CORVINUS UNIVERSITY OF BUDAPEST

CROWDFUNDING OF TECHNOLOGICAL INNOVATION PROJECTS

DOCTORAL DISSERTATION

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Crowdfunding of Technological Innovation Projects

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PhD thesis

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TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

1. INTRODUCTION

1.1. Motivation

Over the course of defining the focal point of the study, I was guided by the goal of contributing with the aid of my professional knowhow and experience to the development of an academic field that is close to the world of practicing professionals. The research of crowdfunding – as an entrepreneurial development and innovation financing tool – was an exciting area. Its academic research reaches back to a brief period, its relevance is obvious by now, but the recommendations of its application are not yet routine, thus it had harbored a lot of potential.

The study of the reward-based crowdfunding of technology-based innovation projects was a thankful, properly researchable field from the perspective of planning academic research.

University of California at Berkeley has the data of the largest donation and reward-based crowdfunding platforms available, providing good secondary information for research purposes. Entrepreneurial and entrepreneurial developmental ecosystems can be considered one of the most vibrant, iterative and supportive communities, open to share their experience and opportunities for development. This provided an opportunity to perform primer research, in all cases providing valuable data for the development of management sciences.

Due to my background, the focal point of the research was on technology-based innovation development; in particular, it was interesting to study the application of the innovation planning tool taught within the framework of my university teaching experience in the evaluation of international innovation projects launched by small enterprises.

The goal of my research study was to contribute to a better understanding of the method of reward-based crowdfunding and to connect it to the toolbox of entrepreneurial financing with recommendations supported with scientific findings.

1.2. Acknowledgements

The experience of drafting this thesis has greatly advanced my development on a professional, scientific, and personal level alike. It was a perspective shaping experience to witness the cohesive power of the scientific community, ensured by a joint paradigm system and methodological framework, and to join a globe-spanning meta-mind in crowdfunding research.

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Most of all, I would like to thank my family who have been behind me, supporting me over the course of the past year and a half of research, enabling these results.

1.3. Research background and topic rationale

Community financing – as a form of social financing innovation – is an innovation of the 2005-2010 period, which has become a field of research of increasingly in-depth scrutiny along scientific lines of inquiry on the basis of surveys performed among a

growing number of enterprises and the statistics of the platforms. *The topic is relevant as it pertains to the fundraising decisions of enterprises today.*

Economic and entrepreneurial development policies attribute the most significant stimulus effect to technology-based innovation[1]-executing enterprises. It is precisely because of this that the question of how crowdfunding can be utilized among these enterprises is of exceptional importance, with particular focus on reward-based crowdfunding, considered one of the forms of pre-financing by „buyers".

According to its better-known definition, crowdfunding is a fundraising model which enables private individuals or groups of persons to apply for financial support on online forums for cultural, social, or non-profit initiatives (Mollick, 2013) *from a broad circle of small-sum contributors instead of a narrow, sophisticated group of financiers.* (*Belleflamme et al., 2012; Riedl, 2013*) (Cordova et al., 2015). This definition is still focusing on cultural-social type projects, but the model has been gaining ever greater popularity among product development ideas as well.

According to Mollick's 2014 enterprise-approach definition, crowdfunding is the „compilation label of those efforts *over the course of which individuals or groups with an entrepreneurial perspective finance cultural, social and non-profit initiatives from a large number of supporters with the involvement of a relatively small sum per individual*, excluding traditional financial intermediaries, through online solutions." (Mollick, 2014, pp. 2.).

The study focuses on reward-based crowdfunding as it pertains to technology-based innovation projects.

According to the definition of Schwienbacher et. al. (2010), reward-based crowdfunding is an „open invitation, generally through the internet, for an initiative with a special objective, offered for the provision of funding – in the *form of a donation or barter* – in exchange for some kind of a reward or entitlement". In its educational materials compiled for enterprises, the European Commission defines reward-based crowdfunding as follows: – Individuals donate to a project or enterprises, *in consideration of which they expect that later on they receive some kind of non-monetary reward for their contribution, such as goods or services*.

[1] product, process, technology (OECD, 2005)

Academic studies on the operation of crowdfunding have initially served the exploration of the drivers of crowdfunding opportunities (*Alemany-Bulto, 2004, De Buysere et.al. 2005, Freund, 2010, Cumming et al.,2014*, Agrawal et al., 2014). Subsequently, the refining of the understanding of crowdfunding and its system of recommendations has garnered ever growing attention, as this alternative funding format is able to fill the gap in the funding of small enterprises working on a shift in developmental profile or not possessing a strong enough financial background or developmental experience (Valanciene – Jegeleviciute, 2014).

Studies have been published in recent years that seek to provide guidance for special segments regarding opportunities for the utilization of crowdfunding platforms (*Cordova et al., 2015, Gleasure, 2015, Joenssen et. al., 2014*).

Knowhow continues to lack as to how exactly it is worth adapting it to the life-cycle of a startup or developing enterprise (*Cordova et. al, 2015*) and the existence and combination of which factors can enable an enterprise to anticipate a suitable outcome. The study of innovation content and its correlation of technology-based projects have been published in the work of just a few authors (Chan-Parhankangas, 2017, Mukharjee et al. 2017), yielding significant room for the expansion of such knowledge.

As this alternative funding scheme provides an opportunity for the development of enterprises and the financing of new jobs while skipping or supplementing (Katona, 2018) traditional state and financial funding sources in the higher risk launch phase. Its spread and success are in the interest of all stakeholders.

1.4. Methods used

The methodology that was utilized over the course of laying the foundation of the study and the development of the hypotheses was research in the academic literature. A non-systematically compiled, large number of academic literature sources – more than 150 – had been processed. The academic foundation of crowdfunding is relatively recent (Alegre-Moleskis, 2016); similarly, it has only been a few years since structured data collection on crowdfunding has come into existence, thus a significant portion of sources have come into being just within the last 10 years. Academic literature providing guidance on management, innovation and technology management, project management, and financing go back to earlier periods (Schumpeter, 1911, Drucker,

1985, Pataki, 2005, Görög, 2003, Mészáros, 2002). *Of primer research methodologies, surveys utilizing interviews and questionnaires had been utilized.*

In the interest of learning of the knowledge, perspectives and experience on crowdfunding of the *stakeholders of entrepreneurial financing*, *semi-structured in-depth interviews had been conducted.* Responses given to structured questions have been subsequently clarified, typically by text analysis, to a small extent by content analysis (Babbie, 2008), which enabled the classification and analysis of the collected information. In the interest of ensuring the expertise in special fields and those asked, the selection of the prospective responders had taken place through recommendations, via snowball sampling (Babbie, 2008).

Over the course of the *Entrepreneur Questionnaire Survey*, an English language, on-line, unassisted questionnaire (Babbie, 2008) had been sent to the entrepreneur ecosystems and groups, with language that took into account the characteristics and knowledge of the target group. Adapting to the nature of the studied subject field, closed-ended, semi closed-ended, and open-ended questions had been posed. Naturally, the questionnaire began with „warmup" questions and demographic questions, and affected the position and funding opportunities of the enterprise and the prejudices, opinions, and experience of the entrepreneur pertaining to crowdfunding in a separate section. In case of certain questions on importance and strength of effects, a 4-point attitude scale „forcing" an unequivocal position was employed. The avoidance of errors in content, format and logic was ensured by edits on the basis of experience of 5 responders. Their responses had not been analyzed.

The analyzed database was built upon the information stored in the CrowdBerkeley database, which has been expanded in three ways to comply with study requirements.

(1) In the interest of adapting to the objective of the study, data derived from secondary data that could be accessed in the original database have been generated; these variables included contribution amount per single supporter, the length of the campaign, % of funding, and the country of launch.

(2) New variables have been defined to record the results of the expert content analyses of the campaigns. Of the newly established variables, the indicator of innovation content is of exceptional importance – it has captured the appearance of 8 consumer utility dimensions (Kim- Mauborgne, 2000) with the aid of binary variables,

and also took into account whether the enterprise has already submitted a patent application, and the non/for profit nature of the campaign.

(3) The examination of Kickstarter founder profiles required additional research and data gathering and the categorization of supporter comments. In the event of missing information in connection with the operation of the enterprise, its size, and the availability of its product, information filtered on the basis of searches on Linkedin, Bloomberg and Google searches have enabled the completeness of the database. Research and analysis conducted under Sections (2) and (3) had expanded threefold the circle of analyzable variables associated with a given campaign.

Multi-variable statistical methodologies have been employed over the course of the analysis of the 200-element strong project database.

I performed the analysis of the relationships and correlations between individual variables and changing groups in accordance with research methodological recommendations (Malhotra, 2002, Füstös 2010, 1985 Kovács, 2014.

In case of the examination of the relationships between the variables measured on the ordinal scale, I employed *cross-tabulation analysis* – thus, for example, when examining the first hypothesis, over the course of the analysis of the correlation between the type of founder actor and the categorized output variables of the campaign. Over the course of the examination of the correlation between the quality indicators of the innovation content and of the campaign as measured on a ratio scale, and the result variables showing the success of the campaign and the descriptive parameters of the campaign, *multi-variable regression* and *discriminant analysis* had been employed, while over the course of the study of the relationship between individual indicators and a given result variable, *linear regression* had been used.

2. Theoretical overview

2.1. Theoretical background of innovation management

2.1.1. Conceptual background of innovation

Of concepts used over the course of conducting research, knowledge of the conceptual and paradigm scheme of innovation are of outstanding importance, including the precise delineation of innovation cases.

The conceptual framework of innovation has been developing for over a century.

The body of work that has been generated by the professionals in management and economic sciences has blanketed the understanding of the phenomenon from multiple angles; at the same time, in day-to-day use – and even in academic life – due to the widely divergent definitions and approaches, we might comprehend varied concepts thereunder.

Its first explicit iteration appears in the work of Joseph Schumpeter, who defines innovation as the **utilization of existing resources in a new combination** "Technologically as well as economically considered, to produce means to combine the things and forces within our reach. Different methods of production can only be distinguished by the manner of the combination, that is either by the objects combined or by the relation between their quantities. Every concrete act of production embodies for us, is for us, such a combination… An enterprise as such and even the productive conditions of the whole economic system we shall also regard as 'combinations'" (Schumpeter 2008[2] [1934], pp.14.) Based on Schumpeter's definition, innovation is always some kind of a new solution that can appear in five different forms (Schumpeter, 1980 [1911]):

a. introduction of a new product;
b. introduction of a new method of production;
c. opening of a new market;

[2] Schumpeter, J.A., 1934 (2008), The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle.

d. conquest of new source of supply of raw materials;
e. establishing a new organizational structure in the given sector.

