Startups vs. Non-Startups on a Crowdfunding Platform: A Comparative Analysis.

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Abstract: *The article discusses how crowdfunding campaigns perform differently for startups and non-startups. The study's primary goal is to determine whether startups outpace their comparable efforts in terms of fundraising effectiveness, sponsor commitment, and overall campaign success. For analysis, we selected a sample of projects, categorised as either startups or non-startups, based on characteristics such as innovation, scalability, and entrepreneurial orientation and selected six quantitative factors to consider: the amount of money raised (in euros), the project's target amount (in euros), the percentage of goals met, the number of sponsors, the number of updates released, and the number of user questions. The results indicate that startups raised, on average, more capital, set higher funding goals and attracted more public interest while non-startups were more consistent in achieving their funding goals and had a higher median number of sponsors.*

Keywords: *crowdfunding success, entrepreneurial finance, innovation support*

JEL Classification: G24, L26, M13

Introduction

Crowdfunding platforms are growing significantly in the modern financial ecosystem because they offer an alternative to conventional funding sources. Apart from businesses involved in cultural, social, and educational projects, the platforms have been noted to draw young businesses that give innovation a top priority and faster development. Campaign designers, investors, and platforms operating in the field of crowdsourcing have to understand the differences between these two groups concerning their audience response, success rates, and fundraising strategies. Comparative studies of startups and non-startups are still rare, even with growing interest in crowdsourcing. With an eye toward determining the main elements that affect project success, this paper compares crowdfunding campaigns by startups and non-startups.
The primary objective of this article is to analyse crowdfunding campaigns conducted by startups and non-startups and to determine the most important factors that impact the success of each group. The study formulated the following hypotheses:

H1: Non-startups are more likely to reach their funding goal than startups.

H2: Regardless of the category of the project, the amount of funds raised by non-startups is less than that raised by startups.

The article has the following structure: the first part presents the theoretical base for the problem and an overview of the scientific literature; the second part contains the research methodology, which includes the description of the data, the classification criteria used for the project and the methods of analysis chosen and the third part contains the outcomes of the comparative analysis; finally, the fourth section contains the conclusions with the main outcomes, the gaps of the research, and the directions for the further research.

1. Theoretical background

Crowdfunding refers to the gathering of resources and finances from a large number of people to fund a specific project. It has now become an integral part of startups, creative projects and social enterprises. The rapid increase in its utilisation can be attributed to the availability of digital platforms, as well as ease of entry into the market. Traditional banking systems, such as venture

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capital funds, are now being sidelined as crowdfunding is emerging as a more accessible option for people and project initiators looking for financial support Belleflamme et al. (2014)

In the study in question, Fleming and Sorenson, (2016) are among the key contributors who identified the major types of crowdfunding as reward-based, equity-based, debt-based, and philanthropic. This analysis will focus on reward-based crowdfunding, which involves funders contributing funds and receiving non-financial rewards such as mentions, products and participation in the developmental processes. Creative and technology startups are increasingly adopting this particular model in the early phases of a business's cycle.

Paschen (2016) argues that the concept of crowdsourcing can be examined using the startup life cycle, which uses several strategies and financing sources at different phases. Early on, even before its official release, reward-based crowdfunding can act as a casual tool to test market demand, create a customer base and market the product.

Information imbalance—where the project creators often have more knowledge than possible investors—is one of the main concepts in crowd-funding theory. For new businesses still developing their reputation or figuring their way in terms of a proven business model, this situation is especially pertinent. Through the use of interfaces, moderation rules, and public metrics (e.g., percentage of the amount raised, number of contributors, activity in updates and comments), crowdfunding platforms have the potential to help to balance this disparity, as Lagazio & Querci (2018) have kindly pointed out.

In this sense, the signaling theory can be particularly relevant. Mollick (2014) demonstrates that signals of project preparedness — such as including a pitch video, providing early updates, and avoiding spelling mistakes — are positively associated with crowdfunding success. These indicators help potential backers assess the underlying quality of the project.

