ASSOCIAÇÃO DE POLITÉCNICOS DO NORTE (APNOR)

INSTITUTO POLITÉCNICO DE BRAGANÇA

Crowdfunding for non-commercial initiatives

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Bragança, June, 2016.

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Abstract

Organizations and individuals dealing with non-commercial initiatives are in permanent search for funding. Crowdfunding is an alternative way of collecting funds from general public through Internet-based platforms, which is currently gaining popularity all over the world. There are several research initiatives in that field that show the influence of different factors on the success of campaigns, both with commercial and non-commercial objectives. Non-profit nature of the project is named among key predictors of positive outcome.

In this context, the purpose of this work is to check whether the tendencies detected by scholars are valid for non-commercial initiatives, especially those having socially aware objectives, posted on the Belarusian crowdfunding platform Ulej. The method used for validation of the research hypotheses is binary logistic regression and statistical test.

The results showed that the dependent variable success is influenced by such independent variables as the funding goal, the sum collected, the number of sponsors and the average pledge. On the other hand, the effect of the duration period is not significant. Inferential analysis shows that there is no difference in the level of success between commercial and non-commercial projects and that social orientation does not increase the likelihood of meeting financial goals. The findings are opposite to those provided in literature. However that could be explained by the short period of functioning of platform and the small number of projects.

Keywords: Crowdfunding, Crowdfunding campaign, Non-commercial organizations, Social projects, Logistic regression.

Resumo

Organizações e indivíduos que lidam com as iniciativas não-governamentais (sem fins lucrativos) estão numa procura permanente de fundos. O *Crowdfunding* é uma forma alternativa de recolha de fundos por parte do público em geral com recurso à *Internet*, utilizando plataformas especiais que têm vindo a ganhar popularidade em todo o mundo. Existem vários trabalhos desenvolvidos nesse campo que mostram a influência de diferentes fatores no sucesso de campanhas com objetivos comerciais e não-comerciais. A natureza deste tipo de projetos tem tido resultados mais positivos, em termos de sucesso, do que os projetos comerciais.

Neste contexto, o propósito do presente trabalho assentou em verificar se as tendências detetadas por académicos são aplicáveis para iniciativas não-comerciais, especialmente aqueles que têm objetivos sociais, disponíveis na plataforma bielorrussa de *crowdfunding Ulej*. Para tal, o método utilizado para validação de hipóteses de investigação, foi por um lado o recurso à regressão logística binária, e por outro a aplicação de testes estatísticos.

Os resultados obtidos com a regressão logística permitiram concluir que a variável dependente sucesso é influenciada pelas variáveis independentes, tais como: objetivo do financiamento, financiamento global, número de patrocinadores e contribuição média monetária, enquanto que o efeito do período de duração não é significativo. Através da análise inferencial observou-se que não existem diferenças no nível de sucesso entre projetos comerciais e não comerciais e que a orientação social não aumenta a probabilidade de atingir as metas financeiras. Encontraram-se resultados contraditórios aos previstos na literatura. Isso pode ser explicado pelo curto período de funcionamento da plataforma e pelo pequeno número de projetos.

Palavras-chave: *Crowdfunding*, Campanha de *Crowdfunding*, Organizações Não-Governamentais, Projetos sociais, Regressão logística.

Реферат

Организации и физические лица, реализующие некоммерческие проекты, постоянно занимаются поиском финансирования. Краудфандинг как альтернативный способ привлечения средств населения посредством сети Интернет через специальные площадки набирает популярность во всем мире. Проведенные в данной области исследования показывают, что существуют факторы, оказывающие влияние на успех кампаний, имеющих как коммерческие, так и некоммерческие цели. Некоммерческий характер проекта является одной из ключевых предпосылок достижения положительного результата. Цель данной работы – проверка применимости тенденций, выявленных исследователями, к некоммерческим проектам и проектам, имеющим социальную направленность, которые были размещены на белорусской краудфандинговой платформе Ulej. Для проверки выдвинутых гипотез были использованы метод бинарной логистической регрессии и статистические тесты. Полученные результаты показывают, что на зависимую переменную успех, оказывают влияние независимые переменные: сумма проекта, объем полученных средств, количество спонсоров и средняя величина вложения, в то время как эффект продолжительности кампании по сбору средств на результат незначителен.

Проведенный анализ выявил, что некоммерческие проекты не являются более успешными, чем коммерческие, и что социальная направленность кампании не увеличивает вероятность достижения финансовых целей. Полученные результаты противоположны данным, приведенным в соответствующей литературе. Причинами этого могут быть непродолжительный срок функционирования платформы и малое количество реализованных проектов.

Ключевые слова: Краудфандинг, Краудфандинговая кампания, Некоммерческие организации, Социальные проекты, Логистическая регрессия.

Resumen

Organizaciones e individuos no gubernamentales que se ocupan de las iniciativas (sin fines de lucro) están en una constante búsqueda de fondos. El *Crowdfunding* es una alternativa a la captación de fondos del público en general a través de *Internet*, utilizando plataformas especiales que han ido ganando popularidad en todo el mundo. Hay varios trabajos desarrollados en este campo que muestran la influencia de diferentes factores en el éxito de las campañas para fines comerciales y no comerciales. La naturaleza de estos proyectos ha tenido resultados más positivos en términos de éxito, que los proyectos comerciales.

En este contexto, el propósito de este estudio se basa en verificar que las tendencias detectadas por los académicos se aplican a las iniciativas no comerciales, especialmente aquellas que tienen objetivos sociales, disponibles en la plataforma bielorrusa de *crowdfunding Ulej*. Con este fin, el método utilizado para validar las hipótesis de investigación, era, por una parte el uso de regresión logística binaria, y por el otro la aplicación de pruebas estadísticas.

Los resultados obtenidos con la regresión logística mostraran que la variable dependiente éxito se encuentra influenciada por variables independientes tales como: financiación de los objetivos, la financiación global, el número de patrocinadores y la contribución monetaria promedio, mientras que el efecto de la duración no es significativo. Por el análisis inferencial se observó que existen diferencias en el nivel de éxito entre los proyectos comerciales y no comerciales y orientación social no aumenta la probabilidad de lograr los objetivos financieros. Se han encontrado resultados contradictorios cuando comparados con la literatura. Esto puede explicarse por el período de operación de la plataforma corto y el pequeño número de proyectos.

Palabras clave: *Crowdfunding*, Campaña de *crowdfunding*, Organizaciones no comerciales, Proyectos sociales, Regresión logística.

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Acronyms

AP - Average pledge
B - Coefficient of regression equation
CP - Character of project (commercial or non-commercial)
df - Degree of freedom
DP - Duration period
Exp(B) - Exponentiation of B
F - Result of F-test
FG - Funding goal
MAP - Median average pledge
MDP - Median duration period
MFG - Median funding goal
MSC - Median sum collected
MSN - Median sponsors number
n - Number of observation
NS - Number of Sponsors
PFS - Percentage of female sponsors
PMS - Percentage of male sponsors
r - Pearson Correlation Coefficient
RC - Recode category
S.E. - Standard error
SC - Sum collected
SD - Standard Deviation
Sig. - p-value
t - Result t-Student test
Wald - Wald significance test

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Introduction

Nowadays technologies are rapidly developing. The Internet became an integral part of the life of people. Global network conquered a favorable position for performing different kinds of business activities. Collecting funds to support various projects is one of them. In this case, the role of the intermediary between founders and funders is performed by crowdfunding websites. As time goes the crowdfunding platforms appear around the world and more and more creators apply to this method of fundraising. Non-profit organizations, that generally have a lot of followers due to dealing with projects which realization is beneficial for community, see the use of crowdfunding as a way to diversify the sources of financing. As for potential investors, with respect to the desired outcome, they could make contribution to donation-, reward-, equity- or lending-based platforms.

The research objective of this work is to test whether non-commercial project reach desired financial goals more often than the commercial ones. Data for performing analysis was collected from Belarusian reward-based crowdfunding platform Ulej.

The first part of the work is based on the related literature. The chapter starts with the description of the various approaches to define the notion of crowdfunding. The following section is dedicated to the crowdfunding platforms as the intermediaries between creators and general public. Further, the overview of fundraising campaign and motives of its participants is discussed. Though scholars mainly highlight positive characteristics of crowdfunding, it also has some drawbacks, connected with the fail in reaching the financial goal. Next section is dedicated to the use of crowdfunding for financing non-commercial initiatives. At the end of the chapter, there is an overview of actual state of crowdfunding in the world and in the Republic of Belarus.

The second chapter describes the sample and methods used for data analysis.

The third chapter includes the descriptive analysis of work of crowdfunding platform Ulej over 11 month of its functioning and the results of the logistic regression implied in order to see whether non-commercial character and social orientation increase the probability of success in reaching funding goals. Moreover the investigation was carried out to detect if the gender of the sponsors and size of average pledge depends on the category supported and to find out the interrelations between the factors that have influence on the results of campaign. The findings of the carried research are summarized in the conclusion.

1. Literature Review

1.1. Definition of crowdfunding

In order to put in practice any idea, usually, needs financing. It does not matter whether you want to start a new business, publish a book, record a musical album or protect the European mammals. If business is already started and it is successful, the profit could be invested in further development. However, with non-commercial initiatives, the situation is different. Every project requires new investment.

For this work it is considered that commercial initiatives are campaigns that have the purpose of having profit after realization of project (starting a new business, producing consumer goods, etc.). Non-commercial initiatives pursue humanitarian or charity aims, have non-profit nature, and also could to the sphere of art, scientific research or sports.

There are usually two roles involved in the process of collecting funds: the borrower and the lender. Traditionally, the role of the second is performed by banks or by patrons. However, sometimes the idea of the entrepreneur is not well accepted by the lenders, whose number is limited. In these situations, the initiative remains unrealized.

The expansion of the Internet and the development of corresponding technologies make the process of information sharing easy. Anyone can attract the attention of public to his/her idea, project or problem. The list of potential supporters grows enormously to the number of Internet users. Such conditions are favorable for the advancement of crowdfunding.

There are several definitions of crowdfunding. Profatilov, Bykova and Olkhovskaya (2015), following the Oxford Dictionaries, state that crowdfunding is the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the Internet**.** That description reflects three milestones of this notion:

- micro-sums;
- big number of lenders;
- aggregation of funds on-line.

This concept is followed by Prive (2012), Belleflamme, Omrani and Peitz (2015)**,** however Lawton and Marom (2012) and Xu, Zheng, Xub and Wang (2016) focus on innovation projects, while Song and Boeschoten (2015) see this way of funding as especially suitable for creative industries. Jang (2013) put crowdfunding along with events, marathons, capital campaigns into the list of practices used for raising funds by non-profits.

