131

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-23.4513	10.5274	4.9624	0.0259
goal	1	-0.00026	0.00113	0.0533	0.8174
pledged	1	0.000176	0.00118	0.0224	0.8811
fper	1	0.3043	0.1195	6.4827	0.0109
backers	1	0.00457	0.0223	0.0421	0.8374
levels	1	0.0512	0.3530	0.0210	0.8847
updates	1	0.0192	0.1912	0.0101	0.9199
comments	1	0.0152	0.1702	0.0080	0.9287
duration	1	-0.0457	0.0589	0.6027	0.4376

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	1.000	0.998	1.002

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.000	0.998	1.002
fper	1.356	1.073	1.713
backers	1.005	0.962	1.049
levels	1.053	0.527	2.102
updates	1.019	0.701	1.483
comments	1.015	0.727	1.417
duration	0.955	0.851	1.072

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.500
Pairs	416628	c	1.000

Games

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\gameslogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 1460

Number of Observations Used 1460

Response Profile

Ordered Value	status	Total Frequency
1	1	631
2	0	829

Probability modeled is status=1.

Model Convergence Status

Complete separation of data points detected.

Warning: The maximum likelihood estimate does not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1999.055	20.429
SC	2004.341	68.005
-2 Log L	1997.055	2.429

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1994.6257	8	<.0001
Score	599.5810	8	<.0001
Wald	14.9625	8	0.0599

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-25.6409	8.3318	9.4708	0.0021
goal	1	0.000015	0.000026	0.3231	0.5698
pledged	1	0.000046	0.000236	0.0381	0.8452
fper	1	0.3008	0.0792	14.4167	0.0001
backers	1	-0.00333	0.00959	0.1206	0.7284
levels	1	0.0482	0.3580	0.0181	0.8929
updates	1	-0.0160	0.1685	0.0090	0.9243
comments	1	0.00242	0.0287	0.0071	0.9329
duration	1	-0.00468	0.0799	0.0034	0.9533

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	1.000	1.000	1.000

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.000	1.000	1.001
fper	1.351	1.157	1.578
backers	0.997	0.978	1.016
levels	1.049	0.520	2.117
updates	0.984	0.707	1.369
comments	1.002	0.948	1.061
duration	0.995	0.851	1.164

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.491
Pairs	523099	c	1.000

Music

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\musiclogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 10031

Number of Observations Used 10031

Response Profile

Ordered Value	status	Total Frequency
1	1	6775
2	0	3256

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	12646.752	56.948
SC	12653.966	121.869
-2 Log L	12644.752	38.948

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	12605.8041	8	<.0001
Score	2401.4334	8	<.0001
Wald	75.7419	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-22.9226	5.6230	16.6183	<.0001
goal	1	-0.00255	0.00178	2.0630	0.1509
pledged	1	0.00264	0.00183	2.0714	0.1501
fper	1	0.2894	0.0598	23.4128	<.0001
backers	1	-0.00224	0.0183	0.0150	0.9025
levels	1	-0.0431	0.0962	0.2009	0.6540
updates	1	0.0311	0.0881	0.1248	0.7239
comments	1	0.1386	0.2038	0.4628	0.4963
duration	1	-0.0148	0.0211	0.4951	0.4817

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.997	0.994	1.001
pledged	1.003	0.999	1.006

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
fper	1.336	1.188	1.502
backers	0.998	0.963	1.034
levels	0.958	0.793	1.157
updates	1.032	0.868	1.226
comments	1.149	0.770	1.713
duration	0.985	0.945	1.027

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.438
Pairs	22059400	c	1.000

Photography

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\photographylogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 1380

Number of Observations Used 1380

Response Profile

Ordered Value	status	Total Frequency
1	1	643
2	0	737

Probability modeled is status=1.

Model Convergence Status

Complete separation of data points detected.

Warning: The maximum likelihood estimate does not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1908.678	19.945
SC	1913.908	67.014
-2 Log L	1906.678	1.945

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1904.7333	8	<.0001
Score	886.9217	8	<.0001
Wald	8.5848	8	0.3785

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-40.0793	24.4848	2.6795	0.1017
goal	1	0.000106	0.00305	0.0012	0.9723
pledged	1	-0.00013	0.00311	0.0018	0.9659
fper	1	0.4596	0.2433	3.5686	0.0589
backers	1	-0.0150	0.0453	0.1093	0.7410
levels	1	0.1957	0.7365	0.0706	0.7905
updates	1	0.0465	0.4406	0.0111	0.9160
comments	1	0.2400	0.9362	0.0657	0.7976
duration	1	-0.0280	0.0629	0.1978	0.6565

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	1.000	0.994	1.006

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.000	0.994	1.006
fper	1.584	0.983	2.551
backers	0.985	0.901	1.077
levels	1.216	0.287	5.151
updates	1.048	0.442	2.485
comments	1.271	0.203	7.964
duration	0.972	0.860	1.100

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.498
Pairs	473891	c	1.000

Publishing

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\publishinglogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 4150

Number of Observations Used 4150

Response Profile

Ordered Value	status	Total Frequency
1	1	1669
2	0	2481

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	5595.214	55.576
SC	5601.545	112.553
-2 Log L	5593.214	37.576

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	5555.6384	8	<.0001
Score	1533.4531	8	<.0001
Wald	57.6351	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-15.7012	4.1638	14.2194	0.0002
goal	1	-0.00140	0.000971	2.0912	0.1482
pledged	1	0.00129	0.000969	1.7707	0.1833
fper	1	0.2065	0.0416	24.6743	<.0001
backers	1	0.0136	0.0153	0.7862	0.3752
levels	1	-0.0369	0.1067	0.1196	0.7294
updates	1	-0.0117	0.0475	0.0609	0.8051
comments	1	0.0683	0.1606	0.1809	0.6706
duration	1	-0.00942	0.0246	0.1468	0.7016

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.999	0.997	1.000

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.001	0.999	1.003
fper	1.229	1.133	1.334
backers	1.014	0.984	1.045
levels	0.964	0.782	1.188
updates	0.988	0.901	1.085
comments	1.071	0.782	1.467
duration	0.991	0.944	1.040

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	0.999
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.481
Pairs	4140789	c	1.000

Technology

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\technologylogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 732

Number of Observations Used 732

Response Profile

Ordered Value	status	Total Frequency
1	1	288
2	0	444

Probability modeled is status=1.