Crowdfunding plays different strategic roles for startups and non-startups. Startups use crowdfunding tools to achieve early-stage funding, test their ideas, and build an early customer base, often using social media and equity crowdfunding (Hoque, 2024; Park & Loo, 2022). Non-startups, on the other hand, use crowdfunding for a different purpose: to attract customers, test new products and build brand loyalty support Belleflamme et al. (2014). The success factors in the two groups also differ: startups benefit from clear campaigns, realistic goals, and urgency (Felipe & Ferreira, 2020; Gunawardana, 2020), while non-startups succeed through brand trust, strategic planning, and regular communication with the audience Peprah and Shneor (2021).In the end, crowdfunding accelerates startup growth and innovation while also allowing non-startups to engage in low-risk experimentation and build stronger customer relationships through early market interaction (Belleflamme et al., 2014; Hoque, 2024)).

The systematic review by Mora-Cruz and Palos-Sánchez (2023) indicates, in the final analysis, that academic interest is concentrated on elements including success factors of crowdfunding campaigns, the digital identity of the project initiator, social capital, legitimacy and risk perception, consumer behaviour and herd effect.

Particularly in the context of comparing several kinds of projects (e.g., startups and non-startups) inside the same platform, there is a need for more empirical research.

Consequently, the current work is based on a thorough and strong theoretical framework that combines ideas from digital entrepreneurship, signalling, behavioral finance and platform economics. Comparing startups and non-startups on the same platform is interesting since it offers a fresh understanding of the nature of crowdsourcing as a tool for creative financing.

2. Research methodology

The analysis used data from the Czech reward-based crowdfunding platform Hit Hit. The dataset contained projects that were posted between 2013 and 2024, including information on the project's target amount, the amount of funds actually raised, the number of backers, and audience interaction (e.g., updates and public questions). For the analysis, the focus was on projects from categories relevant to entrepreneurship or innovation: design, ecology, energy, games, fashion, technology, arts, and education. Those not reflecting an entrepreneurial or innovative nature (e.g. food, music, theatre, literature, sports and film) were excluded. Preliminary filtering and categorisation resulted in a final sample of 1,228 projects. Of these, 376 projects we identified as startups and 852 projects as non-startups. Table 1 presents descriptive statistics for all analysed crowdfunding projects, providing a general overview of the dataset. Tables 2 and 3 present descriptive statistics separately for startups and non-startups, allowing for a comparison of their performance on the crowdfunding platform.

Table 1. Descriptive Statistics – All Projects

Variable	Mean	SD	Min	Median	Max
Collected (EUR)	4,345.17	15,341.50	0	1,287.50	303,815.00
Target (EUR)	7,067.81	16,401.88	765	3,826.00	395,921.00
Percent (%)	69.10	98.8215	0	31.30	1,382.61
Contributors	102.57	234.88	0	33.00	3,156.00
Updates	2.54	3.84	0	1.00	47.00
Questions	1.38	2.45	0	0.00	24.00

Source: Own computation in R Studio based on dataset manually classified.

Table 2. Descriptive Statistics – Startups

Variable	Mean	SD	Min	Median	Max
Collected (EUR)	5,276.74	18,199.007	0	790.50	258,107.00
Target (EUR)	8,264.62	13,314.09	765	4,796.00	175,789.00
Percent (%)	65.65	113.64	0	14.68	1,214.45
Contributors	114.30	289.65	0	22.50	3,156.00
Updates	2.34	3.67	0	1.00	24.00
Questions	1.88	2.805	0	0.00	13.00

Source: Own computation in R Studio based on dataset manually classified by innovation status (startup).

Table 3. Descriptive Statistics – Non-Startups

Variable	Mean	SD	Min	Median	Max
Collected (EUR)	3,934.06	13,887.12	0	1,596.00	303,815.00
Target (EUR)	6,539.64	17,574.38	765	3,414.50	395,921.00
Percent (%)	70.627	91.54	0	57.05	1,382.61
Contributors	97.392	206.13	0	39.00	2,199.00
Updates	2.64	3.92	0	1.00	47.00
Questions	1.15	2.24	0	0.00	24.00

Source: Own computation in R Studio based on dataset manually classified by innovation status (non-startup).