Read (2013) and Zilber, Silveira, Carvalho and Imbrizi (2016) applied to the fact that roots of crowdfunding lie in crowdsourcing. Meanwhile Carvajal, García-Avilés and González (2012) named 4 categories of crowdsourcing: crowd wisdom, meaning accumulation of knowledge on particular subject; crowd creation that implies setting up the solution to stated problem; crowd voting using the judgment of public for improvement; and crowdfunding, and also highlighted the idea of role performed by networks of both investors and fundraisers in collecting money.

Mollick (2014) paid attention to the diversity of goals and magnitude of projects, notifies that finances could be raised by individuals and business groups and underlines noninvolvement of financial intermediaries. Shiller (2013) and Mendes-Da-Silva, Rossoni, Conte, Gattaz and Francisco (2016) stated that crowdfunding could be seen as method of funds securing.

Crowdfunding is usually compared with venture capital investment. Davidson and Poor (2016) examined the similarities between gift giving and crowdfunding, however Ordanini, Miceli, Pizzetti and Parasuraman (2011) showed interrelation of crowdfunding and marketing, resulting from changes in the role of consumers from users of goods or services to investors who share the risk of production and promotion and also reveal the possibilities of use of crowdfunding in marketing. Innovations in technologies or goods are risky ventures, so initiators could analyze whether the customers are interested in their product and how much they are ready to pay for it. In the field of art it is possible to check the loyalty of audience and to increase it (Boeuf, Darveau & Legoux, 2014).

As a financing mechanism, crowdfunding expects the fundraiser (creator, initiator, entrepreneur, and founder) and funder (sponsor, backer, and investor) involve crowdfunding site (platform). Fundraisers and founders could be individuals and organizations. However funds could be collected via crowdfunding platforms, single crowdfunded projects and on-line payment systems (Carvajal et al., 2012).

Cameron (2016) called crowdfunding a benefit from the digital world; because this type of raising funds could be applied only thanks to constant grow of Internet. Kshetri (2015) considered that way of financing as global initiative bringing financial and economic benefits. This is supported by the growing number of crowdfunding platforms all over the world.

1.2. Crowdfunding platforms

Fleming and Sorenson (2016) stated that crowdfunding platforms are the internet-based marketplaces connecting parties of interest. Crowdfunding platforms prescribe the rules and encourage the interaction between funders and founders. It could be seen as online wall of proposals (Song & Boeschoten, 2015) or as an intermediary and engine of growth for initiative (Ordanini et al., 2011). The work of the platform is similar to functioning of clearing at stock exchange; however there is difference in the requirements to participants, government regulations and etc. At the same time platform could be seen as a market with high competition.

More precisely, crowdfunding platform could be described as set of technological tools, including online payment, software and hardware, used to ensure informational and technological interaction between users interested in positioning of the ideas and in submission of funds for realization of these ideas in Internet, for a fee.

To be attractive both to creators and backers crowdfunding platform should have as much participants as possible. Except for that, funders are seeking for diversity of projects placed on the platform, because in this case there is high probability to find a project to support. The founders prefer the site were investors are united by common interests. Popularity and success of crowdfunding platform depends on the ability to organize fruitful interaction between creators and sponsors and simplicity of the procedure for making contributions. Crowdfunding platforms should give the creator an opportunity to collect money from his/her own network and sponsors who show interest and also to give a chance to use alternative source of funding.

Crowdfunding platforms are expected to guaranty full transparency of all processes. However platform needs to be built in accordance with demands of interested parties (Song & Boeschoten, 2015). Thus, there should be possibility for funder to make contribution anonymously.

With respect to the nature of outcome crowdfunding could be donation-, equity-, debt-, and rewards-based. Brief description of each type is given in Table 1.

Belleflamme et al. (2015) divided crowdfunding platforms into two groups, in accordance with monetary or not-monetary nature of outcome: investment-based, including equity-, royalty- and lending-based, and reward- and donation-based. Younkin and Kashkooli (2016) indicated increasing numbers of hybrid sites seeking to solve new problems and entice new actors via models that do not fit cleanly into existing categories. Crowdfunding platforms help to raise fund by activation of existing networks, by providing substitute of traditionally used funding, by giving access to capital that has not been available before or opportunity to make investment to different spheres.

Massolution[1] uses the term lending-based instead of debt and states that this type of crowdfunding is major in industry due to the high funding volumes. Meanwhile non-commercial projects are realized on reward and donation based crowdfunding sites, so further the information will mainly concern these two types.

Table 1. Classification of crowdfunding in accordance with the base.

Name of base	Donation	Equity	Debt	Reward
Type of return	Intangible benefits	Share in started business	Invested money with interest	Material or symbolic rewards, not monetary gain
Average amount invested	Small	Big	Big	Small
Level of legislative control	Low	High	High	Low
Motivation	Psychological and social	Financial	Financial	Social and interest in reward provided
Easiness of making investment	Easy	Not easy	Not easy	Easy
Expected durability of relations between founder and funder	Short-term	Long-term	Long-term	Short-term, finished after getting reward
Example	Crowdrise	Crowdcube	Funding Circle	Kickstarter

Source: Author's own elaboration.

In accordance with the fundraising mechanism crowdfunding platforms are divided in:

- those, using principle “all-or-nothing”, that means fundraiser receives money only if total required amount is collected or aggregated sum exceeds needed;
- those, using principle “keep-it-all”, where received money are always transferred to the initiator.

Research made by Chang (2015) revealed that use of the first gives higher probability of collecting funds and also allows receive larger amount in comparison with the second. It is necessary to say that some platforms accept contributions only till financial goal is reached, the others continue fund collection during all period of campaign.

Crowdfunding platforms could be generalist, which welcome projects from various spheres, or oriented to just for one sector (Davidson & Poor, 2016).

The crowdfunding platforms themselves are for-profit organizations. Usually they do not require payment for registration or membership, however after the finish of fundraising period, the creator should pay a percentage of the collected amount. That percentage could depend on the sum collected

[1] See at https://www.crowdsourcing.org.

or on the success of the campaign. However some platforms set fee for funders depending on the sum and on the way of making contribution. Also, some platforms charges processing or transaction fee. Furthermore the fund provided by sponsors could be used by platform till the end of duration period of the project to earn interest (Belleflamme et al., 2015).

1.3. Fundraising campaign

Crowdfunding campaign starts with choice of platform and description of the idea. A sample of project page could be seen on the Figure 1[2].

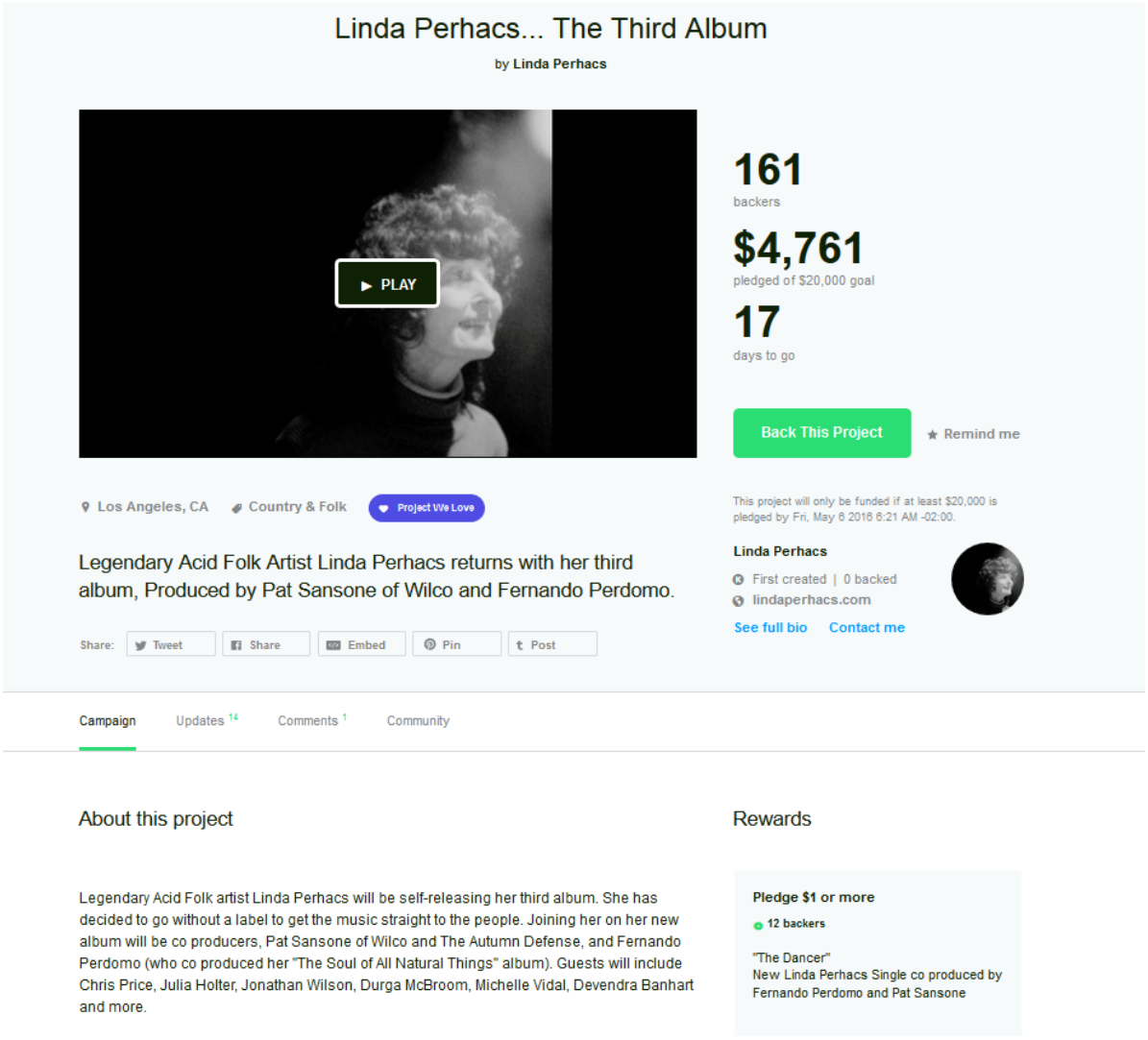

Figure 1. Project page.

Source: Linda Perhacs.

Usually information contains the following:

[2] See at https://www.kickstarter.com.

- name of project;
- short video describing the idea;
- desired amount of money;
- duration period (could range from 1 day to 90 days, though Strickler (2011) suggests fundraisers to choose shorter duration period to inspire sponsors not to delay transfers);
- author of the project (each person entering crowdfunding platform whether for posting the idea or for the support of it should made a profile, nonetheless sponsors could transfer money anonymously);
- category of projects;
- more specific information about the purpose, project team, mission, etc.

Next stage is choosing way of collecting funds. Often crowdfunding platforms use only one fundraising mechanism; however some sites provide the choice. “All-or-Nothing” is less risky for the sponsors. It is used to encourage founders to make funding goal realistic. “Keep-it-all” allows creators to try to implement the project at least partially with the received money.