Innovation was analyzed in detail by Drucker in his 1985 work in the field of business economics (Drucker[3], 1986.) „"Innovation", then, is an economic or social rather than a technical term. It can be defined the way J. B. Say defined entrepreneurship, as changing the yield of resources. Or, as modern economist would tend to do, it can be defined in demand terms rather than in supply terms, that is, as changing the value and satisfaction obtained from resources by the consumer."
(i.m. p. 33.) He lists the following as potential sources of innovation:

1. Unexpected success or failure, an external event
2. Incongruity between reality and planned actions
3. Process needs
4. Changes in the structure of the industry or market
5. Demographics, changes in population
6. Changes in perception, meaning and mood
7. New knowledge (scientific and non-scientific).

As Pearce (1993) states, technological improvements in the manufacturing process are to be deemed innovation, as well as the introduction of the various properties and combination of properties of commercially viable products, the purpose of which is to enable product differentiation in the interest of increasing demand and market share.

Of Hungarian authors, Attila Chikán discusses the strategic role of innovation in his work titled Vállalatgazdaságtan (Corporate Economics) (Chikán [2005] pp. 213-248.), highlighting the place and role of innovation within corporate strategy. He defines innovation succinctly, in the Druckerian spirit, as „a new, higher quality fulfillment of consumer needs." (Chikán, 2005. pp. 215.)

As a final indicator of innovation, **he expresses the expectation that the given solution must get to the consumer and meet his/her expectations, or potentially even reformulate the same.**

[3] PETER E. DRUCKER (1986): ENTRE PRENEURSHIP Practice and Principles. Harper &Row, Publishers, Inc.
http://businessnowllc.com/downloads/%5BDrucker,%201985%5D%20Innovation%20and%20Entrepreneurship.pdf

Over the course of classifying the definitions, Hoffer and Iványi (2010) highlighted that innovation and innovation development deviate from one another on a conceptual level. Thus, their interpretation can be divided into two main groups:

1. Innovation is – in the potential receiver environment – **the successful introduction and adoption of new or modified (**with more or less significant changes**) products or performance processes**. This may derive from its creation, development, adoption from elsewhere, and application to local conditions.

2. Innovation is the **process** that extends from the moment of discovery, receipt, or initial development of the new (changed) solution (product, technique, manufacturing process, production, or labor organization, etc.) to its implementation. (in. Hoffer-Iványi, 2010, pp.17-18)

The practice yielded additional definitions, which have made the use of the concept more comfortable for the given sector or applying target audience.

In order to interpret the innovation activities, for professionals, the uniform international basis of reference is the Oslo Manual, drafted with the joint work of the OECD and EUROSTAT (the statistical office of the European Union).

With the Frascati and the Oslo Manuals in 1992, the OECD developed that conceptual and methodological framework that is used for the interpretation and review of research and development and innovation processes, precisely delineating the two concepts. Its third publication (OECD, 2005), with expanded content, interprets the concept of innovation in the following manner: „**Innovation is the introduction of a new or significantly improved product (good or service) or process, new marketing method or organizational method in business practice, workplace organization or external contacts.**" (OECD 2005, 46.o.)

According to the Oslo Manual, we can distinguish 4 main types of innovation, (1) product, (2) process/technology, (3) organizational and (4) marketing innovation. The initial two – product and process, or technological innovation – typically manifest themselves on a physical level as well, or it builds upon physical elements or tools,

while marketing and organizational innovation primarily changes in response to action-organization methods. The latter exhausts the general trait of innovation where value is generated through the applied innovation; within the framework of the current research, among small enterprises, I am going to consider cases of product and technological innovation that is more frequent among small enterprises.

In the context of the examination of crowdfunding, two other professional findings are relevant.

One of them is the finding of Levitt (2009), according to which „being innovative or being an innovative enterprise is not the same. Previous means having a lot of ideas, in contrary, the latter generates considerable revenues." (In. Hoffer, 2011)

Crowdfunding platforms are the best nexus points for ideas and funding to find each other, helping innovative enterprises get started on the path of market growth. The role of platforms is of exceptional importance from the perspective of accumulating funding, but is at least equally important from the point of view of assisting the validation of the idea, of evaluating the revenue generating potential of the ideas.

The other important idea is expressed by Prahalad[4] in his 2004 article is that "**The consumer and the firm are intimately involved in jointly creating value that is unique to the individual consumer and sustainable to the firm."** (i.m. pp. 9-10.) The second half of the finding has proven to be unequivocally correct in recent years. With the growth in the importance of the roles of communities, practicing experts have been able to encounter product and technology improvement processes at an ever-increasing frequency. For example, **crowdfunding platforms** – on the basis of the results of Ordanini et al (2011) – **can assist in the evaluation of the market potential of products and, in the collection of independent expert opinions and recommendations in technological projects** (Bozzon et. al 2013).

OECD's terminology splits the 4 primary cases into two groups (1 - product, 2 – product/technology, 3 – organizational, 4 – marketing innovation), **distinguishing**

[4] Prahalad, CK. – Ramaswamy, V. (2004): The future of competition: Co-creating unique value with customers. Harvard Business School Publishing, Boston.

innovation that is technology based – product and technology, **and non-technology-based innovation**, combining thereunder organizational-marketing innovation. (OECD 2005)

The conceptual framework applied over the course of the research assumes this distinction; projects aiming for product and technology innovation (including incremental innovation, as from the perspective of the enterprise it requires development and investment, thus deemed and innovation project) are likewise part of the sample.
Projects where the planned result complies with the criteria of these innovation types are to be selected into the analysis.

2.1.2. Technological type innovation

With regard to the definition of technological innovation or technological development, even the Oslo Manual chooses its words carefully. **It defines innovation as a significant product or process development based on new technology for the enterprise.**

The definition of new technology, technological development, however, encounters the obstacle that sector by sector, it can vary greatly what we can consider innovative or significantly improved (OECD, 2005. Pp. 8.) – thus, in given technologically more developed sectors, technological innovation is explicitly meant to apply to high-tech manufacturing, IT or material science applications; in the case of small enterprises or start-ups, however, it may encompass the adoption of solutions or technologies that have not been available to enterprises previously but have existed in the market for a while.

The Oslo Manual defines the innovation of a technological product as follows (OECD, 2005. Pp. 9.):

Product innovation is the introduction/commerce of a product that has better performance indicators: the provision of new or improved services for the consumer.

Technological process innovation is the implementation/adoption of a new or significantly improved manufacturing or shipping methodology. This encompasses changes in the employment of equipment, labor resources, and work methodologies, or any combination thereof.

The difference between "technological" innovations and other developments is mainly based on the „performance indicators" of the affected products and processes and their practical applicability, which is dependent on the degree of importance of the extent of their indicators and their level of innovation in selling within the affected company/sector.
The Oslo Manual points out that this is less easily interpreted in the case of less high-tech sectors and products. In the event that the better-new, or improved performance indicators are self-evident in the case of a new computer chip or analytical software, this is not at all obvious among day-to-day good and services.

The Manual points out that the examination of the innovation of „day-to-day" products and services is complicated by the fact that objective performance indicators are difficult to define from the moment that the evaluation of performance becomes subject to subjective interpretation – as in taste or comfort –. (OECD 2002, pp 25)

In spite of the difficulty in measurement, the significance of these developments cannot be underestimated in certain sectors. Strictly speaking, as they also possess numerous characteristics of product-technological innovation (product design, development technological investment), thus, over the course of innovation data recordings, these developmental projects and activities are accounted for under the **„other creative product development"** category. (OECD 2005, pp. 26.)

Thus, over the course of the study, I am going to be examining the characteristics of crowdfunding projects that are defined in the Oslo Manual as TTP - "Technological product & process "- **technological product and process innovation and "other creative product development"**.

Technological product and process innovation

“Technological product and process (TPP) innovations comprise implemented technologically new products and processes and significant technological improvements in products and processes. A TPP innovation has been implemented if it has been introduced on the market (product innovation) or used within a production process (process innovation). TPP innovations involve a series of scientific, technological, organizational, financial and commercial activities. The TPP innovating firm is one that has implemented technologically new or significantly technologically improved products or processes during the period under review. “(OECD 2005, pp. 31)

Providing additional assistance to delineate the definition, the Manual highlights that innovation is not a linear process and itis possible that important loops and reconnects may take place; consequently, it is not possible to completely delineate processes that lead to innovation.

Main activities include

1. research and development,
2. acquisition of new knowledge (patents, licenses, technical services, etc.),
3. acquisition of machinery and equipment (employing new technologies or to be used to manufacture new products), including tools, the training of staff, etc.,
4. and last but not least, marketing.

Of these, the acquisition of machines employing R + D and new technologies is automatically a technological product and process innovation activity.

Design innovation

The concept of design innovation appeared in the international professional literature close to 15 years ago. Even though its definitional basis is rather narrow, it possesses two primary characteristics, on the basis of which a study of the work of the two authors is relevant when examining technological innovation projects.

Based on the 2003 overview of Mutlu and Er, design innovation means an intermediary phase of technological innovation. This occurs when the latest but

already useable technological innovations are integrated into the product, which helps end-user adaptation (Mutlu, 2003) over the course of the spread of new technologies. The integration of artificial intelligence-based solutions and functions into corporate governance systems or diagnostic applications can be typically considered an example of such design innovation.

The authors see the distinguishing aspect of design innovation in that technological innovation developments based on the principles of design thinking can achieve greater market potential through a user centered point of view (focusing on real problems, sense of usefulness, user experience).

On a case by case basis,
a) the integration of incremental innovations into an existing product
b) the creation of new products or services with little or no technological innovation content.

It is distinguished from simple technological development by the determination of whether or not a tangible innovation content had been conveyed to the end user (it is conceivable that for the company it is more simple, less expensive, more easily tracked, but no innovation content can be detected towards the end-user).

The main differences between incremental and radical innovation are summarized in the following table:

1. Table: Primary characteristics of incremental and radical innovation

Incremental innovation	**Radical innovation**
New from the point of view of the enterprise	World class innovation
Builds on existing knowledge and resources	Requires new knowledge and new resources
Utilizes already existing technologies, competencies and processes	Explores new technologies which requires new competencies, knowledges and abilities
Augments the existing organizational competencies	Overrides existing organizational competencies
Low uncertainty and risk factor	High uncertainty and risk factor
Operates within the framework of the	Requires change in the business model

existing business model	
Minor change in performance	Jump in performance
Concentrate on existing product, services, process, marketing or business model expenses or the improvement of performance indicators	Focuses on processes, products or services with heretofore unparalleled performance indicators
Improves competitiveness with regard to existing markets	Results in radical change which transforms known markets or creates new ones
Continues existing social practices	Necessitates social and systemic level changes
A significant proportion of innovations are included here	Happens relatively rarely

Source: Deffains-Crapsky – Sudolska, 2014, pp. 8.

Only and exclusively considers the acquisition of assets and marketing as innovation activity when they are required for the implementation of TPP innovation activities; when they do not arise in connection with organizational innovation, other creative developments, or with regard to simple capital or manufacturing expansion. (OECD, 2005, pp. 31.)