Each project was categorised manually as either a startup or a non-startup based on an analysis of its description (introduction and main text). A project was categorised as a startup if it demonstrated attributes of innovation, scalability and commercial potential, such as launching a new product, brand, technological solution or prototype. Based on this, we created a binary startup variable (TRUE/FALSE).

At the stage of initial variable selection, we consulted an AI language model, ChatGPT (OpenAI, 2025), to generate hypotheses and identify potentially relevant directions for analysis. The suggestions provided served as a starting point, but the final selection of variables—including the amount raised, funding goal, number of contributors, number of updates, and number of public questions—was made manually based on theoretical relevance and analytical value.

The Wilcoxon rank-sum test (also known as the Mann–Whitney U test) was used to assess whether there were significant differences in key crowdfunding metrics between the startup and non-startup groups. This non-parametric test is ideal for analysing two independent samples when the data are not normally distributed or contain outliers, which is common in crowdfunding datasets where a few campaigns may drastically exceed their funding goals. In contrast, many others receive little or no funding. Unlike parametric alternatives such as the t-test, the Wilcoxon test relies on rank-

based comparisons. What makes it robust to skewness and insensitive to extreme values. It also does not assume normality (Krzywinski & Altman, 2014; McClenaghan, E. (2023).
Applying this test enabled us to objectively compare the distributions of six key quantitative variables (collected — the number of funds raised (in euros); target— target amount of the project (in euros); percent — the percentage of goal fulfilment; contributors— the number of sponsors; updates — the number of updates published; questions —the number of public questions from users) between startups and non-startups. This approach helps us reveal differences in the data as a whole in both the mean and the structure. Additionally, it provides a basis for objectively comparing the distributions of the six variables previously mentioned between the two groups, revealing differences in both the mean and the overall structure of the data.
The analysis was conducted in the R Studio software environment using the built-in Wilcox.test () function.

3. Results

The analysis results presented in Table 4 indicate that five out of six variables demonstrate statistically significant differences between the groups ($p < 0.05$). Table 5 illustrates the distribution and structure of key crowdfunding variables by comparing the median and mean values for startups and non-startups.

Table 4. Wilcoxon Rank-Sum Test Results for Startups vs. Non-Startups

Variable	W statistic	p-value	Significance
Collected	173 821.5	1.720887e-02	*
Percent	182 644.5	8.760711e-05	***
Contributors	178 661.0	1.248483e-03	**
Updates	168 794.5	1.184175e-01	
Questions	139 213.0	2.444168e-05	***
Target	125 575.0	1.511491e-09	***

Source: Own computation in R Studio based on dataset manually classified by innovation status (startup/non-startup).

($p < 0.05$ = *, $p < 0.01$ = **, $p < 0.001$ = ***)

Table 5. Summary of Medians and Means by Group

Variable	Median (non-startup)	Median (startup)	Mean (non-startup)	Mean (startup)
Collected	1596.0	790.05	3934.063	5276.747
Percent	57.05575	14.68654	70.62554	65.65485
Contributors	39.0	22.5	97.39202	114.30851
Updates	1.0	1.0	2.640845	2.343085
Questions	0.0	0.0	1.158451	1.885638
Target	3414.5	4796.0	6539.646	8264.622

Source: Own computation in R Studio based on dataset manually classified by innovation status (startup/non-startup)

In order to make the analysis, we performed the Wilcoxon rank-sum test on six key factors to examine the potential differences in crowdfunding outcomes between startups and non-startups. Table 4 summarises the test results and demonstrates statistically significant differences ($p < 0.05$) across five of the six variables between the two groups. A summary of median and mean values for each variable is demonstrated in Table 5, which supports our findings. At the same time, Figure

1 illustrates boxplots for graphical representation, enabling a visual assessment of the distributions and potential outliers.

First, the variable "collected" refers to the total amount received by a campaign. In our analysis, startups reported significantly higher average amounts collected compared to non-startups, with mean values of 5276.75 and 3934.06, respectively ($p = 0.0172$). However, the median value was notably higher for non-startups at 1596 compared to 790.5. This suggests that while a limited number of startups achieved exceptionally high fundraising outcomes, the majority of non-startups showed more consistent performance. As can be seen from Figure 1, panel A, the gap between the mean and median indicates the existence of outliers among startups, which is further confirmed by the positive skew in the boxplot.