Further goes the menu of sums and rewards. Rewards vary, depending on the sphere and on the amount transferred. Investor could receive in the field of music – invitation to concert or T-shirt with logo of group; in literature – book with signature of the author; in game – licensed CD; in production – sample of the good for free or with great discount; in charity – mentioning in the list of sponsors or just “thank you” (Table 2).

Table 2. Dimensions and levels of rewards.

Dimension	**Levels of Characteristic**
Purpose/Reward type	Pre-purchase of product or service Symbolic reward
Tangibility	Material or tangible Immaterial or intangible
Scarcity	Limited in terms of number Unlimited in terms of number
Geographical Limitation	Local/geographically dependent Global/geographically independent
Monetary Value/Reward Tier	High value Medium value Low value
Recognition	Public recognition Private recognition No recognition
Level of collaboration	Supporter involvement – participation Supporter involvement – decision-making Support involvement – customization No supporter involvement
Core Feature	Product or service Merchandise Experiences Bundles Exclusive rewards

Source: Thürridl and Kamleitner (2016, p.93).

Thürridl and Kamleitner (2016) emphasized that the right choice of rewards positively affect the results of campaign and provides the reward classification including dimensions and levels of characteristics.

It could be noticed that during the period of money collection, the site shows the amount accumulated, the days left, the number of backers and their comments and updates made by the initiator.

Practice shows that over duration period contributions are made unequally. Depending on the speed and amounts collected, fundraising process could be divided on several stages (Figure 2).

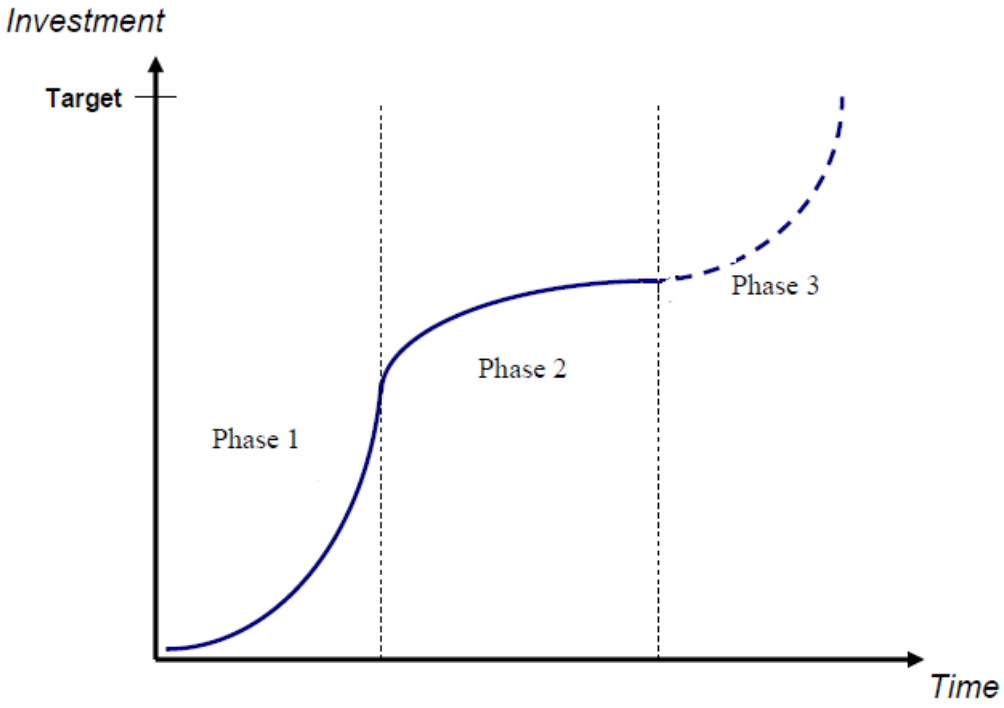

Figure 2. Route of funding process on crowdfunding platform.

Source: Adopted Ordanini et al. (2011, p.46).

On the first stage funds are growing rapidly, because contributions are made by sponsors belonging to the network of creator. During the first days of fundraising, it is possible to see the scale of that network. These could be family and friends or true fans and followers. Moreover some backers are inspired by the idea of participation itself. They like the idea and are willing to share money to feel proud for making someone's idea or dream true. Profatilov et al. (2015) stated that the ideas that received more than 25% of desired amount of money in first days probability to be financed fully is 90%.

The second stage demonstrates the decrease in speed of collecting money. This stage has crucial importance because it reflects the ability of creator to attract general public and shows the sustainability of the idea or interest of the society to a particular topic. Failure on this stage leads to not achieving the financial goal, because project which doesn't have changes in amount collected during respectively long period becomes less attractive to the sponsors as they seem investment useless. Overcoming the second stage with moderate growth is still not a guarantee of success.

The third stage attracts investors who are not connected with creator but they could predict the favorable ending of campaign due to decrease of uncertainty or sponsors that already made contribution and do it again because they are highly interested in the project implementation. At this stage creator could face the problem, if project is followed by small number of investors it could be seen by the others as sign of failure, so investment is not useful. At the same time, if the project attracts a lot of funders, others could stay indifferent, assuming that the campaign will succeed without their participation.

Kuppuswamy and Bayus (2015), studying dynamics of funding process, found out that sponsors are more active on the first and last week of campaign and it is true for projects from any sphere independently of the results; coming deadline and closeness to achieving stated goal inspire sponsors to provide funds; donors tend to have a greater propensity to invest in projects that they find hosted for a longer period of time on a crowdfunding platform.

According to Wash (2013) when the financial goal is nearly reached, the amount of money funded are larger and the possibility that backer will return to make donation again is higher.

After raising funds follows the realization of idea. So to be successful, the project needs not only collect stated amount of money, but also to put into practice as described on the platform. Taking this into account, the founder on initial stage should set the goal that he could reach within the time limits prescribed and should guarantee that backers will receive rewards as soon as possible. As for realization stage, Mollick (2014) indicated that overfunded projects tend to have delays in delivery of products.

1.4. Motivation for use of crowdfunding and success factors

The majority of research in the field of crowdfunding are dedicated to the behavior of funders and founders and to the factors that influence the success of the project.

Zilber et al. (2016) examined the applicability of crowdfunding as a source of financing to the different spheres and the typical features of successful projects. Participants of crowdfunding process start this activity due to several reasons. The most important motive of fundraisers is the possibility to quickly collect money. However, when starting a crowdfunding campaign, they are able to create or expand

existing social network and build long–term relation with people of the same interests, although, after the campaign, the sponsors may stop communication with the creators (Profatilov et al., 2015) to check the vitality of the project, to get new experience as idea to attract investment should be properly presented to public. The goal of backers is to get the result of the project implementation in the form of reward (specific product, new album of the group, etc) or evidence that funds are used in accordance with the initial aim (building of center for disabled people, help to people after natural catastrophe, etc). Also, the desire of the sponsor to participate in funding a particular project could be facilitated by feeling of self-esteem; dedication to the aim of project; opportunity to make something possible through financial support; wish to help in collecting money for a social or a personal cause; curiosity and interest to get new experience (Ordanini et al., 2011).

However crowdfunding has its minuses, connected with the failure. For fundraisers, it is unfavorable consequences for image of the initiator and project and personal dissatisfaction and unwillingness to use this financing mechanism again. Negative aspect of crowdfunding is deadweight loss of resources as sponsors have provided funds to a project that fails and efforts have been expended for no discernible output. Also success in collecting money does not guarantee that project will be properly implemented. Moreover, backers have the tendency to contribute only to one project (Cameron, 2016).

Funders lack the necessary information to estimate the probability of positive results and after collection of money they could not control the use of funds. To make decision they could analyze:

- duration period (could be interpret as the level of creators confidence in success);
- description of project (as backers could be inspired by the materials provided);
- updates;
- provided rewards;
- information about project in social networks and different types of media (Wheat, Wang, Byrnes & Ranganathan, 2013);
- the profile of creator on platform, including crowdfunding experience of fundraiser both in creating and supporting projects (Koch and Siering, 2015).

Song and Boeschoten (2015) studied the success factors for crowdfunding projects from the perspectives of the funders and founders and observed crowdfunding behaviors. Success of crowdfunding is connected with the quality of the product or service for both for-profit and non-profit projects.

Good social networks are well-known advantages in sphere of business. They are used by fundraisers to communicate with potential sponsors. There is the positive relationship between number of contacts in social networks with the amount donated (Mollick, 2014). On-line interactions of funders and founders revealed problem of trust that should be solved by crowdfunding platform which actively build

relationships between creators and backers and ensure capacity to act and obtain feedback. Meanwhile the required degree of trust depends on the type of crowdfunding. It is considered that equity-based crowdfunding implied higher need of mutual trust due to further long-term relations between parties. Funds are called for donation or for founding a company by buying equity, all within the same webspace and with the same human-computer interface. Founders posting project on the platform attract people sharing common interests. Potential sponsors could share knowledge and suggestions about the initiative and also promote and support the idea. Funders could apply to their surroundings to get additional backing. In social networks potential sponsors could share knowledge and suggestions about the initiative and also promote it. Founders should also take into account that the more attention the campaign attracts, the higher the expectation for the results of its realization. Common problem is lack of experience that could be reason of fail in achieving funding goal. It therefore causes unwillingness to use that type of funding again. However the other roots of that include high requirements of time and effort, because promotion of project is the most demanding part; interest to the project of family and friends due to providing funds; there is no guarantee in repeatable actions from funders. Funders are motivated by personal interest and potential of the project.

Crowdfunding allows creator to apply to geographically dispersed people and to raise awareness about the project. Agrawal, Catalini and Goldfarb (2011) using the data from Sellaband, Amsterdam-based crowdfunding platform, empirically proved that geographic distance between founders and funders does not influence funds collection. However, Mendes-Da-Silva et al. (2016), handling information of Catarse, Brasilian crowdfunding site, claimed the more separated are the creator and baker the less propensity for making contribution.

Davidson and Poor (2016) examined the possibility of repeated use of crowdfunding and the difference between fundraisers who practice this financial mechanism once or several times. Projects with lower funding goals and those founded by more than one individual were more likely to succeed (Frydrych, Bock, Kinder & Koeck, 2014). The number of sponsors, independently of the collected amount, could inspire new backers to provide funds more than if the same total sum is contributed by one person (Rijt, Kang, Restivo & Patil, 2014). Determinant factors of success are number of sponsors, total amount provided, and ties between one stated factors, which could be influenced by funding method stipulated on a platform and scale of supporting net created by founder. Nevertheless it is crucial for success of the project to get the support from people outside personal network, from existing users of platform that backed to other campaigns. The repeated use of crowdfunding depends on previous experience.