The study examines the experience of crowdfunding of „technology type" – as defined by the OECD – process/technology or technological product, or developmental initiatives or projects in the „other creative product development" category within the purview of the TTP.

Activities aimed at the acquisition of new knowledge or for marketing are not included as objectives of the observations.

As technological type innovation acts as the main driver of economic growth and provides a tangible positive change for consumers (NKFIH, 2013), the support of these forms of innovation is one of the most important tasks among initiatives that stimulate the economy. ***Over the course of the study, the manner in which crowdfunding provides assistance to such innovation activities is analyzed.***

Consequently, I study the crowdfunding characteristics of those projects recorded in the database of the University of Berkeley where on the basis of their name and known parameters (registered project category, title, description), intentionally exhaust the

a) concept of product innovation

b) the concept of technological innovation

c) the concept of technological product innovation

d) ***„other creative product development" as adopted by the OECD***"

and thus, meet the criteria of the umbrella concept of technology type innovation project.

I do not consider R+D activity as included in the subject matter. The crowdfunding of R+D activities is an incredibly special set, with a total of 1-2 explicitly and exclusively specialized platforms – such as Crowd.Science, Experiment and FutSci – dealing with the financing of projects that are still far apart from the phase of consumer value creation. One seeks out projects where the result of the R+D activity can overcome a significant innovation obstacle (technological limitation), or if the anticipated result possesses significant market potential.

Over the course of the study, I consider the following to be technology type innovation:

- New product development – including the establishment of the required technological conditions
- The continued development of the product, along with the development of the associated manufacturing technology
- The development of the new technology and its transfer to consumers

I can consider these cases acceptable if they do not take place in terms of the enterprise, rather than the market.

The reward based crowdfunding project, aimed at the implementation of technology type innovation, can possess the following characteristics:

- It is manifested in a transferable, sellable result – in a product,

- Creates a unique value offer and appearance,
- The spectrum of potential buyers and stakeholders is broad,
- Requires input from a wide array of sources to ensure the success of the development,
- Compared to non-technological innovation, it requires more significant assets and investment,
- As it does not satisfy an internal need (compared to innovation servicing the needs of corporate internal customers), demand guaranteeing a return on the investment is uncertain.

2.1.3. Definition of innovation projects

By the term innovation project, we imply those projects and organized efforts whose goal is the achievement of a result that complies with the criteria of innovation – expressed in the creation of a new or further developed product, technology, service, organizational method (OECD, 2005).

The academic literature varies with respect to whether „innovative project" could be considered a synonym of "innovation projects". According to some sources, it is possible that in the case of the project is not innovative, but the work carried out and the work in the project contains novel elements, and can be considered as innovation one (OECD 2005).

2.1.4. Innovation content as measured through the growth of consumer utility

As chapter 2.1.1 had shown, the measurement of innovation activity has become possible through the coordinated work of the serious international professional community. From a scientific perspective, the measurement of the innovation and novelty content of individual products is an even more complicated task.

From an outside evaluator perspective, the project level measurement of innovation can be considered a virtual blind spot, as typically innovation is interpreted in an

organizational context, and data collection is primarily associated with the provision of data service or growth metrics. The associated boundary region is the area of design innovation that has been defined in Section 2.1.2.

In case of crowdfunding projects – with special emphasis on bonus/charitable contribution type forms – projects have not been studied by many from the perspective of how innovative they were. Mollick (2014a) mentioned the „quality" of the project and Lukkrainnen and his co-author (2014) its „comprehensibility", but only 2017 yielded 2017 relevant articles. Mukherjee et al (2017) studied the correlation between the innovation level of the projects (innovation, utility) and success, where the innovation content of the project was measured by whether the text of the description or video contains at least one expression applicable to the growth in innovation or utility.

Is the innovation content of the product scalable with the growth in consumer utility? It is, and the related academic literature (Muhkerjee et. Al, 2017 and Chan – Parhankangas, 2017) study precisely the various aspects of improvements in utility and innovation.

One of the dark areas in the area of crowdfunding project success factors is the correlation between the innovation content of the projects and the anticipated successful financing.

One of the reasons for this is that innovation activity is studied primarily as a corporate activity, because of its economic stimulus effect. The definitional and paradigm system that supports scientific research evaluates and interprets innovation on the level of the enterprise, but even at best it merely treats it as a binary variable – whether or not the product is an innovative one.

The problem of the product-level innovation measurement:

The question is, to what extent is the customer able to sense the innovation content of a given project?

Kim Et Al. (2013) undertook a gap-filling study in the field of detecting the consumer perception of innovation. Insofar as to how a product or class of products can be

developed further, an expert can choose among numerous guidelines, but few academic sources are available concerning the consumer perception of the level of innovation of a product.

The Korean authors have studied the correlations of design innovation and consumer perception. They had 20 university students with training in product design and 20 untrained ones, and the two groups evaluated the innovation content of given innovation award winning projects on the basis of the Rampino (2011) framework, namely the innovative nature of the form, the innovative content of the technology, and the innovative content of the method of use.

From the perspective of the current research, they made the following relevant findings:
With regard to the relationship between innovation content and the desirability of the product, the results of the correlation analysis showed that holistic innovation (form, technology and the innovative nature of the method of use combined) have a positive correlation with the desirability of the product.

At the same time, it was established that in and of itself the innovation content of technology has a relatively weak correlation with the appeal of the product. (Kim - Self, 2013)
With regard to the correlations between design know-how and the evaluation of innovation content, it was found that compared to students who have not studied design, the experts evaluated the overall innovation content of a given product.
The evaluation of innovation content as per method of use also varies between the expert and non-expert groups; typically, the experts gave a higher rating to a given product.
Concerning the novelty of the form and the innovation content of the technology, there was no significant deviation between the two groups, suggesting that regardless of educational background, it was perceptible for everyone. (Kim - Self, 2013)

We might say that based on available academic literature, even laypersons can perceive the innovative nature of the product in various dimensions, the fact that the

accepted method of measuring innovation in the academic literature is an improvement in performance by the standard of various consumer utility dimensions.

For the study we sought a tool that made innovation content and utility measurable; through this tool, the innovation content of the project had to be measured from more than 2 perspectives, but still enable analysis by human beings. We sought a metric that was going to examine an improvement in utility in multiple dimensions, thereby providing an opportunity to draw more precise conclusions.

The Kim–Mauborgne author duo created the so-called buyer utility map in order to map and manage uncertainty around innovation. (Kim–Mauborgne, 2002)

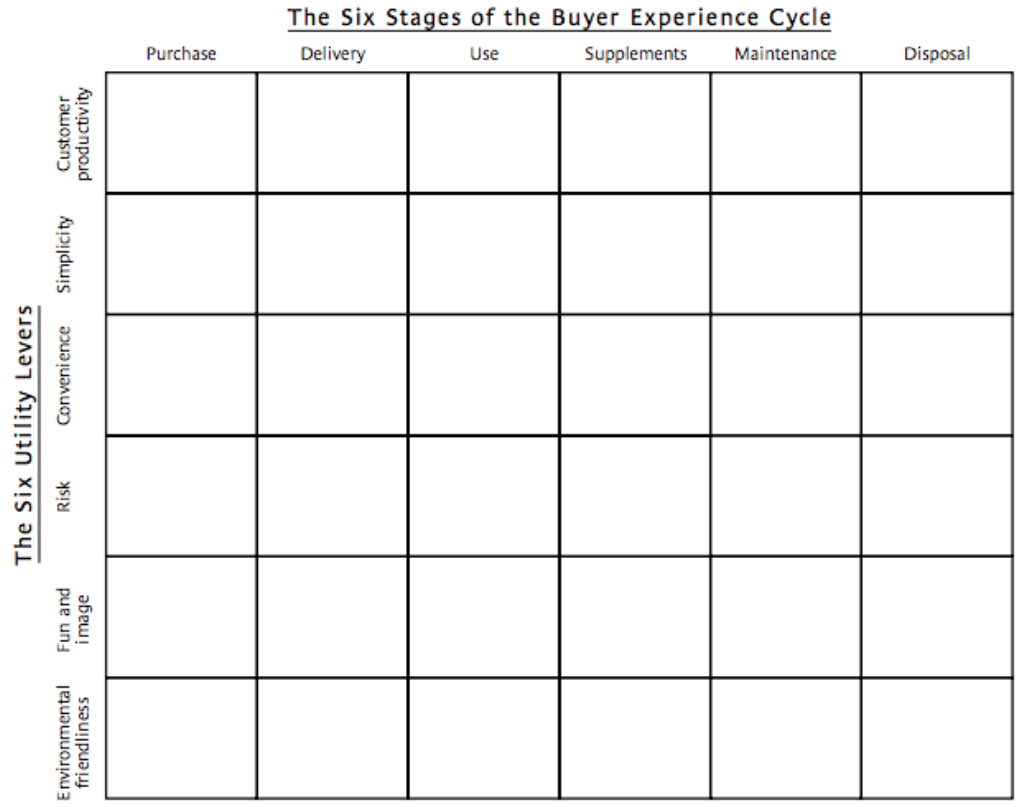
The map reveals the factors that can be developed to grow the utility of the product (or service) in defined stages of the consumer experience that is related to the given product or service.

The consumer experience cycle – from acquisition to disposal – can be generally divided into six stages. Thus, the company can generally seek opportunities for development in these stages. With regard to the further clarification of the direction of development, however, one must take into account an additional six perspectives with each of these stages.
I found eight of the aspects (six utility levers and two stages of the utility lifecycle) being suitable for evaluating technology-related campaigns launched at Kickstarter, providing a rather objective framework to identify innovative (value generation capability for the customer and novelty, superiority compared to alternatives) nature of a promoted product.

1. Figure: „Buyer Utility Map“

The Buyer Utility Map

By locating a new product on one of the 36 spaces shown here, managers can clearly see how the new idea creates a different utility proposition from existing products.



Source: Kim- Mauborgne (2000), pp 131.

Figure. A few examples from among the analyzed projects.

2.2. Innovative enterprises and their financing

As János Vecsenyi writes",we are living in the age of entrepreneurs and enterprises" (2003), and truly that is indeed the case. Technological development and the ever-greater extent of available information – as a component of globalization – enables anyone to become an entrepreneur nowadays. The idea of one's own enterprise can cover a person's fundamental needs and livelihood as well, while at the same time more and more people feel a desire to create something that is better than what has existed before (Miner et al. 1989).

Crowdfunding, as we have seen in Section 2.3, is of significant help when launching an enterprise, or prior to the development of new products and services – or the expansion of the scope of activities (Mollick et al. 2014a, Ordanini et al. 2014).