Moreover, the "percent" variable indicates the percentage of funding goal that was successfully achieved. Interestingly, non-startups had both a higher median (57.06%) and mean (70.63%) compared to startups, which recorded a median of 14.69% and a mean of 65.65%. The observed differences are statistically significant ($p < 0.001$). These findings indicated that non-startups not only raised greater funds relative to their goals but also demonstrated a more consistent performance in doing so. In the boxplot illustrated in Figure 1, panel C, non-startup campaigns show a denser distribution above the 50% line. In contrast, startup campaigns are concentrated closer to the bottom, with fewer exceeding their funding goals.

The variable "contributors" showed a significant difference between the groups (1.248483e-03). Non-startups had a higher median number of individual participants (39 vs. 22.5). However, startups again showed a higher mean value (114.31 vs. 97.39), indicating a small number of highly successful startup campaigns with large audiences. The boxplot in Figure 1, panel D, clearly illustrates this contrast: non-startups have a more compact distribution, while startups exhibit a longer upper level, consistent with high variability.

From the perspective of audience interaction, the "questions" variable records how many questions each campaign received. A significant difference was identified (p-value 2.444168e-05), indicating that, on average, startups are receiving more questions (1.89 compared to 1.16). Although, it is notable that the median number of questions was zero for both groups. This suggests that startups tend to provoke more questions from potential investors, possibly due to the innovative or unfamiliar content nature of them. Figure 1, panel F clearly illustrates this trend, revealing a greater concentration of startups that engage with three or more public questions.

The "target" variable reflects the initial financial goal set by each campaign. It was found that startups set significantly higher aims, with a median target of 4796 and a mean of 8264.62, compared to 3414.5 and 6539.65 for non-startups. The p-value for this difference was lower than 0.001, indicating strong statistical significance. The broader distribution and higher upper range for startups are visible in Figure 1 (panel B), suggesting greater ambition or funding needs.

The only variable which had no significant difference was "updates" ($p = 0.118$). Both groups had the same median value (1), and the mean was also very similar (2.64 for non-startups and 2.34 for startups). This suggests that the frequency of campaign communication does not depend on whether the campaign belongs to a startup or not. As indicated in Figure 1, panel E, we can see that these findings are supported with similar box shapes and ranges.

Overall, the statistical tests, summary statistics, and visualisations provide a consistent picture: based on the analysis results, we can confirm hypothesis 1. because the results show that non-startups have higher medians and means in their percent variables, meaning that they have more often achieved their target funding. Our most surprising finding was that non-startups have shown greater consistency and success in crowdfunding than startups, contrary to popular belief. Furthermore, Figure 1 indicates that the results of non-startup campaigns were more concentrated above the 50% benchmark, whereas startup campaigns mostly remained below this value. Also, we can partly confirm hypothesis 2 because the average amount raised was higher for startups, which supports our hypothesis. The median, however, was higher for non-startups, indicating that the typical non-startup raised more than the typical startup. The results, therefore, show that while startups can raise large amounts due to a few extremely successful campaigns, non-startups are more consistent.