Model Convergence Status

Complete separation of data points detected.

Warning: The maximum likelihood estimate does not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	983.265	19.245
SC	987.861	60.607
-2 Log L	981.265	1.245

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	980.0207	8	<.0001
Score	316.0467	8	<.0001
Wald	4.7701	8	0.7818

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-38.5154	19.4526	3.9203	0.0477
goal	1	0.000042	0.000077	0.2908	0.5897
pledged	1	-0.00009	0.000324	0.0712	0.7896
fper	1	0.4305	0.2006	4.6067	0.0318
backers	1	0.00175	0.0476	0.0013	0.9707
levels	1	-0.0481	0.5919	0.0066	0.9353
updates	1	0.1286	0.6576	0.0382	0.8450
comments	1	0.00855	0.1952	0.0019	0.9650
duration	1	-0.00460	0.0927	0.0025	0.9604

Odds Ratio Estimates		
Effect	Point Estimate	95% Wald Confidence Limits
goal	1.000	

Odds Ratio Estimates		
Effect	Point Estimate	95% Wald Confidence Limits
pledged	1.000	
fper	1.538	
backers	1.002	
levels	0.953	
updates	1.137	
comments	1.009	
duration	0.995	

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.478
Pairs	127872	c	1.000

Theater

The LOGISTIC Procedure

Model Information

Data Set	C:\Users\tkb\Documents\My SAS Files\9.3\theaterlogistic.sas7bdat	
Response Variable	status	status
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read 2315

Number of Observations Used 2315

Response Profile

Ordered Value	status	Total Frequency
1	1	1636
2	0	679

Probability modeled is status=1.

Model Convergence Status

Quasi-complete separation of data points detected.

Warning: The maximum likelihood estimate may not exist.

Warning: The LOGISTIC procedure continues in spite of the above warning. Results shown are based on the last maximum likelihood iteration. Validity of the model fit is questionable.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	2803.539	55.992
SC	2809.286	107.717
-2 Log L	2801.539	37.992

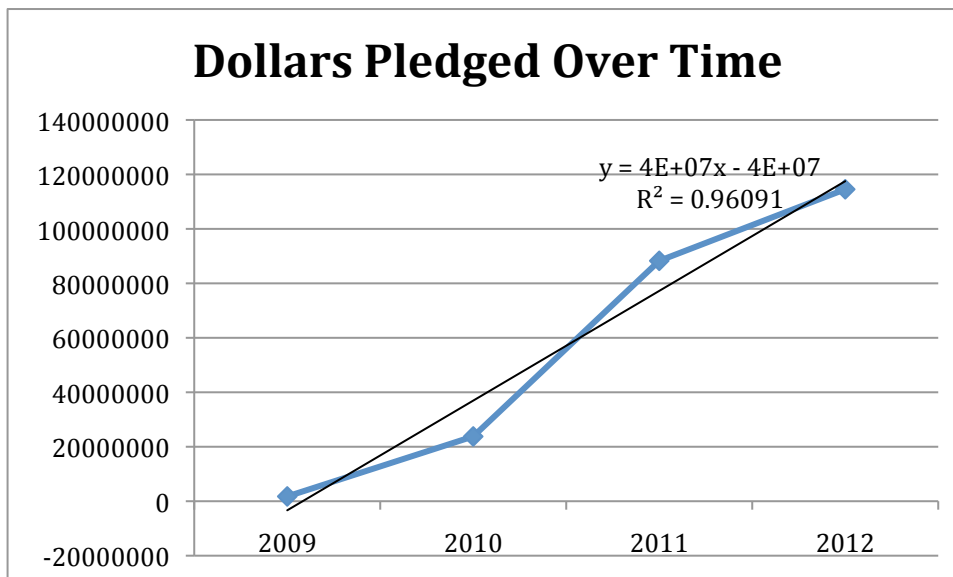
Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2763.5469	8	<.0001
Score	713.6961	8	<.0001
Wald	54.0540	8	<.0001

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-17.9921	5.3579	11.2766	0.0008
goal	1	-0.00090	0.00156	0.3322	0.5644
pledged	1	0.000960	0.00159	0.3659	0.5452
fper	1	0.2025	0.0499	16.4586	<.0001
backers	1	-0.00510	0.0210	0.0593	0.8076
levels	1	0.2322	0.1579	2.1626	0.1414
updates	1	0.0419	0.1269	0.1092	0.7410
comments	1	-0.0170	0.1701	0.0099	0.9205
duration	1	0.0244	0.0275	0.7861	0.3753

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
goal	0.999	0.996	1.002

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
pledged	1.001	0.998	1.004
fper	1.224	1.110	1.350
backers	0.995	0.955	1.037
levels	1.261	0.926	1.719
updates	1.043	0.813	1.337
comments	0.983	0.704	1.372
duration	1.025	0.971	1.082

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	100.0	Somers' D	1.000
Percent Discordant	0.0	Gamma	1.000
Percent Tied	0.0	Tau-a	0.415
Pairs	1110844	c	1.000



Number of Backers Over Time