Numerous studies have supported and emphasized (Csapó, 2006, Szirmai, 2002, OECD 2002, 2006, EC 2017, Makra et al. 2007) the defining role of small enterprises in today's economies, simultaneously presenting the limitations on obtaining financing.
Crowdfunding comprises an important part of the research as an opportunity to acquire funding suitable for innovation financing, as well in and of itself providing insight into financial innovation.

The financing of innovation projects of a technological nature (product development, technology development) traditionally belongs to the fields of innovation management and opportunities for innovation financing. In light of the fact that the parties that utilize crowdfunding are entrepreneurs and small and medium sized enterprises, the financing of innovation is interconnected with the paradigm system of corporate financing and the financing of innovative enterprises as well.

The paper examines the opportunities and characteristics of the crowdfunding opportunities of product-technological innovation projects, with particular emphasis on the reward-based model reminiscent of buyer pre-purchase.

Which financing opportunities can be exchanged for or supplemented by community financing, and for which players, and why does this have such particular emphasis in the case of technological innovation?

Start-ups, entrepreneurs, innovative small and medium enterprises
The innovative activity of enterprises and their yielded results comprise an important pillar of competitiveness and economic growth. These generate new value for consumers, making new markets and revenue sources accessible.
According to platform rules, a project can be initiated by an SME, micro enterprise, a project team not possessing a legal persona, or even a family or individual entrepreneur (Fundly, 2017, Indiegogo 2016, EC, 2016, EC, 2017).

A partial objective of the paper is to highlight relevant opportunities for enterprises, thus the dimensions for the financing of enterprises are introduced in greater detail.

Innovative enterprise characteristics may include the following:

- their activity is based on new technological innovation utilized in the industry, or technology is utilized in a new area of application,
- the product or service is deemed to be innovation (in the given market it is a new or substantially upgraded product or service, yielding significant utility improvements for consumers or other industry actors).
- at least 20% of their revenue derives from previous innovations. (Malecki–Veldhoen, 2003).

The academic literature defines innovative SMEs as those enterprises that have **implemented innovation during the examined period** (OECD 2002) **or 20% of their revenue is realized through their ties to a prior (product) innovation.** (Malecki–Veldhoen, 2003).

Start-up enterprises – companies that are no more than two years old – comprised more than 20% of employment in most countries, such as the United Kingdom, Hungary, Brazil, Israel and Poland, in 2014 (OECD. 2017). Their social-economic potential and role in employment is significant; supporting their growth is listed among the economic policy goals of most European countries. (OECD, 2017d)

Quickly growing enterprises – knowledge based, innovative enterprises – are actors that are most worthy of interest in economic development policy, in part due to the high growth potential, and in part due to their high job creation quotient.

It is statistically verified that the ratio of small and medium enterprises is over 95% in the member states of the European Union, employing a significant proportion of the European labor pool, 60-70% in the production sectors, with an even higher figure in the service sector. Their importance is particularly high with regard to employment among women. Consequently, each of the member states possesses (OECD, 2002) such strategic programs that are intended to develop funding for and the innovation potential of the SME sector.

More than a third of the enterprises operating in the manufacturing sector can be considered innovative enterprises; over 50% of innovations created in the United States have been implemented by SMEs (OECD, 2002).

In Hungary the prevailing National Research and Development and Innovation Strategy refers to this group of enterprises as innovative „new enterprises" (a translation of start-ups) or as start-ups (in English), but the label „innovative micro-enterprises" still keeps popping up. According to our definitional database",**Start-ups"**: starting out knowledge intensive enterprises that produce quick growth with little capital and labor investment. (NKFIH, 2013, pp.72.)

"Innovative start-up enterprises: The number of people employed is in the 10-50-person range; their annual revenue or balance sheet size is at most 10 million euros. They had introduced a significant innovation based on R+D in their industry during the past 2-years.

As crowdfunding is available for not just registered enterprises, entrepreneurs behind the enterprise are also noteworthy, referred as **„Start-uppers" and „Entrepreneurs".** Both expressions can be applied to those persons who would like to launch an enterprise, to become formal entrepreneurs, but possibly do not yet possess a legal persona. The latter are only entrepreneurs „by their intention." Over the course of the study, it can be assumed that persons who would initiate a technology-based innovation project meet the innovative, initiative driven, risk-taker interpretation of the definition of an entrepreneur (Vecsenyi, 2017, Hoffer-Iványi, 2010).

Due to its low risk, crowdfunding might be an optimal choice for medium-risk averse, yet still innovative entrepreneurs.
Hortoványi studied the motivations and risk-taking attitude of the innovative entrepreneur (2012), in a volume of case studies shaping the innovative perspective of enterprises. His analyses highlighted that the drivers of innovations are those leaders who are willing to accept risks, while at the same time endeavoring to treat them reasonably. (Hortoványi, 2012)

When we examine a startup enterprise which bases its launch on a product

development or technological development project – assuming that they are able to carry out the launch – exhausts the definition of an innovative enterprise. This way, the groups of innovative enterprises and enterprises utilizing crowdfunding and implementing technological innovation, overlap.

The definition of start-ups is quite divergent; consequently, in the interest of obtaining an unequivocal interpretation of the study's results, we can summarize what we mean by a start-up enterprise in this study, as follows:

1. General know-how possessed by entities referenced as start-ups:
    a) Possesses a product or service with innovation content (Springer, 2009, NKFIH, 2015, Török, 2018)
    b) Possesses significant growth potential (Dobos, 2015, Török, 2018)
    c) Is in the launch phase (EVCA, 2007)
    d) Has at least 2 work teams (See justification at 2.a))
2. Other perspectives, clarifications:
    a) Size: can belong to all three SME groups.

       Within the start-up category, there was one case of size-based differentiation over the course of the study, during the 200-element strong project analysis, with the category classification of campaign founders. There, we considered the group or enterprise that consisted of 2-11 persons as a start-up – something that generally falls in the category of micro-enterprises. Over this size, we viewed it as an innovative enterprise or company.

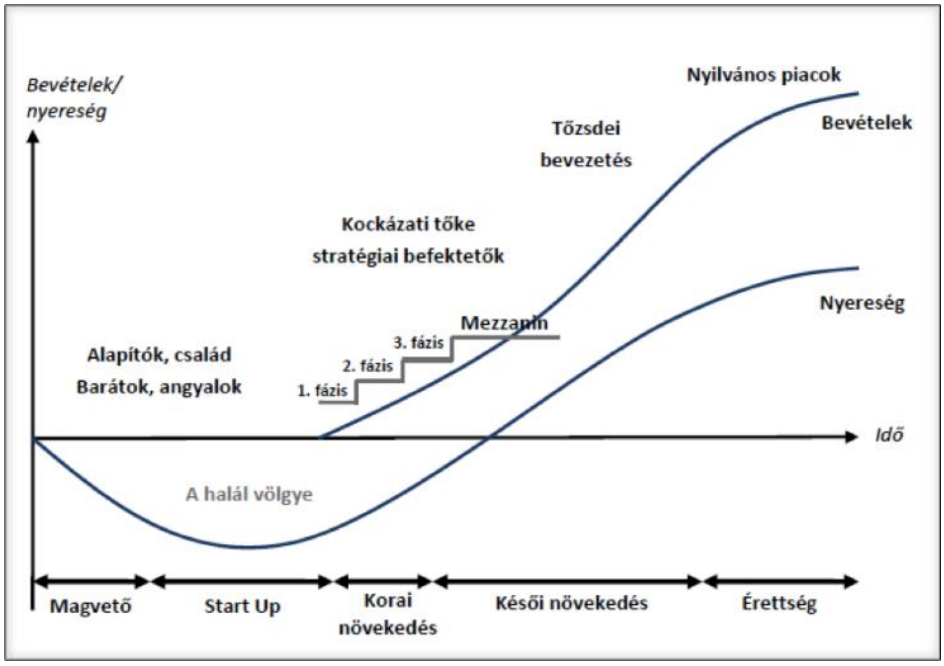
       This was interesting because the lower staff number assumes an earlier launch stage in the life cycle of the enterprise, and the goal of the study was the clarification of know-how regarding utilization – thus, the period of utilization.
    b) Legal status: We did not impose any limitations concerning the existence or duration of existence of a legal entity – **thus, we also considered self-organizing project teams as start-ups, as long as they have also considered themselves to be one and introduced themselves as a team during their campaign.** This distinction effected only the studied 200 projects.
    c) Product personality: in our case, the application of the start-up concept was not preconditioned on the enterprise possessing a finished product.
    d) Growth potential: as a result of Section 1.a), we assume that the enterprise possesses growth potential. The extent of such potential has not been defined.

e) Income: There was no imposed restriction for the enterprise to have revenue and this has not been examined.

2.2.1. The traditional sources and stages of company financing

The life cycle of companies can be depicted in accordance with the following; where revenues shift as a function of time. The figure displays the forms of financing that are typical for each stage of the life cycle.

2. Figure: Typical developmental stages and forms of financing in the life cycle model



Source: Szerb 2006. pp 212.

The characteristics of the enterprise are tied to various life cycle stages of the enterprise and are thus undergoing change; consequently, various funding types become accessible and more favorable to them. The above figure shows classic funding sources and typically does not discuss innovation activity separately, and also does not tie the financing form to the innovation aspect, interpreting it as part of the characteristics of the enterprise.

According to the academic literature (Szerb, 2006, Kosztopulosz 2005, HVCA 2016), we distinguish five main temporal stages of the life cycle of enterprises; the stages of seeder, start-up, early growth, late growth, and maturity.
Classically, at the time of the launch of the enterprise, the following players enable the acquisition of funding (Béza, 2013):

1. Founders
2. Friends
3. Family members
4. Angel Investors
5. Venture capital companies
6. Venture capital (investment) funds
7. Other enterprises (customers, suppliers, would-be entrants into the market, professional investors).
8. Stock exchange
9. State, organizations representing the state

The life cycle of enterprises can be displayed as a function of how revenues change over time. The figure depicts the financing forms that are recommended and typical for individual life cycle stages.

Csubák's 2004 work provided a comprehensive overview of how and how frequently domestic and international small and medium enterprises utilize the above funding sources.

In the actual practice of SME financing, **family members, relatives and friends who provide capital to the entrepreneur** are also considered external capital investors. Unfortunately, little data is generated about this funding, as a result of which it is difficult to determine the volume of this funding source within the financing of the early life cycle stage of the enterprises.

Private individuals who traditionally explore enterprises but who are not from the immediate circle of friends and family are the so-called **angel investors**, who can also help the enterprises with professional know-how and professional and management

experience alongside the necessary funding. Typically, they invest in their own profession or sector and their profit expectations are lower than those of institutional investors; this could be advantageous for the enterprises, but the size of the invested sum also lags behind the sums invested by institutional investors.

In the earliest seeder and start-up life cycle stage of the enterprises, traditionally only these outside financing sources can come into play.

Entering the start-up stage – where the market potential inherent in the enterprise measured as well as investor risk can be estimated – **institutional venture capital investors** become available.