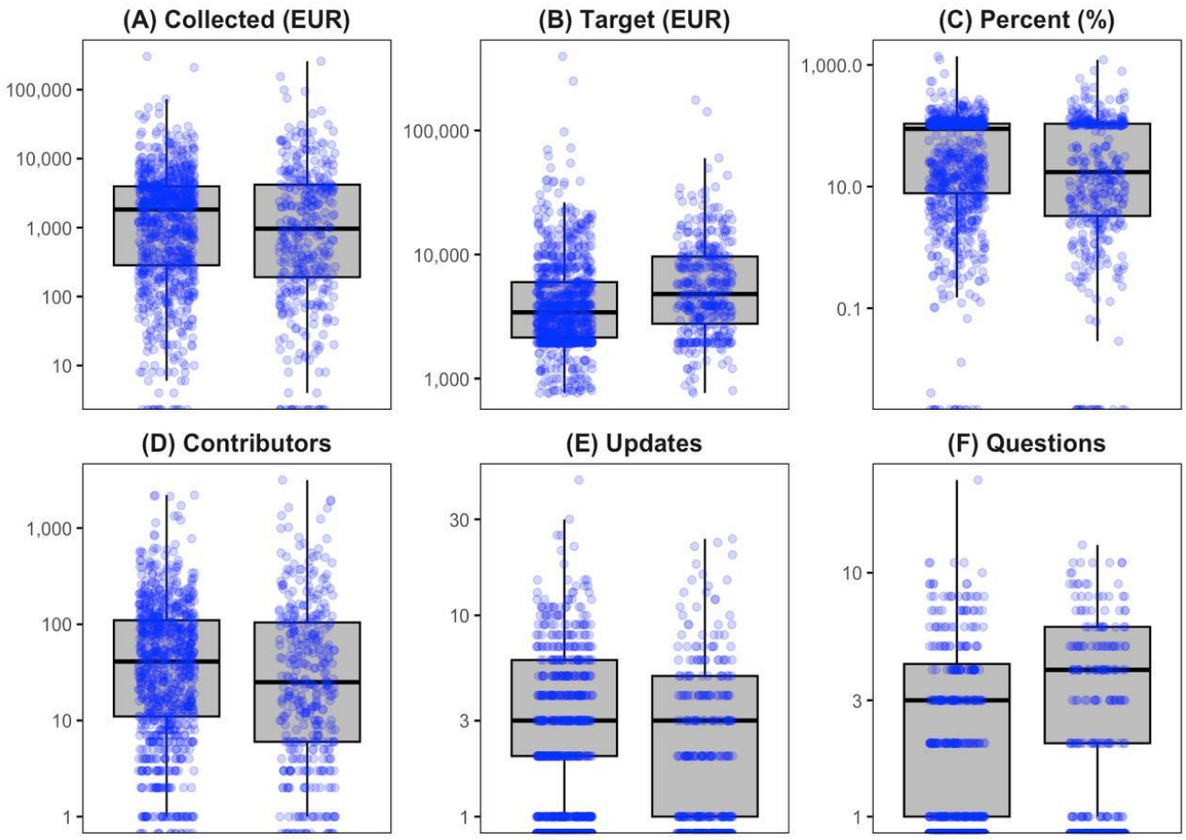

Figure 1. Comparison of Startups and Non-Startups Across Key Crowdfunding Metrics
Source: Own processing based on data from the HitHit crowdfunding platform.

4. Discussion

In our comparative analysis, we have mentioned that startups and non-startups display significant differences in the most crucial outcome factors for crowdfunding campaigns. These statistically and descriptively proven variances enable us to recognize the unique behavioral and structural features of each group within the crowdfunding ecosystem.

Startups have a wider range in their results, as they more often show higher average metrics for such indicators as total amount raised and target amounts. This phenomenon can be attributed because of higher financial requirements to achieve their development objectives. It is very important to notice that their median values are notably lower. While this is expected for the total amount raised — as a few highly successful campaigns can raise large sums — the same is observed for target amounts. This may result from the tendency of many early-stage startups to set modest funding goals, while a smaller number of more ambitious projects elevate the average, resulting in a lower median overall. Figure 1 illustrates that only a small number of startups achieve expected success, while the others remain below their stated goals. This outcome can be attributed from the basic features of startups, which, by nature, are used to be more risky and innovative projects that either garner significant widespread support or struggle to obtain funding. This result represents an important aspect of crowdfunding for new initiatives, where a limited number of campaigns attain remarkable success, whereas most receive minimal support.

On the other hand, non-startups demonstrate higher stability. Their campaigns more often achieve their stated goals, as demonstrated in Table 5 by the median and
means. Additionally, we can say that they receive a higher median number of donations, indicating greater and more enduring community support. This is likely because non-startups have clearer business models, existing reputations or more pragmatic assessments of the required resources. As Pitschner & Pitschner-Finn (2014) highlight, non-startups more often reach their funding targets and build trust through reliability and predictability.