Davidson and Poor (2016) also stated that creators that receive the major part of funds from family and friends are not willing to do it again. However, on initial stage, founders rely on their known network. But this resource has limited capacity, and possibility of repeated success in lower. Probability of

repeated use of crowdfunding increase if first campaign was successful and during it the founder received money from big number of backers though amount provided per sponsor is low.

As for funders, repeated contributions to the projects posted on crowdfunding platforms depend on satisfaction with the results of previous campaign. Xu et al. (2016) conducted the survey on Demohour, Chinese reward-based crowdfunding platform, on satisfaction of sponsors with crowdfunding, estimating project implementation performance, including time accuracy in providing rewards and product quality, project novelty, sponsor participation, entrepreneur activeness and sponsor demographics represented by gender and age and checking the influence of different configuration of stated factors. To satisfy the funder initiator needs to think about correspondence between provided amount of money and given reward and to ensure that afterwards sponsor will get what he/she expected contributing money. Project novelty is important, because sponsors participate in such project to receive innovative products. Crowdfunding allows funders to communicate with the authors of the project and to provide feedback, thus experience received during interaction could stipulate satisfaction and desire to continue cooperation. Investors usually face the risk because of uncertainty. It is applicable to sponsors during crowdfunding process. However fundraiser could diminish doubts of funder by providing precise information about realization of project. Therefore to insure continuous interaction between participants of crowdfunding process, fulfillment of campaign goals on each stage of performance should be evaluated.

1.5. Researches related for non-profits

Fundraising is one of the main activities of non-profit organizations. These organizations seek sustainable development as for-profits and they should diversify funds (Gathuo, 2015).

For charity organizations and funds, crowdfunding is not an entirely new way to collect money, because, except for the governmental support, they usually call for funds from organizing special events. Sponsors contributing to such projects are driven by empathy towards the cause. Read (2013) states that supporters use crowdfunding for the feelings of social benefit. However he recommended non-profits to use material rewards to express how the funds were allocated.

Independently of the purpose, for a crowdfunding campaign to be successful, it should be well prepared (Jang, 2013). It includes the choice of the appropriate platform, taking to account that popular crowdfunding sites that attract a lot of backers may be less effective than specific platforms collecting money for projects from particular sphere (Geron, 2013).

Kang (2013) declared that crowdfunding for non-profits is a way to convert its main strength, the intents of faithful supporters to help, into money. Though the number of fundraisers may seem excessive, more is always needed for the non-profit organizations that need more funds for a cause. Cultivating relationships is fundamental but maintaining those relationships for future campaigns undoubtedly

important (Jang, 2013). The audience should be as much diversified as possible to ensure the meeting of set funding goal of the next campaign, if the pledgers that supported previous one would be unwilling to repeat the action (Elmer, 2014).

Hörisch (2015) with respect to contract failure theory stating that due to shift of focus from gaining profit to the quality of results, non-commercial initiatives have an advantage in attracting public, declared that non-profit campaigns are more effective in acquiring contributions. Lambert and Schwienbacher (2010) performed the research and concluded that non-profit initiatives are more successful in fund collection. Their findings were checked by Pitschner and Pitschner-Finn (2014), handling data from Kickstarter. The indices used for evaluation are average amount received per sponsor, total number of sponsors, total funds raised in percentage, probability of collection of desired amount. Meanwhile there was emphasis on points of possible difference between commercial and non-commercial initiatives in the amounts desired, minimum pledge, extent of presentation of project on platform and duration of campaign. Results achieved after analysis show that meanwhile non-profit projects demonstrate better performance in achieving funding aims and average value of pledge per sponsor is higher, for-profits on average collect bigger sums and attract more funders.

Meanwhile, Elmer (2014) stated that many non-profit projects ended up reaching not more than 17 percent of funding goal, therefore organization could be more effective in collecting money at an event than during crowdfunding campaign. Nevertheless Messina (2014) pointed that in case of emergency non-profits should turn to crowdfunding, underlining that in 2013 approximately one third part of funds raised globally were collected within socially important campaigns.

Starting non-commercial project creator should pay attention to the way of motivation the backers, and advised not to concentrate on money demanded or unimportance of the amount donated by each sponsor, but on inspiration of funders to become a part of important initiatives (Elmer, 2014). Kuppuswamy and Bayus (2015) stated that donors tend to have a greater propensity to invest in projects that they find hosted for a longer period of time on a crowdfunding platform.

The platforms allow founders to collect information about backers that could further help in creation of campaign strategy (Messina, 2014). Positive relationship between numbers of contacts in social networks with the amount donated to charity projects was studied by Saxton and Wang (2014). Nonprofit organizations interested in crowdfunding should develop strategies that both increase the size of their online constituencies and encourage those supporters to take action to promote the cause.

Feinberg (2014) outlined 4 reasons to use crowdfunding to raise finance for socially important projects:

1. crowdfunding platforms allow to establish virtual partnership between non-profit organizations, community and socially-responsible business units without wasting time for negotiations and meetings;
2. clarity on each stage of campaign and realization of project;

3. online interaction is a powerful tool of collecting money because it provides to general public with opportunity to participate in the campaign in real-time together with members of their social networks;

4. though for for-profit possibility that original idea will be copied or stolen is a negative feature of crowdfunding, for non-commercial initiatives it is resource for sharing ideas and experience, and moreover it provides corporate investors with the numbers of projects with close aims which they could support and develops the communities sharing same interests.

1.6. Crowdfunding worldwide and in the Republic of Belarus

Crowdfunding is a global and rapidly growing industry. The collected amount through different platforms grew from 880 million US dollars in 2010 to 16 billion US dollars in 2014 (Barnett, 2015). According to the data provided by Zeoli (2015), the estimated volume collected by means of crowdfunding in 2015 is 34.4 billion US dollars. So the industry showed a double increase; and according to an estimate of the World Bank, the global crowdfunding market will reach 93 billion US dollars by 2025 (Swart, 2013). Breakdown of stated amount of 2015 among different types of platforms and dynamics of growth of volumes accumulated by each type are shown at Figures 3 and 4 respectively.

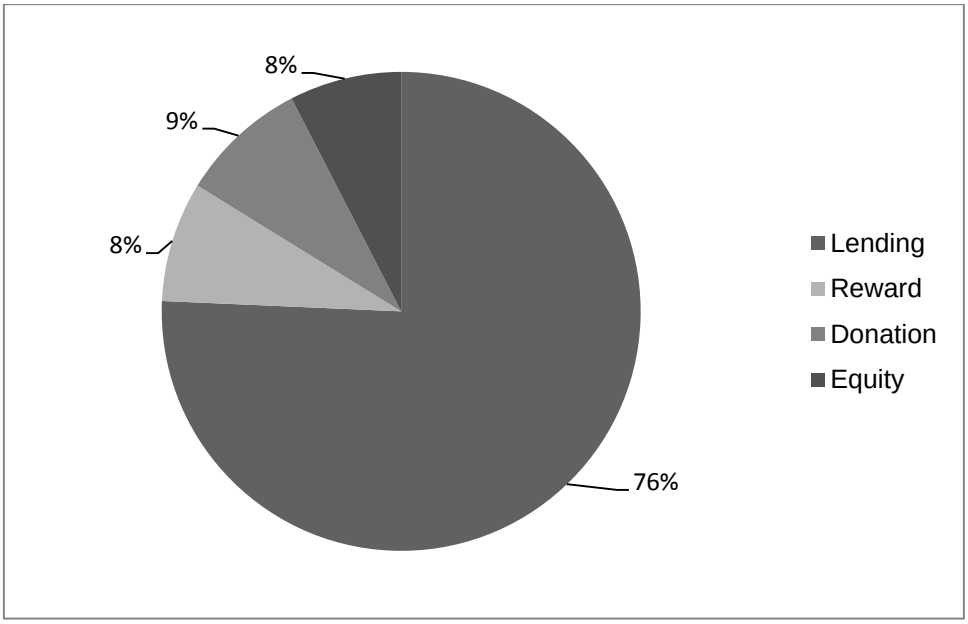

Figure 3. Distribution of total funds collected by crowdfunding platforms.

Source: Author's own elaboration based on Zeoli (2015)[3].

[3] See at http://www.crowdfundinsider.com.

Lending (debt)-based crowdfunding demonstrates the highest contribution in total volume and in terms of growth US dollars, which is understandable taking into account financial benefits. However donation-based and reward-based crowdfunding also shows significant growth. For equity-based crowdfunding main obstacles for the increase are high amounts required as investment and national legislature, that makes difficult enter the platform.

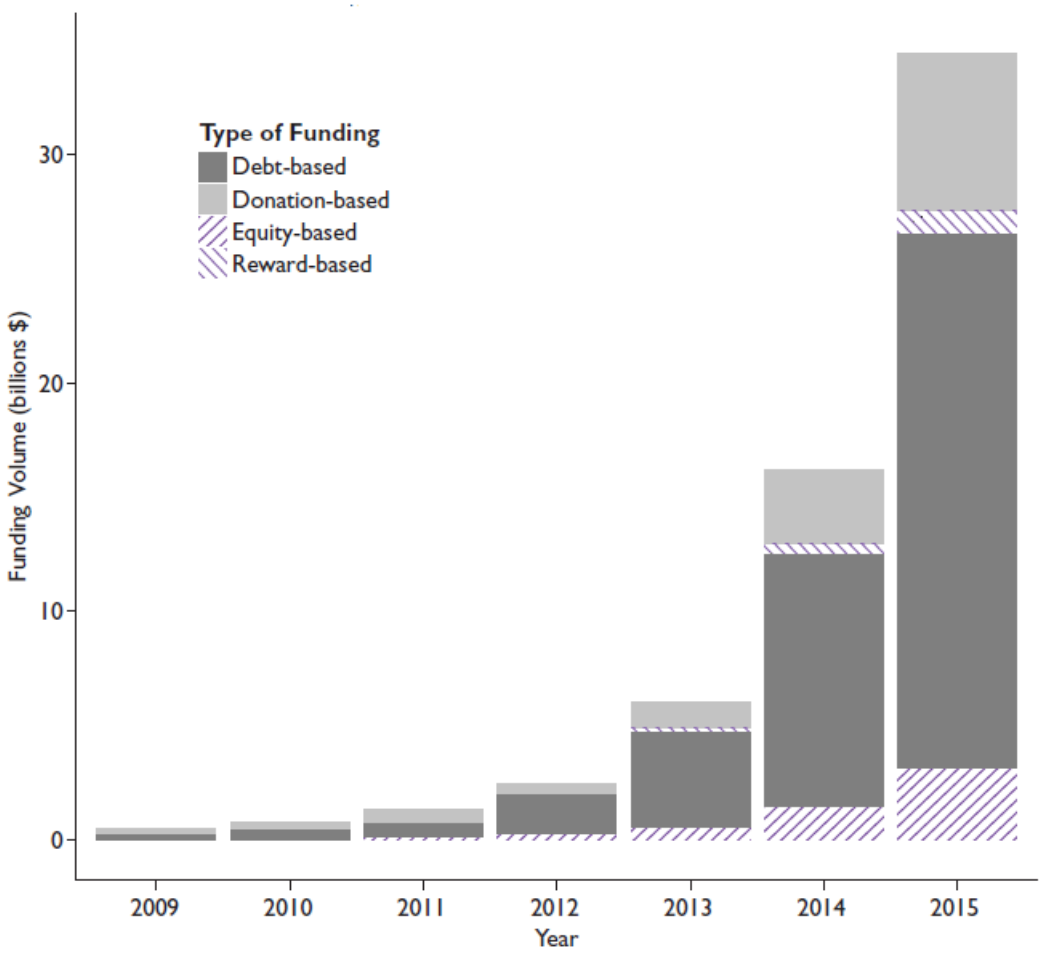

Figure 4. Crowdfunding volume by type, 2009-2015 (estimative).