The designation refers to those professional fund managers who manage one or more venture capital funds with the purpose of ensuring a high rate of return for the owners of the venture capital fund through risky investments. Due to economies of scale reasons, they execute investments in excess of EUR 1 million and their rate of return expectations are at least 25% per year. (Csubák, 2004)

In case of financing occurring through the financial markets, the enterprise cannot avoid the review of its ideas in accordance with the strict evaluation standards of financial markets. (Hoffer- Iványi, 2010), which frequently inhibits or prevents the launch of the project.
In the early life cycle stage of SMEs, the author summarized the limits on external capital financing as follows:
„They must supply the investor with a huge amount of information, while at the same time, in the event of involving external capital, their „independence" suffers, with control and profit both having to be shared with the new owner. They must cooperate in the long term with the investor, with an additional serious risk factor of how the trust „gap" between the entrepreneur and the investor is overcome. „ (Csubák, 2004, pp.58.)

2.2.2. Specialties of financing innovation activities

Traditional funding sources in the financing of innovation activities:

OECD's snapshot on the activities and financing state of SME's is 15 years old. It highlighted that the innovation activity of enterprises is of essential importance, while at the same time it pointed out that it is most difficult to acquire funding in the first stage of the life cycle of the enterprise, for investments associated with technological developments (OECD, 2002). These facts have not fundamentally changed.

Over the course of the financing of innovation projects, the utilization of funding sources already known from corporate financing can be considered as well; the difference derives from the uncertainties and risks that are in the nature of innovation, adversely influencing funding acquisition opportunities.

Structuring the previously sketched points, innovative projects – whether the goal is the expansion of a product portfolio or the laying of the foundation of a new enterprise – the enterprise can utilize the following for financing:

- As related to the organization, external or internal funding sources,
- from private individuals or institutional investors,
- within a market or non-market framework.

2. Table: Financing opportunities for the financing of innovation projects

	Private individual	**Institution**
Internal	**Founder private assets**	Accumulated profit reserve Value drop Asset reorganization
External	**Family** **Friends** **Angel Investor** **Crowdfunding**	**Bank loan** Member Loan Commercial loan **Venture capital companies** **Venture capital (investment) funds** Other enterprises (buyers, suppliers, would-be market entrants, **professional investors)** Stock exchange State, organizations representing the state International organizations

Source: Béza et. al 2013, Kosztopulosz, edited by the author of this study on the basis of Kosztopulosz 2007.

Innovation financing is one of the most serious strategic decisions of enterprises. Investment decisions shaping the long-term asset pool of the company and the financing decisions that define its long-term funding structure (capital structure) are strategic decisions that define the existence and operation of the company in the long term, and due to the nature of innovation activity, can engender significant risk. (Hoffer-Iványi, 2010)

Over the course of the financing of the development and innovation projects, small or large companies, individual entrepreneurs or project teams consciously or not so consciously, but typically can evaluate their funding inclusion opportunities along the following decision-making criteria.

3. Table: Perspectives and questions to consider over the course of the financing decision

Decision-making perspective	Questions to be answered
Expenses	How much does it actually cost to involve a given funding source? How does it relate to the revenue generating ability of the enterprise?
Duration of usability	When will the funding become available? What is the repayment schedule?
Risk	What is the risk exposure of a company when it uses that source of funding?
Flexibility	What difficulties may arise with regard to the use of the funding as required?
Availability	What funding sources are actually available to the enterprise?
Influence	To what extent does the inclusion of the given funding source inhibit the entrepreneur in the governance of the enterprise?

Source: Buzás, 2007 (in Hoffer- Iványi 2010.)

The above decisions translate into real dilemmas for enterprises.

Thomas Cain, guest lecturer on finance at the MBA program of Budapest University of Technology and Economics (BME) and a successful American entrepreneur in the field of food industry innovation, has also reviewed the advantages and disadvantages of funding sources for small enterprise and project teams as set forth according to the above classifications, and stated that during the growth period of his enterprise, at the beginning of the 2000s, it was a sore point for him that as a start-up company, he did not have access to a financing opportunity that did not come with personal financial liability and sacrifice and has no impact on the control of the enterprise, (Cain, 2016)

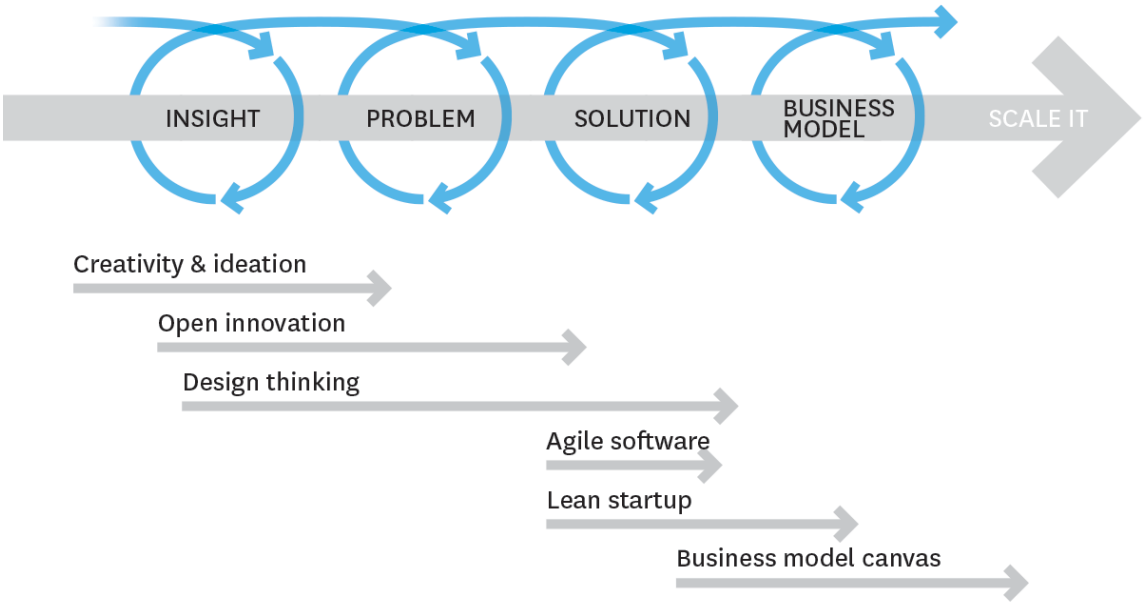
The question arises, which stage of innovation activity necessitates crowdfunding?

The innovation process traces the path of the idea from the moment it is born all the way to the market success of the created solution. "The first step in the creation of innovation is the birth of the idea and the collection of ideas and their respective evaluation, as well as the analysis of technological limitations; as a consequence of the foregoing, the forecasting of expected successes and failures." (NKFIH, 2013, pp.72)

Furr and Dyer, on the basis of the principles of lean innovation management, have summarized the process for enterprises as follows:

3. Figure: The innovation process of enterprises and the applied tools.

AN END-TO-END INNOVATION PROCESS
Adapting the tools honed by start-ups.



SOURCE NATHAN FURR AND JEFF DYER HBR.ORG

Source: Furr- Dyer, 2014.

2.2.3. Difficulties of financing technological type innovation

The financing of technological developments translates into a challenge for any not outstandingly capital heavy enterprises and the enterprise has to face numerous risks (Deffains-Crapsky – Sudolska, 2014).

Summarizing the boundaries and limitations of the financing of innovation projects from the side of innovation management (pursuant to Deffains-Crapsky – Sudolska, 2014 and Hoffer-Iványi 2010):

- uncertain developmental outcome
- difficult to estimate actual market potential
- difficult to estimate the precise resources and costs of the developmental process
- the appropriation of the results is uncertain.

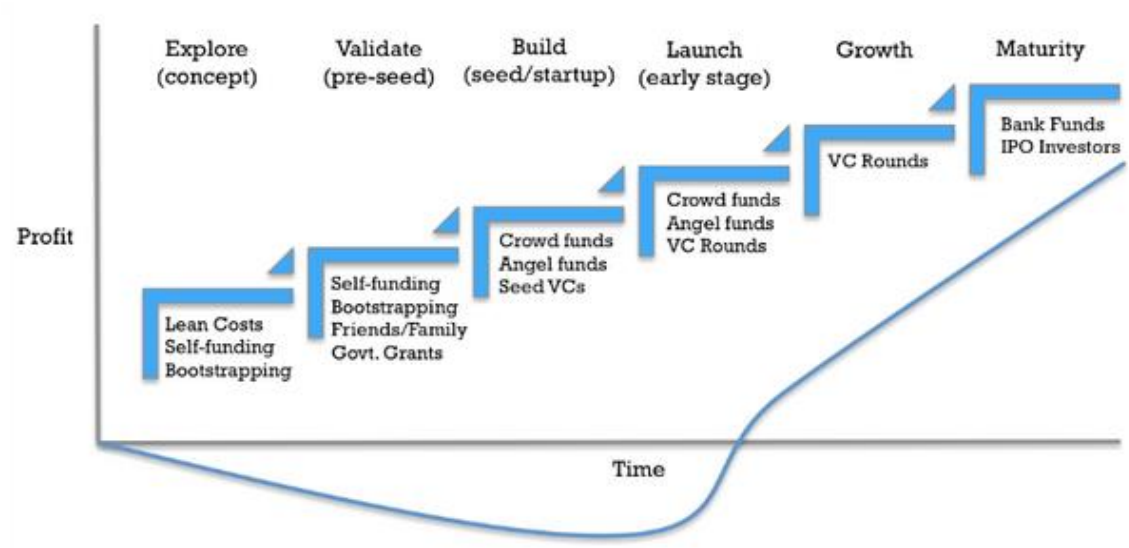
For actors investing into technological projects, the goal is the minimalization of risk, thus in many cases the condition for the financing of technological development projects over the course of planning the investment, a degree of efficiency improvements and revenue increases must be measurable and estimable, which is contrary to the characteristics that arise from the nature of technological innovation.

Alongside these parameters, we can state that innovative SMEs encounter serious difficulties at launch, for their growth, and in acquiring funding sources necessary for competing in global markets.

2.2.4. The financing of start-ups by life-cycle stage

An overview of the funding sources in various life-cycle stages of the start-ups (Leba et al., 2015) clearly shows that crowdfunding is highlighted during the seeder and early growth stages, where it appears as the capital alternative/supplemental funding of angel investment or venture capital.

4. Figure: Tools for financing start-up enterprises at different stages of the lifecycle.



Source: Leba et al., 2015

Based on the exponential growth of the amount of the outsourced funding, we can assume that compared to traditional funding sources, crowdfunding possesses characteristics that make it appealing to enterprises.

According to estimates, over the course of 2013, more than 200 million Sterling were disbursed to small and medium enterprises through community platforms in the United Kingdom (Rees-Mogg 2013); in 2015, a third of enterprises had indicated that they had tried to utilize funding from a crowdfunding source (Statista 2015).