Startups often receive a higher volume of questions from users, which is understandable given that these ventures tend to be new and unfamiliar, necessitating additional explanations. Individuals seek to comprehend the nature of their investments, indicating that startups may initially present less available information. It is imperative for these enterprises to engage more actively with their audience to foster trust and mitigate uncertainty. Also, it may reflect interest but also a lack of trust or clarity. This could suggest that prospective contributors perceive startups as more complex or

less transparent, requiring further explanation. The increasing number of public questions directed at startups highlights the information asymmetry that exists between project creators and potential investors. Startups often present innovative or unconventional solutions that require further explanation. As a result, users tend to ask more questions to reduce their uncertainty and make better-informed investment decisions. This trend underscores the importance of transparent and proactive communication from campaign initators. In the context of crowdfunding, effective communication can be crucial for building trust and, ultimately, determining the success of a campaign. The findings presented are in accordance with the research conducted by Liu et al. (2024), which indicates that an ambiguous tone in project descriptions can diminish the credibility of the information disclosed. This lack of clarity increases uncertainty and may lead to skepticism among potential funders. To mitigate information asymmetry and foster greater engagement, it is essential for startups to prioritize transparent communication and provide clear and comprehensive descriptions of their projects.

Moreover, we have found that startups more often set higher target amounts. This supports the idea that they require their actual capital needs, but it also suggests an ability to overstate the campaign capabilities. This technique increases the probability of failure to achieve the objective, regardless of some assistance. Non-startups, on the other hand, are setting more realistic goals, which increases the chances of a successful campaign completion and strengthens donor trust. Hoque, M. M. (2024), for example, note that startups seem to do better on crowdfunding platforms, perhaps because of their inventiveness and ability to create a long-lasting community. According to the study by Liu et al. (2024), the initial participants' actions, for example, questions and updates, might act as important behavioral cues that could affect other user’s actions. Aslan, Bakir, and Çavdar's (2024) similarly argue that these early interactions may shape the overall direction and success of campaigns. These perspectives appear to directly support the observed dynamics in our analysis.

However, our study has limitations. It uses data from only one platform, HitHit, and does not take into account factors such as campaign category, promotion, or team structure.

The evolution of campaign success over time is a critical topic that warrants further exploration. The efficacy of startup projects may have changed significantly in response to factors such as heightened competition, evolving platform algorithms, and shifts in user behaviour. Campaigns conducted in 2015 likely encountered different challenges and expectations than those from 2023. This observation highlights the importance of incorporating temporal analysis in future research to better understand these dynamics.

Also, future research should explore multiple platforms, incorporate additional variables, and analyse how campaigns evolve over time. This should include an examination of the role of project types, funding models, and creator characteristics, such as gender and experience.

Conclusions

The study found some interesting differences between startups and non-startups based on six indicators. Most of the time, startups get more money than other types of businesses, but the median values were much lower overall. We found that only a small number of companies did very well, while most of them did not reach their stated goals. Even with all these differences, startups usually get more customers involved, especially by getting more public questions. This could mean that their projects are new and creative and that donors need more information to help them make a decision. There wasn't a big difference in the number of campaign updates between the two groups, which means that the platform had the same level of communication reactions overall.

These findings are consistent with existing research in the crowdfunding sector.

Several recommendations can be made to further enhance engagement and foster trust among potential backers:

1. Startup creators should leverage the updated functionality and interact with their audience more frequently
2. Platforms should integrate tools that support active communication, such as automated reminders for campaign creators to send updates or respond to questions.
3. Future research should aim to identify additional linguistic features and investigate how their use influences the success of crowdfunding campaigns, as proposed by Liu et al. (2024).

Crowdfunding is not only a way to raise money, but it is also a good way to test the market and get feedback on a product, especially if it is a new idea. These results show that we need to do more research to find out how crowdfunding can be used to fund and test new ideas and help businesses grow in their early stages. Future research could look into how different types of feedback, like questions, updates, and so on, affect how businesses grow and how decisions are made.

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