Source: Fleming and Sorenson (2016, p.9).

Breaking the industry growth down by region, the United States continues to represent the largest segment of the industry with just under 50% of expected total industry funding. The United States also continues to have an extremely high annual industry growth rate (at 82%). That being said, the Europe and Africa markets are each expected to show growth of almost 100% over their 2014 numbers and the Asia markets are expected to show a phenomenal 210% growth rate (representing the 2nd largest region by volume at approx. $10.5 Billion) (Zeoli, 2015).

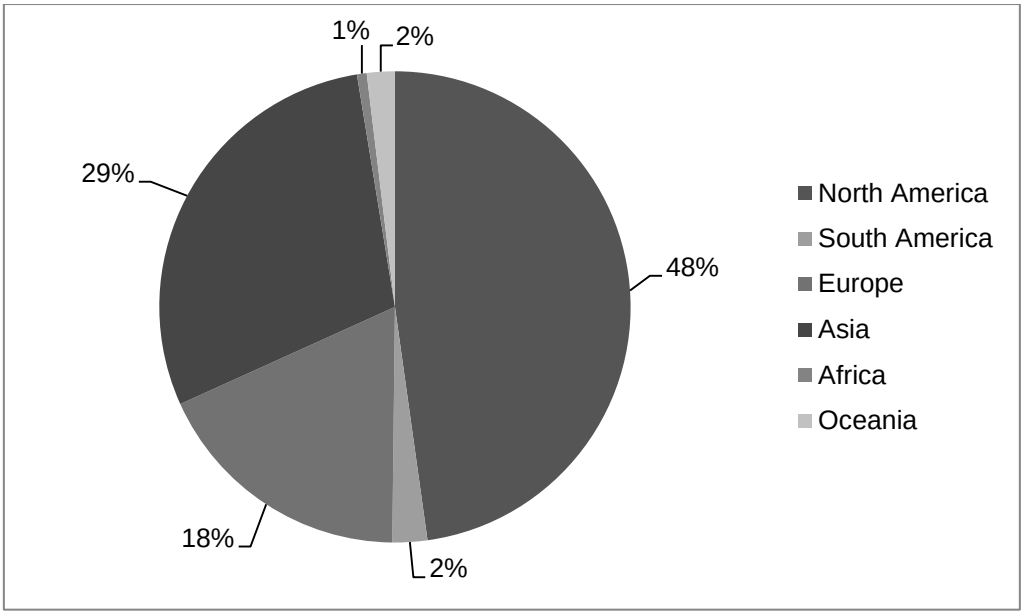

Figure 5. Distribution of total funds collected by crowdfunding platforms.

Source: Source: Author's own elaboration based on Zeoli (2015)[4].

According to Dushnitsky, Guerini, Piva and Rossi-Lamastra (2016) there were 1250 crowdfunding platforms operating worldwide, from which 48 % had European origin and 30 % - North American. Among members of European Union the highest quantity of crowdfunding sites was United Kingdom, Germany, France and the Netherlands.

Kshetri (2015) developed an institutional theory of crowdfunding, suggesting that both formal and informal regulative, cultural-cognitive and normative institutions specific for each country effect crowdfunding projects and influence the ties between all involved parties. Regulative institutions are represented by governmental bodies in charge for protection of investors from any kind of deception and facilitation and encouragement of entrepreneurship and crowdfunding platforms themselves due to aim to reach full transparency and fair rules for all participants. Cultural-cognitive institutions appeal to beliefs and values, and describe what members of society are willing to do (Palthe, 2014). Behavioral models for potential sponsors vary among representatives of different countries and social group predicting possible results of crowdfunding campaign. In particular highly negative to development of crowdfunding are uncertainty of online transactions and mistrust to strangers or community members. Normative institutions are reflection of morality and ethics and deal with voluntary actions vital for expansion of crowdfunding.

As for crowdfunding industry in Belarus the sector started to develop in 2011. However, tradition to apply for help of the community for collecting money or to perform of socially important activities (construction of the road, building of church, agricultural works, etc) exists since Middle Ages.

[4] See at http://www.crowdfundinsider.com.

Nowadays there are 2 crowdfunding platforms (MaeSens and Ulej) and 1 – dealing both with crowdfunding and crowdsourcing (Talaka). In 2015 total volume of contributions in Belarus equaled to 3,069 billion BYR or approximately 165 300 US dollars (Bykovskiy, 2016).

Summing up, crowdfunding is a continuously growing global market on which creators compete for funds offering project from different spheres aiming to receive profit or not and lenders are given the opportunity to diversify their investment and gain monetary or non-monetary rewards. Boost of that financing mechanism occur due to development of Internet-technologies and improvement of micro-payment services.

2. Research Methodology

2.1. Objective of the study and Research Hypotheses

The objective of the study is to check whether non-commercial initiatives, in particular social projects, are more successful than other campaigns posted on Belarusian crowdfunding platform Ulej.

First, the overview of the performance of the platform and distribution of success projects will be made, taking into account different grouping factors. Afterwards the following research hypothesis will be tested (H):

H_1: Non-commercial initiatives are more successful in collecting funds than commercial projects;

H_2: Campaigns belonging to the category Social projects are more successful in fundraising than others;

H_3: There are differences by gender for sponsor and supported category;

H_4: There are differences by average size of pledge per sponsor and supported category.

2.2. Description of Data Collection

Data was collected from the site of crowdfunding platform Ulej. For all the finished projects information saved on site consists: name of the project with full description including information about rewards and corresponding amounts of investment, sum collected (in absolute values and as a percentage of desired amount), total number of investor including open and anonymous. For open investors there is following data: name, amount and date of investment. Data was organized by categories.

Information about desired amounts of pledge, date of allocation on the site and duration period was given by the project manager of the platform Alina Lisakovich after reply through the feedback system of the site. Data collection was carried out in March and April, 2016.

2.3. Description of Data Analysis

Analysis began with descriptive statistic concerning the general functioning of the platform, based on 91 finished projects. First, the overview of activity of founders in starting crowdfunding campaigns during 11 month of platform functioning and geographical location of creators. For that all the projects were divided in accordance with the date of their posting and later with the place stated by initiator.

That was followed by the distribution of successful/unsuccessful deals in accordance with categories, duration period, and size of funding goal. These factors were considered as the predictors of non-failure of the campaign.

Though the information about the number of investors was open, some sponsors made donations anonymously. So for the number of known funders it was possible to calculate the percentage of male and female bakers. Moreover repeatability of pledging was of particular interest. For that, existing data was filtered and grouped by the number of returns to platform and split with respect to the gender of funder.

Success of campaign depends on the size of average pledge made. To observe the difference between the values of this index among various categories appropriate counting was made.

Results obtained previously were compared with corresponding figures for successful projects, clustered in line with percentage of amount collected over stated financial goal, to detect existence of variance.

For 5 projects with the highest outcomes graphs reflecting the dynamics of fund collection were built. As the duration period for selected campaign varied from 60 to 90 days, in order to unify the stages of the process each fundraising period was divided into 6 intervals. Achieved charts were compared with one posted in Figure 2.

Next there was the block of descriptive statistic concerning the research questions, based on data related to 74 projects. It included the distribution of initiatives that met funding goal between commercial and non-commercial campaigns, and between social and non-social projects.

As for testing research hypothesis for H_1 and H_2, the dummy variable of Success was used to perform binary logistic regression. The Dependent variable - Success - was coded like: 1 – for Successful projects; 0 – for Unsuccessful ones. The project was considered successful if it reached the stated funding goal.

Factors that influenced the outcome of crowdfunding campaign were the character of the project (commercial for campaigns aimed at gaining profit after realization of project and non-commercial for non-profits), the funding goal, the sum collected, the number of sponsors, the average pledge, the duration period, and the category. As the values of above stated factors varied broadly for the purposes of the research factors were derived into binary variables. The indices with numeric meanings such as funding goal, sum collected, number of sponsors, average pledge and duration period were split into 2 groups after calculation of median. Categories Food, Games, Art, Literature, Music, Science and Education, Sport, Films and Video an Others were recoded to non-social. The assigned values were given in Table 3.

Table 3. Values of independent variables.

Name of the variable	Label	Assigned value	
		Successful (1)	**Unsuccessful (0)**
Character_of_project	CP	Non-commercial	Commercial
Median_funding_goal, BYR	MFG	Less than 20 000 000	More than 20 000 001
Median_sum_collected, BYR	MSC	Less than 4 252 500	More than 4 252 501
Median_sponsors_number, BYR	MSN	Less than 25	More than 26
Median_average_pledge, BYR	MAP	Less than 194 900	More than 194 901
Median_duration_period	MDP	Less than 60	More than 61
Recode_category	RC	Social	Non-social

The logistic regression equation that explained the relationship between the independent variables and the dependent variable looked as follows (Nasledov, 2011, p.348):

$$log\left(\frac{p}{1-p}\right) = b_0 + b_1.x_1 + b_2.x_2 + \ldots b_p.x_p \quad [1]$$

In the present research work will be used the follow equation:

$$log\left(\frac{p}{1-p}\right) = b_0 + b_1.x_1 + b_2.x_2 + b_3.x_3 + b_4.x_4 + b_5.x_5 + b_6.x_6 + b_7.x_7 \quad [2]$$

Where:

p - Probability of success;

$b_0 \ldots b_7$ - Coefficients, which indicate the changes in outcome influenced by changes in independent variables, could be positive and negative, it means the effect on the probability of an event as *X* changes by one unit in the univariate case;

x_1 - Character_of_project [CP];

x_2 - Median_funding_goal [MFG];

x_3 - Median_sum_collected [MSC];

x_4 - Median_sponsors_number [MSN];

x_5 - Median_average_pledge [MAP];

x_6 - Median_duration_period [MDP];

x_7 - Recode_category [RC].

Those independent variables that were found not statistically significant had coefficients that were not statistically different from 0, so they could be excluded from final equation.