According to the statistics, in 2017 the entire global volume of crowdfunding – including interpersonal loans – was USD 34 million in 2017 (Fundly, 2018), comprising one quarter of the volume of global venture capital investment. (KPMG, 2017).

In connection with crowdfunding, it is exceptional that this form of financing might not just be suited to the mitigation of risks that naturally arise with innovation, but can also be utilized alongside the characteristics that derive from the extreme youth of the enterprise (or due to potential shortcomings).

This means that alongside state subsidy structures (OECD 2002) such financing opportunity has become available that was only partially covered previously by a few special investors during the most vulnerable stage of the enterprises, so it harbors significant economic potential.

Over the course of studying the financing opportunities of radical innovation implementing enterprises, in addition to affixing them to company life cycle stages, also examined whether there are special characteristics arising from the nature of innovation, characteristics to which crowdfunding can offer a solution. The radical nature of innovation was defined as „abandoning tradition in the industry and changing consumer expectations. “Based on Rosenberg’s 2004 work, they summarized the risk factors of radical innovation – which influence the financing opportunities of the enterprise – in the following points:

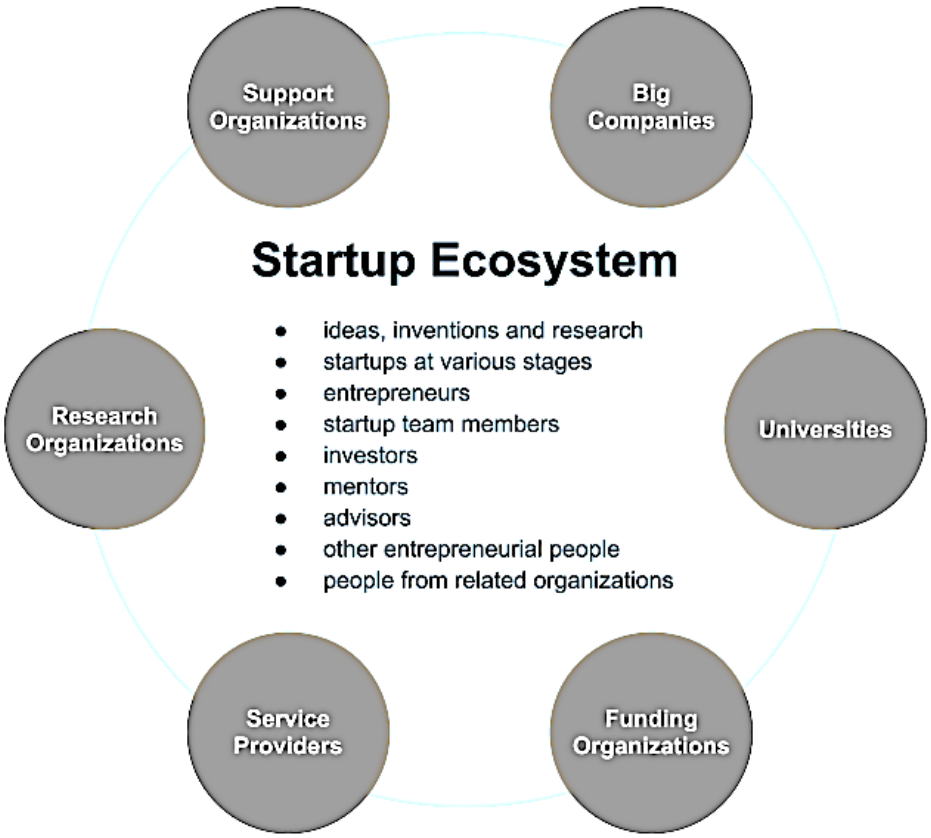
1. The results of the innovation activity/project are unpredictable.
2. Significant R+D costs may arise – resulting in substantial financial risk, as the efficiency of the research and development activities and their industrial-market potential are equally uncertain.
3. The product-level economical aspect of the product or service is questionable.
4. The ability of the enterprise to „appropriate "the market utilization of the innovation.
5. In technology intensive, high-tech sectors, the risk that results from the short product and technology life cycle graphs.

In summary, they find that the inclusion of crowdfunding and platforms assists in the reduction of uncertainty factors that go fundamentally together with innovation. – **practically every above question can be answered by a successful crowdfunding project**.

One assumption of the research is that for a certain subset of innovative enterprises, crowdfunding is the most favorable or possibly only solution for generating financing.

2.2.5. The actors that are affected in the financing decisions of start-up ecosystems

5. Figure: Stakeholders in the start-up ecosystems



Source: StartupCommons, 2016.

The above figure summarizes those actors that are affected in the development of start-ups.

Over the course of the research, I performed primer research with the inclusion of Start-ups, Entrepreneurs, Mentors, and Financiers in the interest of getting to know the know-how, experience, and recommendations pertaining to reward-based crowdfunding.

2.3. The theoretical background of crowdfunding

Crowdfunding – as a phenomenon and a social-financing innovation in the years 2005-2010, and in the past 5 years – on the basis of data from a growing number of enterprises – is being studied in-depth in a scientific manner. The research fundamentally served the exploration and drivers of crowdfunding opportunities (Alemany-Bulto, 2004, De Buysere et.al. 2005, Freund, 2010, Cumming et al.,2014) (Agrawal et al., 2014). Studies where guidance is offered on opportunities of utilizing crowdfunding platforms for a special segment have only appeared in recent years. (Cordova et al., 2015, Gleasure, 2015, Joenssen et. al., 2014)

Understanding crowdfunding and refining its system of recommendations receives more and more attention, as this alternative form of financing can fill the gap that exists today in the financing of small enterprises with little developmental experience and insufficiently strong background, or engaged in shifting of their developmental profile (Valanciene – Jegeleviciute, 2014). This alternative financing scheme offers an opportunity to improve enterprises and finance new jobs without involving the traditional state or financial sectors (Crowdfund Capital Advisors, 2014); its spread and success in the higher risk startup period is in the interest of all stakeholders.
The scientific level analysis and study of the phenomenon of crowdfunding has begun at the beginning of the 2000s. Between 1995 and 2005, it was presented primarily as a financing alternative (Alemany – Bulto 2004, De Buysere et. al, 2005), mostly for the entrepreneur class, entering the public consciousness.

Later on, they had realized other yields of crowdfunding – communication with the community, and opportunities arising from publicity and networks (Belleflame et.al. 2014, Joenssen et.al. 2014) –

Research results in recent years have greatly contributed to an understanding of the phenomenon, including the motivational drivers of the actors (Agrawal et. Al, 2014, Mollick 2014), and the social and product development aspects, but ***knowledge continues to lack insofar as how it might be worthwhile fit it onto the lifecycle of a startup or growing enterprise (Cordova et. al, 2015) and what combination of factors might allow an enterprise to anticipate a suitable outcome***.

2.3.1. The origins and definitions of Crowdfunding

Crowdfunding is an extremely exciting area where social actions for a given objective are manifested. Efforts implemented and financed by the community – like the construction of a church or community building, or joint rebuilding efforts after natural catastrophes – have been characteristic of community life for thousands of years, and share a great deal with the definitions of modern crowdfunding.
Pre-emptive bonds supporting 19th century publications can be considered a modern age manifestation of crowdfunding, among others, the positivist philosopher August Comte obtained financing in this manner for his magnum opus titled „A Discourse on the Positive Spirit", published in 1850. The financing of the foundation of the Statue of Liberty in the United States could also be supplemented by small contributions from 160,000 private individuals during a period of lagging federal funding in 1885; the builders had pleaded for aid in a newspaper advertisement.
In a modern context, the primary characteristics of crowdfunding are the use of online platforms and the diversity of projects.

Numerous authors have defined the complex phenomenon of crowdfunding. Depending on the perspective structure in which the phenomenon is studied, definitions of the operations and objectives of the process, as well as definitions that separate crowdfunding from other financing mechanisms are delineated.

The definition of Schwienbacher et Al. (2010) „An open call, typically through the Internet, for a specific purpose of providing financial resources, in the form of donations or exchanges, in return for some reward or entitlement".

It is defined according to its goal, as **crowdfunding initiatives by fans for the financing of various musical and artistic projects initiated by fans** (Burkett, 2011),

According to financial definitions, crowdfunding is „**internet based interpersonal loan or credit**" (Lin –Viswanathan, 2013).

Crowdfunding enables cultural – social or nonprofit initiatives – that were applied for online for financial support by groups of private individuals or persons (Mollick, 2013) – **from a broad circle of small sum contributors instead of a select, sophisticated financer group**. (Belleflamme et al., 2012; Riedl, 2013) (Cordova et al., 2015)

„Crowdfunding is the process whereby projects initiated by organizations (enterprises) or private individuals, with such projects having commercial and non-commercial goals, are publicly shared, **for the purpose of financing, evaluation by the market, and communications**. The supporters of the project can contribute to the implementation of the project in consideration for a product specific or general material or immaterial service through an online or other platform enabling various payment schemes, with individual financial or other resources… (Joenssen et al., 2014, pp.6.).

According to Mollick's 2014 definition with entrepreneurial angle, crowdfunding is „Crowdfunding refers to the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries." (Mollick, 2014, pp. 2.).

Crowdfunding enables cultural – social or nonprofit initiatives – that were applied for online for financial support by groups of private individuals or persons (Mollick, 2013) – **from a broad circle of small sum contributors instead of a select, sophisticated financer group**. (Belleflamme et al., 2012; Riedl, 2013) (Cordova et al., 2015)

Crowdfunding includes the efforts of entrepreneur private individuals or groups to obtain financing for their cultural, social non-profit or for-profit enterprise, by acquiring relatively small sum contributions through the internet from a large number of individual supporters, leaving out traditional financial intermediaries.

2.3.2. Participants and Operation

Modern crowdfunding is tied to the activities of three types of stakeholders, namely the project initiator – the initiator and originator of the project or idea awaiting funding, the supporting and financing private individuals and groups, as well as the organization that enables interaction and to some extent engaged in moderating activity (platform), which enables the implementation of crowdfunding. (Ordanini et. al, 2011)

Alongside the previously referenced crowdfunding **stakeholders (applicant, supporter, intermediary),** there are many actors whose interests and needs shape crowdfunding.

The campaign starter

Entrepreneurs (or enterprises, start-ups) which publish an open invitation to tender and promise investors monetary or non-monetary consideration.

The Investor

The investors (supporters) are members of the funding community, who decide to support a selected project with funding.

The supporters (investors) are typically ordinary people who are able and willing to invest small sums – due to emotional or business considerations – into projects they prefer.

The Platform

The intermediaries are web sites the purpose of which is the connection of investors and entrepreneurs.