For checking H_3 and H_4 the t-test was used. The t-test estimates whether the means of two variables are statistically different from each other. There were 2 independent samples of the variable that was introduced in logistic regression – recode_category: social and non-social projects. In the first case the means of above-stated variable is compared for percentage of male sponsors and percentage of female sponsors, in the second – for average pledge.

As a complementary study the overview of correlation between the following variables was made: funding goal, sum collected, percentage of collected amount, number of sponsors, average pledge, percentage of male sponsors and female sponsors, duration period.

All results were produced by using the IBM SPSS Statistics 21.0.

2.4. Population *vs.* Sample

Belarusian reward-based crowdfunding platform Ulej is analogue to the American Kickstarter. This site was chosen for analysis because it is the first site of that kind in the Republic of Belarus. Fundraising mechanism established on the platform is “All-or-Nothing”. Platform began to work on April, 2015.

Projects established on Ulej are divided to the following categories: Design, Food, Games, Art, Literature, Music, Science and Education, Handicraft, Social projects, Sport, Theatre, Technologies, Films and Video, Photography and Others.

General requirements for each project include:

- accurate and fully transparent description of idea and obligatory assignment of photomaterials or infographics; it is recommended to provide video-presentation;
- the aim of the project should have some degree of uniqueness;
- rewards should be connected with the results of project implementation;
- reasonable budgeting (desired amount is supposed not to be exaggerated);
- correspondence with current legislature of the Republic of Belarus.

The data collected consists of 91 projects posted on www.ulej.by with duration period finished on 15.03.2016. The amount attracted without respect to the success of project is nearly 900 000 000 BYR[5].

However due to the fact that in such categories as Design, Handicraft, Theatre, Technologies, and Photography there were no positively finished campaigns, the studied sample consists of 74 projects from 10 categories. Each category includes at least one successful project.

[5] Equals to 45 657 US dollars or 40 840 Euro, Exchange on 30.05.2016.

3. Presentation and Analysis of Results

3.1. Descriptive analysis

The platform started to work in April, 2015 and until March 15, 2016 91 projects were finished. The dynamics of work of the site is shown at Figure 6. 30 % of all campaigns were posted in first 2 month of functioning. The quantity of projects fell 7 times in June, 2015 that could be explained by unwillingness of creators to begin fund collection in summer, when potential investors were on holidays. However there was a moderate growth within a period of vacations. A new peak of popularity of platform was again reached in October and November, 2015. But there was a dramatic fall in December, 2015 due to purchasing of Christmas and New Year presents by individual funders. The beginning of 2016 could be characterized by low activity of founders with only 7 projects in January and February, 2016.

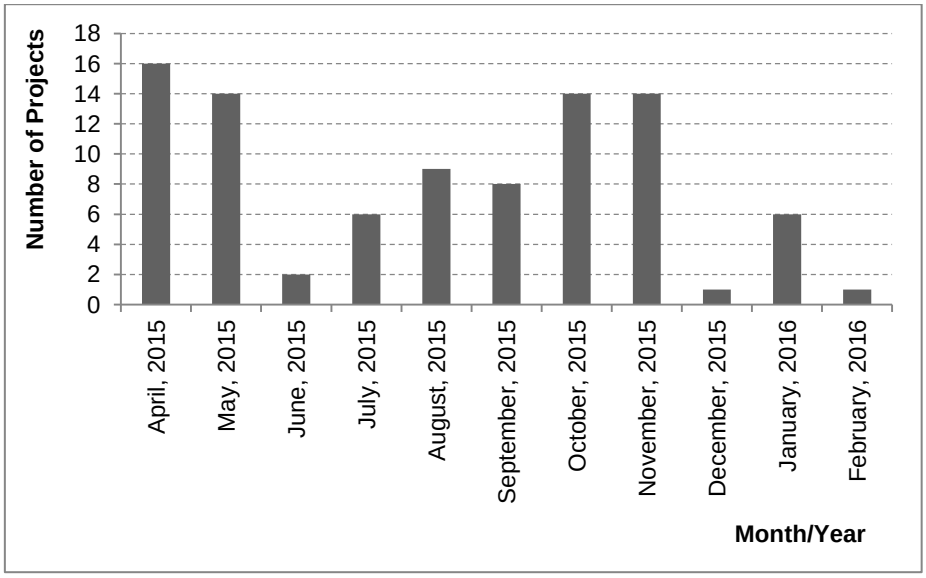

Figure 6. Dynamics of platform functioning.

Geographical distribution of the projects is given on Figure 7. The vast majority of campaigns were started by founders from Minks. The rest 22 % were spread between other regions. This could be explained by the ignorance of the people outside the capital about the platform and that due to novelty of the crowdfunding phenomenon creators preferred traditional methods of financing.

Ulej does not collect the information about geographic location of funders. Due to the limitations imposed by platform all creators should be citizens of the Republic of Belarus, on the contrary there is no such requirements for sponsors, though investors could make donations only if they have Belarusian payment card.

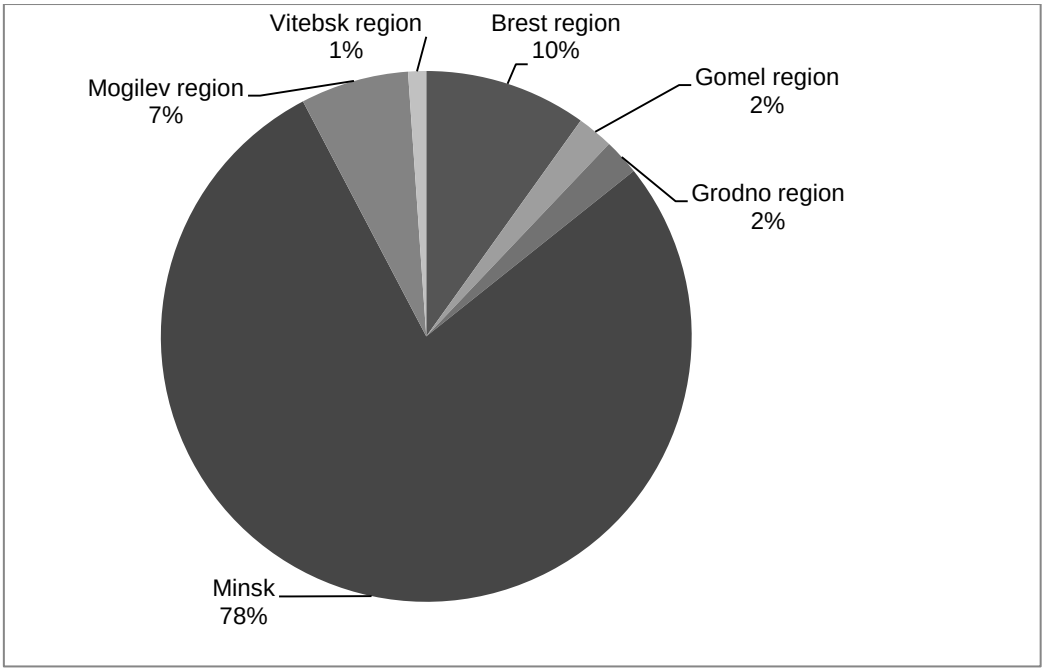

Figure 7. Geographical distribution of project creators.

As for the categorical composition of the posted projects it is presented on Figure 8. The highest number of campaigns belonged to the following categories: Social projects, Literature and Music. Moreover these categories represented the biggest quantity of successful results. Less than 8 projects had the categories: Science and Education, Sport, Technologies and Films and Video. Among these categories the best outcomes had Sport campaigns. Opposite to the previous group were the percentage of successful and unsuccessful were nearly the same, here the percentage of projects reached financial goals varied from 0% in Technologies to 43 % in Sport. The rest of the categories counted less than 4 campaigns. This group of projects showed some diversity. Food, Games and Art had 1 successful project each, which equals to 25 % for the first category and to 50 % for the rest. Meanwhile campaigns belonging to Design, Handicraft, Theatre, Technologies and Photography did not received necessary financial support.

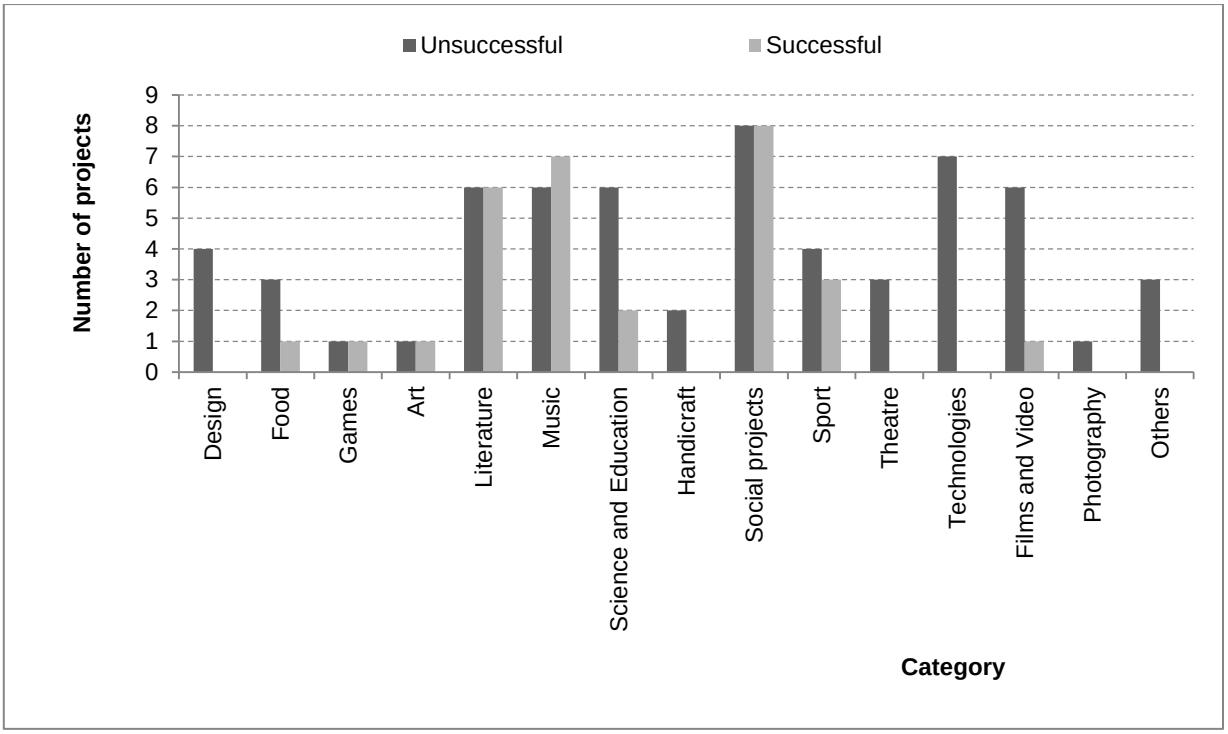

Figure 8. Distribution of successful projects among categories.