Crowdfunding is distinguished from traditional financing opportunities by **the mobilization and involvement of individuals, and that for this financing form, in most cases, it is also accompanied by the presentation of the project to a mass audience**.

The platforms make it possible for the public – including supporters or investors – to express their opinions and recommendations, **thus the product, idea or project can be modified and perfected with their help.**

The circle of private individuals or members of the general population are one of the most important; they comprise the direct participants of crowdfunding, meaning the applicants and the funders.

Valenciene Et Al (2014) have concluded that **the general welfare, entrepreneurial spirit and innovative perspective of society ensure that the advantages of the crowdfunding model can be realized**.

Due to the global nature of the platforms and of the phenomenon itself, this is hardly limited to the given geographic region; it is applicable to groups of global society at large.

Thus the role of intermediaries is extremely significant, as it is these entities that define the process of crowdfunding, including the primary aspects of the process, enabling the realization of advantages for the stakeholders. (Valanciene – Gimszauskiene, 2012)

States and regulatory organizations

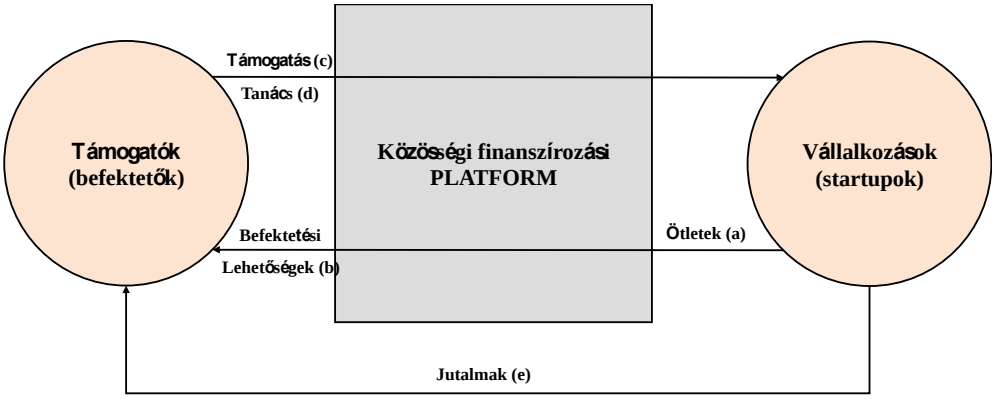
Even though they themselves do not actively participate in the process, the governments of individual states and their economic and financial regulatory organizations are of definitive importance in assisting local access to financing. These entities define the external environment and the business conditions. Their role is significant in the shaping of a transparent, supportive regulatory environment, as well as in the promotion of opportunities.

In the countries that profit the most from crowdfunding, these organizations actively work to make crowdfunding more popular. (ECN 2014)

Financial service providers, financial institutions

This leads to the conclusion that **the role of financial institutions can be varied – on the one hand, they are platform competitors of the platforms, on the other, they supplement platform activities, thus they can fulfill multiple roles among contextual stakeholders.**

6. Figure: The framework of the crowdfunding process



Source: Valančienė – Jegelevičiūtė, 2014, pp 602.

The functioning of crowdfunding and the relationships between the stakeholders – based on Valančienė – Jegelevičiūtė**.**

The existence of crowdfunding platforms allows enterprises to present the ideas (a) and **ask the public at large for funding**. The crowdfunding platforms gather and publish the ideas, thereby **creating an investment opportunity** b) for potential investors – **for persons who would probably not have any chance to invest in any other way.** The supporters (investors) **analyze the recommended ideas and select the ones they prefer**, believing in the (c) **rewards and the product.** Additionally, as supporters (investors) who like and **believe in the financed idea or project, in fact, who desire it to be successful,** they tend to (if such opportunity exists) **(d) offer advice on the basis of their business activity (launch) experiences.** The enterprises (startups) **are seeking supporters (investors), who receive consideration for their money (e):** this can be a minor gift, product, equity, or dividend – a percentile share of revenues, etc. If the idea or project campaign is successful, the enterprises (startups),

independently of platform, **pay a fee** (f) (generally a percentage – approximately 5-10 percent) to the platform.

Alongside previously referenced **stakeholders** of crowdfunding **(applicant, supporter, intermediary)**, there are many actors whose interests and needs shape crowdfunding.

One curiosity must be highlighted with regard to the players. **The respective roles and interests of the two directly participating groups of actors in the process – namely enterprises (start-ups) and supporters (investors), are two-sided**.

This leads to the conclusion that **financial institutions can play multiple roles as well – in part, they are platform competitors, and in part supplement their activities, thus they can fill multiple roles among contextual stakeholders**.

A study of stakeholders revealed that enterprises and financial institutions play multiple roles

2.3.3. Types and models

A significant deviation can be observed between the types and categories of „crowdfunding" as far as the nature of the support form and the services offered are concerned. Not counting the characteristic inclusion of the broad scope of financiers and the intermediary organization, the categories are heterogenous, delineating

1. Equity-based
2. Peer-to-peer 'P2P' lending
3. Donation based, and
4. Reward based crowdfunding.

With the first two types, a business – investor aspect dominates, while with the latter two, it is patronage and support. In its guideline document from 2015, the European Commission delineates the following forms (pp.7.):

- **Peer-to-peer lending („lending based crowdfunding")** – The community lends the enterprise money with the condition that the money must be repaid with interest. This is very similar to a traditional loan from a bank, but in this case the loan is received from many investors.
- **Own capital crowdfunding – the sale of equity to multiple investors in consideration of the investment.** The idea is similar to the method of the regular sale and purchase of normal shares on the stock exchange or a venture capital investment.
- **Reward based crowdfunding** – individuals contribute to a project or enterprise, expecting in return that later on they shall receive some kind of non-monetary reward, such as goods or services.
- **Donation based crowdfunding** – Individuals donate small sums to assist in reaching the greater funding goal of the defined charitable project, for which they do not receive monetary or non-monetary consideration.
- **Profit sharing/revenue sharing** – The enterprises can share their future profits or revenue with the community in consideration of financing in the present.
- **Crowdfunding based on debt securities** – Individuals invest in debt securities such as bonds that are issued by the company.
- **Hybrid models** – offer enterprises the opportunity to combine elements of various crowdfunding types.

Of the above, the academic literature mostly concentrates on the first 4 cases; these can be considered the currently definitive guidelines. These types as mentioned by the Commission overlap the traditional definitions.

Profit sharing can be considered a subtype of credit based (debt) crowdfunding, with the difference being that repayment changes as a function of a special circumstance (profitability). Here the enterprises pay a certain percentage of their profits to their investors, for as long as they have not ensured the return defined at the time of contracting. This solution may not be favorable for those enterprises where the volume of sales fluctuates greatly.

The advantage of the profit-sharing crowdfunding model versus capital based financing is that it reduces complexity in operational processes that result from the dilution of the equity. This type has grown in popularity in recent years, with the most well-known platforms being Startwise and Localskate.
As the motivations of the supporters are closest to the investment goals, larger sums can be collected than in the case of a pre-purchase style reward-based model.

Debt securities-based crowdsourcing can also be assigned into the credit-based group; the investors can purchase „mini bonds;" compared to classical P2P lending, this promises a higher rate of interest (6-8%). In many cases, the bond is accompanied by some other offer, a „freebie." An interesting example of this is the Mexican restaurant that had collected three million pounds on the Crowdcube platform in 2014; it had offered a free burrito per week to supporters to go along with a more than USD 10,000 purchase of its 8% bonds. (Evans, 2015, Hale, 2014)

The domestic overview of crowdfunding with scientific thoroughness was first performed by Kuti and Madarász in 2014, based on the previously cited international results. Pursuant to the work of the authors, the characteristics of the various types of crowdfunding have been summarized in the table below.

4. Table: The main characteristics and advantages of crowdfunding

Type	General Characteristics	Financing advantages	Comments
Equity crowdfunding	Enables cheap issuance of shares through platforms, the investors can obtain equity stakes for small sums in companies and can acquire a claim to the future streams of income of the company.	It has proved to be a viable model of company financing, such companies that had not received financing through venture capital, angel investors, government programs or friends and family can obtain funding thereby.	Crowdinvesting concerns the financing of corporate growth and innovation
Peer-to-peer crowdfunding	Over the course of peer-to-peer (P2P) lending, the disbursement of funding from individual creditors takes place through internet-based platforms, without	It can be considered loss-minimizing that at this time the supporters assign diversified, small sum contributions to given loans.	There are platforms where at first enterprises can obtain funding from general contributors from the public (peer-to-peer business lending, P2B lending).

	financial intermediaries and security, with a high risk.		Some tendencies where P2P lending is being increasingly used by institutional lenders can be observed, which shifts certain platforms in the direction of „institution-to-peer" lending.
Donation based crowdfunding	Enables the support of charitable, research, creative and personal projects, when the funders do not expect monetary or non-monetary consideration. The reward is more emotional in nature, the beneficiaries do not have any obligations towards their supporters.	Compared to equity financing, it allows for greater room for intuitive, emotional decisions, thus it opens the way for less profitable investments, non-profit or charitable type campaigns as well.	Typically, it is coupled with the keep-it-all model, which allows the campaign initiator to retain the collected funding even if the set funding goal could not be reached.
Reward based crowdfunding	Can be used to obtain funding for startups, for the expansion of existing companies, or for personal creative projects as well. Here, supporters generally receive real products or services for the support.	From a certain perspective it can be considered a pre-purchase, a customer loan, in which shipping and communication toward the customer is of particular importance.	Today we can talk about serial crowdfunding, and suppliers who do a good job can repeatedly expect the support of future customers.

Source: Edited by the author on the basis of the work of Kuti- Madarász 2014, and Mollick et. al.

Compared to donation based, reward based, and lending based models, according to the academic literature, the level of investor rationality is the highest with equity based crowdfunding, with external financial motivations expressed at the time when the investment decision is made; it is within this financing type that the proportion of technological projects is the highest, while reward based funding appears to be popular over the course of developing specific products (Kuppuswamy-Bayus, 2015).

5. Table: An overview of the main types of crowdfunding.

Characteristic	Donation-based	Reward-based	Lending-based	Equity-based
Consideration	None	Product, Gift	Interest	Equity stake, dividend
Size	$18.5 billion	$3 billion	$16.3 billion	$4.73 billion
Platforms	Crowdrise, GlobalGiving	Kickstarter, Indiegogo	Lending Club, Funding Circle, KIVA	CrowdCube, Seedrs
Motivations	Internal, non-financial motivations (assistance)	External financial motivations (reward)	External financial motivations (earning profit/charity)	External financial motivations
Level of rationality	Low	Medium low	High	High
Legal regulation	Permitted	Permitted	Permitted with limitations	Strictly regulated
Impact	Handling global problems	Launch of enterprises, expansion of scope of activities	Transformation of P2P lending	Launch of multiple funding start-ups

Source: Edited by the author on the basis of Kuppuswamy – Bayus, 2015, Geiszler, 2017, Mollick, 2014.