Duration period of projects varied from 1 day to 180 days. As it is shown in Table 4 creators preferred to state the period of fund collection from 45 to 60 days and from 76 to 90 days.

Table 4. Crosstab for success and duration period.

		Success		Total
		No	Yes	
Duration period	less than 15 days	3	4	7
	from 16 to 30 days	5	7	12
	from 31 to 45 days	8	3	11
	from 46 to 60 days	19	8	27
	from 61 to 75 days	4	3	7
	from 76 to 90 days	16	5	21
	more than 91 days	5	1	6
Total		**60**	**31**	**91**

However the biggest value of ratio of successful projects to unsuccessful ones demonstrated campaigns lasted less than 30 days, that supports the Strickler (2011) declaring that successful projects usually have fundraising period equal to 30 days. In total the number of campaigns failed to reach funding goal was 2 times higher than those, which succeeded.

Another factor influencing success of the project is funding goal (Table 5). The campaigns with budget that exceeded 55 000 000 BYR failed to collect funds. The majority of successful projects had budget less than 30 000 000 BYR. Meanwhile the number of non-failing campaigns was 29 % higher than those that did not meet amount required lay in the interval from 5 000 001 BYR to 10 000 000 BYR. Frydrych et al. (2014) affirmed that projects with low finding goal are more successful, that was supported by collected data, because with exception of the first range where the ratio of successful projects to unsuccessful ones was 75%, starting from the second one the value decreased 2 times from 129% to 64 % in the third range, and further to 33 % in the fourth, ending with 0 %.

Table 5. Crosstab for success and funding goal.

		Success		**Total**
		no	**yes**	
Funding goal, BYR	less than 5 000 000	4	3	7
	from 5 000 001 to 10 000 000	7	9	16
	from 10 000 001 to 30 000 000	22	14	36
	from 30 000 001 to 55 000 000	15	5	20
	from 55 000 001 to 125 000 000	6	0	6
	from 125 000 001 to 250 000 000	1	0	1
	more than 250 000 001	5	0	5
Total		**60**	**31**	**91**

Concerning the sponsors Ulej allows making investments anonymously and does not collect the information about the age and location of pledgers, however for those whose profiles were opened there were gathered information about gender.

As states the Table 6 for analyzed period donations were made by 1359 individuals, from which 54 % were males and 46 % were females. The vast majority of sponsors, in particular 83,81 %, provided funds just ones (84,76 % of males and 82,69% of females), 14,57% returned to platform from 2 to 5 times (13,33 % of males and 16,03 % of females), less than 1 % donated more than 10 times. So with respect to given data gender does not influence the repeatability of making pledges.

Table 6. Repeatability of pledges.

Number of pledges	Number of sponsors	Male sponsors	Female sponsors
1	1139	623	516
2-5	198	98	100
6-10	15	10	5
11-15	3	2	1
16-19	4	2	2
Total	**1359**	**735**	**624**

The average pledge made by sponsors at the platform in the studied period was 209 605 BYR (Table 7). Minimal average pledge per category belonged to Handicraft and Technologies, moreover these categories had low average number of pledgers. Maximum average pledge had Films and Video that could be explained by high medium budget of campaigns. Social projects on a par attracted more sponsors than any other campaigns. In general categories that did not have any successful project had low average investment (except for Design) and small number of funders. Though categories with high level of success: Social projects, Music and Literature – attracted a lot of sponsors making medium size investments.

Table 7. Average pledge per category.

Category	Average pledge per category, BYR	Average number of pledgers
Design	341 750	9
Food	324 471	47
Games	227 513	52
Art	203 525	59
Literature	197 535	42
Music	208 501	24
Science and education	274 001	38
Handicraft	71 667	8
Social projects	235 215	64
Sport	182 817	28
Theatre	100 682	9
Technologies	87 577	8
Films and video	511 709	10
Photography	100 000	1
Others	174 504	13
Average	**216 098**	**27**

The average number of sponsors for successful projects (Table 8) exceeded the corresponding figure for the whole platform 2 or 3 times and grew with the percentage of amount collected. At the same time

though medium pledge for non-failing campaign surpassed the average, from 101 % of amount collected the index followed the decreasing tendency as stated by Davidson and Poor (2016).

Table 8. Percentage of funding of successful projects.

Percentage of amount collected, %	Number of projects	Average number of sponsors	Average pledge, BYR
100%	8	58	245855
101-110 %	17	69	368482
111-150%	3	90	314313
more than 151 %	3	105	277991

The initial data about 5 successful projects, selected to construct the graph reflecting activity of pledges in providing funds is given in Table 9.

Table 9. Projects received maximum financial support.

Number of project	Name of project	Category	Amount collected, BYR	Amount collected from known sponsors, BYR	Duration period, days
1	Illusion on-line	Science and Education	53 505 000	22 323 000	90
2	Magic room for special kids	Social projects	44 300 000	23 202 000	60
3	Team “Wings of Angels” at Minsk semi-marathon 2016	Sport	43 720 000	9 589 000	90
4	Culinary map of Belarus	Food	43 216 000	19 356 000	62
5	Magic of cinema	Social projects	38 950 000	28 165 000	90

On the Figure 9 vertical axis showed percentage of amount collected and horizontal reflected the part of fundraising period. The graph of the Project 1 demonstrated moderate growth during all campaign of collecting money. In the first 4 stages the line of the Project 2 indicated very slow fundraising progress declining with each phase and incredible breakthrough on 5 step. The shape of the Project 3 is similar to one given by Ordanini et al. (2011) exposing rapid increase of amount collected in the first period, changed by 20% upturn during 3 further intervals and ended by 2 periods of growth. Crowdfunding processes of the Projects 4 and 5 were similar displaying very low interest of sponsors in the first half, while during the second half the behavior of funders change and graphs got the contour of Project 3.

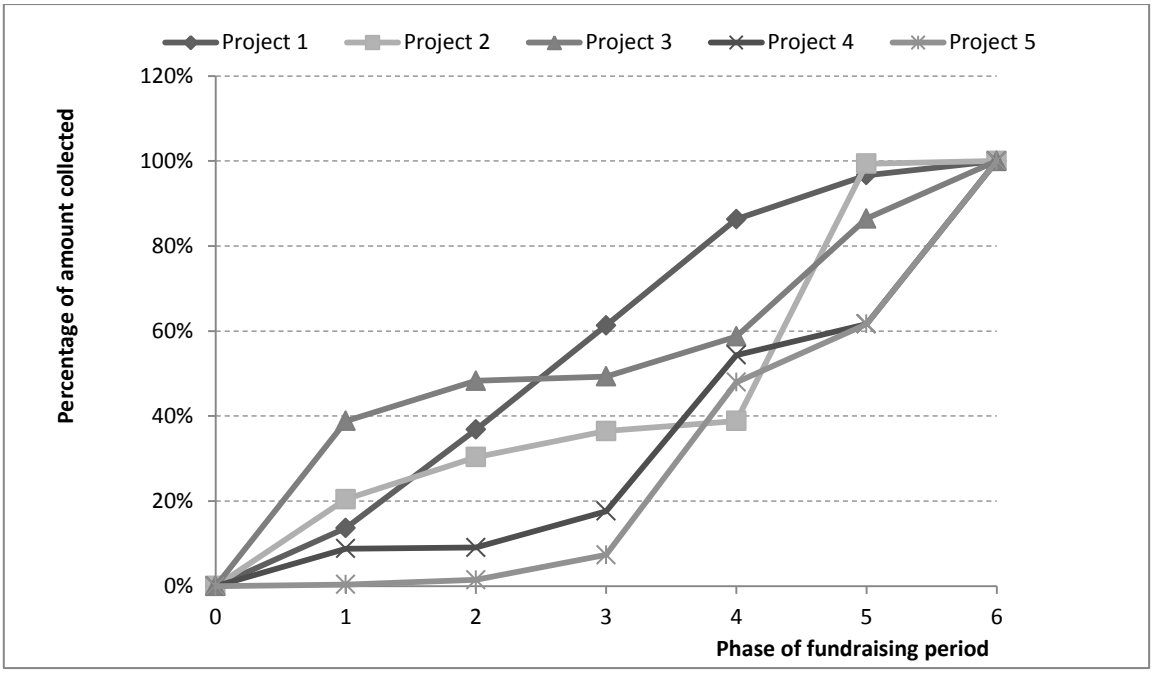

Figure 9. Routes of fundraising of 5 successful projects.

As for the distribution of positive and negative results of crowdfunding campaigns between commercial and non-commercial initiatives, Table 10 showed that sample consisted of 42 projects aimed at getting profit after project realization and 32 projects with the non-profit targets. 47 % of non-commercial projects and 38 % of commercial projects reached stated financial goals. The quantity of fails among commercial initiatives 1,6 times exceeded the number of non-failed ones, while for non-commercial the corresponding ratio is 1,1.

Table 10. Crosstab for result and character of projects.

		Result of the project	
		Unsuccessful	Successful
Character of project	Commercial	26	16
	Non-commercial	17	15

Social projects composed 22 % of the sample, half of them ended successfully (Table 11). At the same time amid the rest of the campaigns 40 % reached set financial goals.

Table 11. Crosstab for result and category of projects.

		Success	
		Unsuccessful	Successful
Category	Non-social	35	23
	Social	8	8

Based on descriptive statistics for the sample it could be assumed that non-commercial projects had better results in attracting contributions than the others, and that campaigns pursuing the social aims more often met financial goals. However it should be confirmed by analysis made in the section 2.3.

3.2. Research hypothesis validation

The aim of performed logistic regression was to investigate what factors influence the probability of success, in particular whether character of project and category to which it belonged affected the outcome. The results of logistic regression applied for testing "*H_1: Non-commercial initiatives are more successful in collecting funds than commercial projects"*, and "*H_2: Campaigns belonging to the category Social projects are more successful in fundraising than others"*, are shown in Table 12.

Table 12. Results of logistic regression.

Variables		Label	B	S.E.	Wald	df	Sig.	Exp(B)
	Character_of_project	CP	1,080	0,924	1,366	1	0,242	2,944
	Median_funding_goal	MFG	3,779	1,418	7,107	1	0,008	43,779
	Median_sum_collected	MSC	-3,296	1,361	5,860	1	0,015	0,037
	Median_sponsors_number	MSN	-2,509	1,073	5,471	1	0,019	0,081
	Median_average_pledge	MAP	-2,211	1,146	3,718	1	0,054	0,110
	Median_duration_period	MDP	-0,596	0,913	0,427	1	0,514	0,551
	Recode_category	RC	-0,674	1,200	0,316	1	0,574	0,510
	Constant		0,038	1,385	0,001	1	0,978	1,038
	Cox & Snell R^2				0,54			
	Nagelkerke R^2				0,724			
	Hosmer and Lemeshow Test		$\chi^2_{df=8} = 6,760381; \quad p-value = 0,5627$					
	Cases classified correctly (%)				87,8%			

Note: B, coefficient of regression equation; S.E., standard error; Wald, Wald significance test; df, degree of freedom; Sig., significance level; Exp(B), Exponentiation of B.

The obtained model could be described by the following regression equation:

$$log\left(\frac{p}{1-p}\right) = 0,038 + 1,080.CP + 3,779.MFG - 3,296.MSC - 2,509.MSN - 2,211.MAP - 0,596.MDP - 0,674.RC \quad [3]$$

With the significance level of 5 % it is possible to say:

- according the values performed by Pseudo R^2 of Cox & Snell (0,54) and Nagelkerke R^2 (0,724) the obtained model revealed a satisfactory quality of adjustment;

- the percentage of the cases classified correctly is 87,8%;

- the values performed by Hosmer and Lemeshow Test show that the model fits to the data;

- the variables Median_funding_goal, Median_sum_collected, Median_sponsors_number, and Median_average_pledge are statistically significant; the variables Character_of_project, Median_duration_period and Recode_category are not statistically significant;

- variables Success and Median_funding_goal are positively correlated, for every one unit increase in Median_funding_goal, it is possible to expect 3,779 increase in the log-odds of Success, or the probability of success is 43,779 times higher if funding goal is less than 20 000 000 BYR;

- variables Success and Median_sum_collected are negatively correlated, for every one unit increase in Median_sum_collected, it is possible to expect 3,296 decrease in the log-odds of Success, or the probability of Success is 4% less if the collected amount is less than 4 252 500 BYR;

- variables Success and Median_sponsors_number are negatively correlated, for every one unit increase in Median_sponsors_number, it is possible to expect 2,509 decrease in the log-odds of Success, or the probability of Success is 8% less if the quantity of pledgers is less than 25;

- variables Success and Median_average_pledge are negatively correlated, for every one unit increase in Median_average_pledge, it is possible to expect 2,211 decrease in the log-odds of Success, or the probability of Success is 11% less if average pledge is less than 194 900 BYR.

For the analysed data H_1 and H_2 are not corroborated, non-commercial initiatives are not more successful in fund collection then commercial projects and campaigns belonging to the category Social projects are not more successful in fundraising than other ones.

Starting the test of *"H_3: There are differences by gender for sponsor and supported category"* there was slight difference in Means for social and non-social projects for both genders (Table 13). Standard deviation of Means for social projects was the same for males and females; however the variability for non-social projects was approximately 30 % higher.

Table 13. Group Statistics for H_3.

	Category	**n**	**Mean**	**SD**
Percentage of male sponsors	Social	16	53,50	19,943
	Non-social	58	50,64	26,207
Percentage of female sponsors	Social	16	46,50	19,943
	Non-social	58	45,91	25,889

Note: n, number of observation; SD, Standard Deviation.

Table 14. Results of independent sample test for H_3.

		Levene's Test for Equality of Variances		t-Student test		
		Value	p-value	Value	df	p-value
Percentage of male sponsors	Equal variances assumed	1,154	0,286	0,405	72	0,687
Percentage of female sponsors	Equal variances assumed	0,988	0,324	0,084	72	0,933

According to the Table 14 p-value for Levene's Test was 0,286 for the percentage of male sponsors and 0,324 for the percentage of female sponsors that meant that the variability of participation of males and females sponsors in social and non-social projects was about the same or not significantly different. The p-values for t-Student test were greater than 0,05, which signified that there was no statistically significant difference between Means of social and non-social projects by gender. H_3 was not validated at the confidence level 95 %.

Regarding *"H_4: There are differences by average size of pledge per sponsor and supported category"*, the Means for non-social projects was 9 % higher than for social, and standard deviation for Means of social projects was 2 times lower than for non-social initiatives (Table 15).

Table 15. Group Statistics for H_4.

	Category	**n**	**Mean**	**SD**
Average pledge	Social	16	235215,31	110191,934
	Non-social	58	255484,50	232397,789

Note: n, number of observations; SD, Standard Deviation.

According to the Table 16 p-value for variances exceeded 0,05 that signified the variability of average pledge made for social and non-social projects was not significantly different. The p-value was 0,737 reflecting absence of statistically significant difference between Means of social and non-social projects. H_4 was not confirmed at the confidence level 95 %.

Table 16. Results of independent sample test for H_4.

		Levene's Test for Equality of Variances		t-Student test		
		Value	p-value	Value	df	p-value
Average pledge	Equal variances assumed	3,915	0,052	-0,337	72	0,737

To show the interrelation of factors that influence success of crowdfunding campaign the following complimentary study was made (Table 17). In the analysed period there is a strong correlation between sum collected and number of sponsors. That correlation is positive, that signified that if the quantity of sponsors increases the amount collected will follow the same tendency. Level of correlation of average pledge and sum collected is moderate, as well as between average pledge and percentage of amount collected, however for the last pair the interaction is weaker. For the founders it means that to succeed in reaching set financial goal the campaign should attract as much funders as possible and the size of average pledge is of moderate importance.

The index of correlation between percentage of collected amount and number of sponsors is smaller but still reflects strong interrelation of variables.

As it could be expected there is a strong negative correlation between percentage of male and female sponsors. Moreover there is low level positive correlation between average pledge and percentage of male sponsors.

Table 17. Pearson Correlation Coefficient.

		FG	SC	PCA	NS	AP	PMS	PFS	DP
Funding goal (FG)	*r*	1	-0,066	-0,198	-0,090	0,062	0,212	-0,198	0,244*
	p-value		0,578	0,091	0,445	0,600	0,069	0,091	0,036
	n	74	74	74	74	74	74	74	74
Sum collected (SC)	*r*		1	0,672**	0,874**	0,485**	0,097	-0,052	0,124
	p-value			0,000	0,000	0,000	0,409	0,662	0,294
	n		74	74	74	74	74	74	74
Percentage of collected amount (PCA)	*r*			1	0,690**	0,302**	0,150	-0,099	-0,257*
	p-value				0,000	0,009	0,203	0,400	0,027
	n			74	74	74	74	74	74
Number of Sponsors (NS)	*r*				1	0,147	0,059	-0,007	0,071
	p-value					0,210	0,616	0,950	0,549
	n				74	74	74	74	74
Average pledge (AP)	*r*					1	0,236*	-0,171	0,017
	p-value						,043	0,144	0,889
	n					74	74	74	74
Percentage of male sponsors (PMS)	*r*						1	-0,889**	-0,108
	p-value							,000	0,360
	n						74	74	74
Percentage of female sponsors (PFS)	*r*							1	0,161
	p-value								0,172
	n							74	74
Duration period (DP)	*r*								1
	p-value								
	n								74

*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).
Note: r, Pearson Correlation Coefficient; n, number of observations.

As for duration period the correlation of this variable with funding goal is poor but positive. The creator establishing the financial target of the project should take into account that funding goal and duration period follow the same tendency in changes; however founder should not expect that the long fundraising campaign should be organized for the initiative with great budget required.

The correlation between percentage of collected amount and duration period is weak and negative. This supported the idea that too much extended duration period may be interpreted by potential funders as low level of confidence of founder in success of initiate.

Other pairs of variables don't significant level of correlation.

Table 18. Final result for the research hypotheses.

Label	Research Hypothesis (H)	Final Result
H_1:	Non-commercial initiatives are more successful in collecting funds than commercial projects	Not Confirmed
H_2:	Campaigns belonging to the category Social projects are more successful in fundraising than others	Not Confirmed
H_3:	There are differences by gender for sponsor and supported category	Not Confirmed
H_4:	There are differences by average size of pledge per sponsor and supported category	Not Confirmed

The disconfirmation of the research hypotheses H_1, H_2 and H_4 could be associated with short period of functioning of the crowdfunding platform Ulej and a comparatively small number of posted projects. Meanwhile H_3 was not confirmed probably because not all the sponsors made contributions openly and share personal information.

Conclusions, Limitations and Future Research Lines

The amount of finance collected for realization of business start-ups and non-commercial initiatives by means of crowdfunding platform grows rapidly each year. The potential of this fundraising method is huge due to the diversity of projects that could be posted, the large number of prospective sponsors and the easiness of donation-making process.

In general the principle of crowdfunding is that contributions are made by sponsors interested in specific projects, in return for material or non-material reward via special websites, which provided service of allocation of project and accumulation of funds for the fee. With respect to the volume of received capital, lending-based crowdfunding is the leading type. However non-commercial initiatives raise finance on reward- and donation-based crowdfunding platforms.

The preparation of a crowdfunding campaign requires time and resources, according to the creator expectations for the successful development of the project. The project's written description and video are uploaded to an appropriate crowdfunding site, and the funding goal, duration period and rewards defined. As named items are described in the literature as predictors of the outcome, decisions should be made carefully.

Though fund collection is the main reason of crowdfunding campaign, it also could be viewed as a possibility to test the attractiveness of the idea by investors, to expand the network of followers and to receive new experience, because even if the financial objective is not met, founder could analyze the performance and whether restart the project or choose traditional way of financing. The latter reveals some drawbacks of crowdfunding, as the failure could decrease the level of confidence of the creator and, as the information about the project is open, there is a possibility of stealing and copying of original ideas, with further more successful implementation.

Non-profit organizations should view crowdfunding as the way to diversify financial resources. The scholars underline that projects with socially-oriented objectives received the initially expected monetary support more often than commercial initiatives. Among the reasons of that are transparency of the process, the benefits for the society and the sense of belonging.

Following the global trend, the reward-based crowdfunding platform Ulej started its operation in the Republic of Belarus in April, 2015. The platform uses principle "all-or-nothing". There are no limitations about the sphere of project, however all the initiatives are grouped in 15 categories. The number of campaigns started per month depends on the season. Geography of projects is limited to the territory of the Republic of Belarus, because creator should be Belarusian resident. The sponsors, regardless of the residence, could make contributions only from a Belarusian bank account.

The majority of successful projects belong to the categories Social projects, Music and Literature. That could be explained by the expanded number of supporters and faithful fans. Categories that did not have success (Design, Handicraft, Theatre, Technologies and Photography) were excluded from the analyses.

Though descriptive statistics shows that non-commercial initiatives and social projects have higher level of positive outcomes than the rest of the sample, logistic regression detected that the character of the project and its category do not influence the success of the campaign in meeting the financial goals. However, changes in the success are explained by variations in funding goal, sum collected, number of sponsors and size of the average pledge. It was also found that the choice of the category does not depend on the gender of sponsor. Moreover there was no difference in the size of average contribution to social and non-social projects.

The study has some limitations. First, there are no sufficient scientific research about the use of crowdfunding for funding non-commercial initiatives. Second, for designation of tendencies analysis should be made for bigger amount of data.

The study could be seen as a contribution to the research of the field. The current findings should be further checked in comparison with the data, characterizing new reward-based crowdfunding platforms functioning in other countries, and after a certain period of time in comparison with the data about performance of Ulej.

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