Models

For entrepreneurs, the most important issue is the payment or funding drawdown model, this can be the „all-or-nothing" – in the event of an unsuccessful campaign, the collected money is reimbursed to the supporters, while in the „keep-it-all" model the platform transfers the money even in those cases where the set amount had not been collected.

ICO – the latest form of crowdfunding with an investment objective

The latest form of crowdfunding is the so-called Initial Coin Offering (ICO). This solution can be considered a fusion of crowdfunding and an initial public offering (IPO). Its goal is to bring in funding through the issuance of a coin issuing crypto currency to finance the expansion of the enterprise or for the implementation of a given project. (Conley, 2017)

The project manager gives out tokens at the time of the ICO's issuance; future profits are distributed as a proportion of the tokens (this serves a function identical with the issuance of shares on the stock exchange).
(Chohen, 2018)

Tokens may be used for crypto currencies. The crypto currencies can be accessed through exchanges and purchased for Dollars or Euros as well; with the aid of applications, transactions may be executed in seconds, from user to user, on a global level. With the exchange of crypto currencies, the enterprise obtains funding and after the implementation of the project, the profits are distributed in proportion with the tokens owned. The Ethereum network ensures compliance with the conditions.

The first token issuance took place in 2013; the Ethereum company collected 3,700 Bitcoins, at the time valued at 2.3 million Dollars in just 12 hours. Compared to Bitcoin, the reigning monarch at the time, Ethereum promised a blockchain technology development that would enable faster and cheaper transactions. The company is still in operation and alongside Bitcoin it is the second defining cryptocurrency in the market. Their most important service is to enable the generation of new cryptocurrencies, providing a „white label" solution for the funding acquisition efforts of the enterprises.

ICOs are viewed through two different lenses; fund managers possessing more in-depth technological knowledge consider cryptocurrencies to be the future of the monetary system, democratizing the realm of financial transactions, while others believe that this is going to be the next dot.com balloon.

It is a fact that ICOs harbor significant risk, as in most cases only the idea exists and the investors obtain scarce information about the conditions and plan of implementation. Currently, the proportion of failed projects is at 50%, but as ever more enterprises turn toward this solution, investors are becoming more careful as well, and regulation by the platforms is becoming ever more sophisticated. In 2018, initiatives have been launched to define the regulatory environment.

Even though rates of exchange have dropped considerably at the beginning of the year

in the cryptocurrency market, between January 2018 and June, more than 7 billion Dollars had been invested through ICOs (Robertson, 2018) – by way of comparison, in 2016 the volume of venture capital investment was 7.4 billion Dollars (6.5 billion Euros). (EIF, 2018).

2.3.4. Place and role in the financing of enterprises

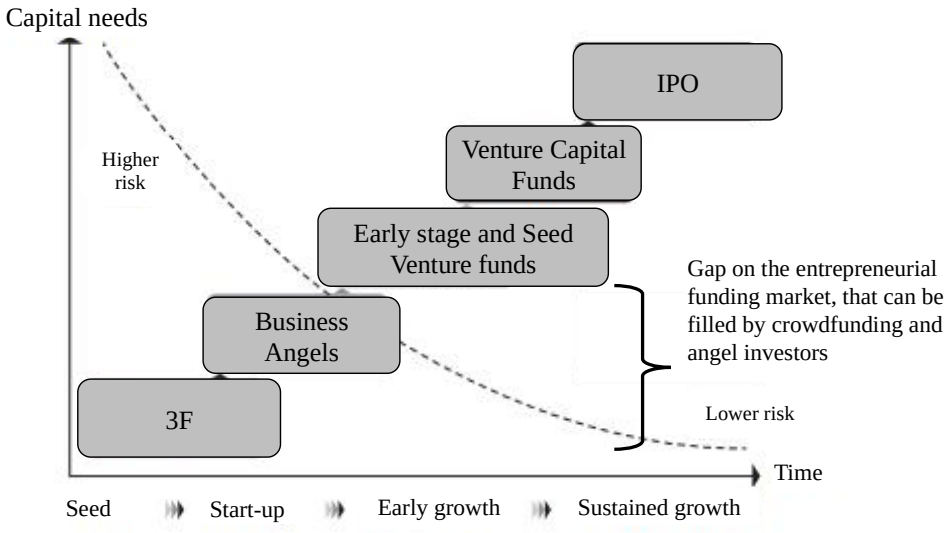
When we examine the relationship between innovation and crowdfunding, the question that arises is how it relates to traditional sources of financing; whether a period or life-cycle stage can be defined where it has exceptional importance.

In the interest of assisting innovation activity, Deffains-Crapsky and Sudolska, (2014) studied capital financing opportunities for enterprises implementing radical innovation during the early stages of their life cycles, including the advantages and opportunities inherent in equity-based crowdfunding.

Among equity financing opportunities that are available to enterprises, crowdfunding might be a good one for a number of reasons: on the one hand, as it is a quasi- informal form of funding – it is not subject to strict institutional regulations, and on the other hand, the investors can be more open towards revolutionary ideas.

The authors have examined the question of radical innovation funding form the perspective of positive management, assuming that when comparing crowdfunding with external capital financing opportunities that are available to enterprises today, crowdfunding offers a more favorable alternative for new startups in certain cases.

7. Figure: Innovation funding steps of enterprises



Source: modified version as edited by the author of the figure by Klein, 2013 and Deffains-Crapsky – Sudolska, 2014, pp. 11.

The figure shows that pursuant to the author's recommendation, the time for crowdfunding is during the early stages of the enterprise, when funding from financial markets encounters obstacles.

In many cases, crowdfunding platforms are utilized by (entrusted by) those enterprises that

- are just starting up
- due to the novelty, risk or niche nature of their idea, they would not be able to obtain any other form of financing. [5]
- wish to retain their entire control and decision-making authority
- find it appealing that they do not have a repayment obligation.

Based on Shirky's finding in 2012 – according to which the group of enterprises that utilizes crowdfunding does not overlap those that select from traditional sources, like venture capital or angel investors. The analysis of Crowdfund Capital Advisors (2014)

[5] Multiple analyses have shown that this is not entirely true; numerous enterprises utilize crowdfunding because its costs are lower, or because no control over the enterprise needs to be surrendered, versus the investment by angel investors.

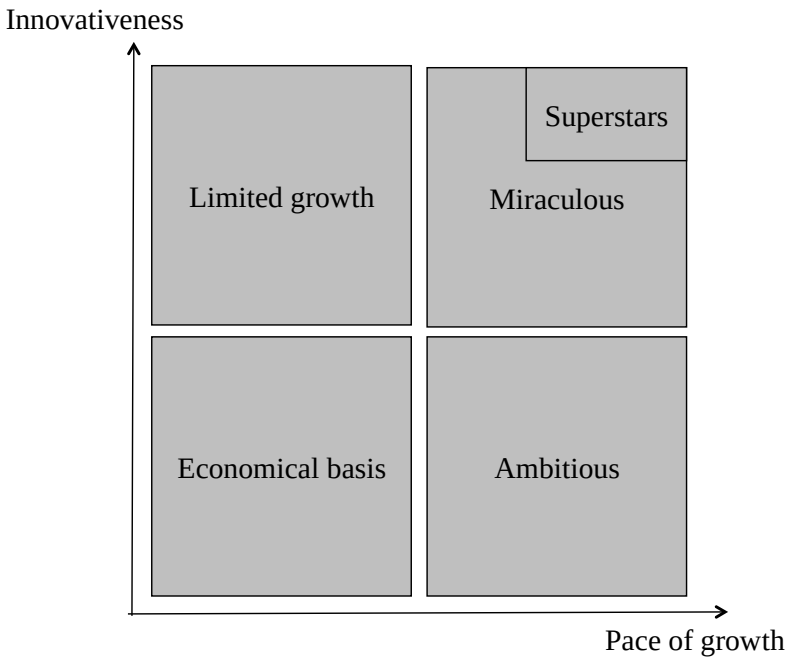
also references this finding, stating that enterprises that eventually decide on crowdfunding could only utilize personal loans or credit from among traditional sources.

As studied by Valanciene and Gimszauskiene (2012), for more than half of the enterprises that utilize crowdfunding, this was the first opportunity to acquire funding, while in a similar situation only personal loans or credit was available for enterprises that were thinking of traditional financing formats. Angel investors and venture capital investors might also conceivably wait for enterprises to prove their growth potential, **thus crowdfunding provides an indirect opportunity to provide pre-financing of riskier or more uncertain technological developments through the platforms, thereby reducing the risk for more profit-oriented capital investors.**

Prior to 2010, guiding studies on entrepreneurial financing opportunities did not take into account crowdfunding as an option.
This shortcoming has already been overcome by the case study volume of Csubák and Szerb in 2013 (Béza et al. 2013) – in their pathfinder work they had presented the applicability of various equity type funding forms. Additionally, the authors also positioned crowdfunding in relation to other sources of funding in case of enterprises possessing varied levels of activity and growth potential.

Building on the comprehensive body of work of Béza, Csubák and Szerb (2013), in his recent study on the financing opportunities of enterprises, Geiszler (2017) made a recommendation on how to define the category of companies that build exclusively upon (equity based) crowdfunding opportunities. According to the employed terminology and results, **crowdfunding is the jumping off point for ambitious enterprises with limited growth.**

8. Figure: Grouping enterprises by innovativeness and pace of growth



Explanation of the types. [6] Source: Béza et. al., 2013, pp. 212.

An explicitly interesting thought experiment is the determination of whether there is a group that is particularly reliant upon crowdfunding and what other funding sources it would also prefer, yet still decide on the platforms. Geiszler (2017) concluded that the enterprises that utilize crowdfunding are mainly the ones with limited growth, or the ambitious ones, with the superstars and the wonderful enterprises – due to their favorable parameters and low risk – can take part to a sufficient degree from angel investor and venture capital funding sources as well.

[6] **Economical basis:** minimally innovative, executing and not growing enterprises. Functions mainly as a form of livelihood, the entrepreneur does not want to or is not able to expand his/her opportunities and scope of activities, is not willing to take risks.

Wonderful enterprises: In a good sense, the rolemodels of enterprises, characterized by continuous innovation activity and continuous growth motivated and demanded by the managers.

Miraculous companies: characterized by low innovation activity but regular growth, typically targeting a mass market, following a strategy that does not rely on innovation.

Limited growth companies: This is where those who sell some kind of a unique product or service to the market are grouped, and demand Ide tartozhatnak azok, akik valamilyen egyedi terméket vagy szolgáltatást adnak a piacnak, és gyakran alacsony a velük szemben támasztott kereslet (Béza et. al, 2013).

Geiszl (2017) highlighted the fact that crowdfunding is the most self-evident solution for mainly those enterprises whose innovation potential is not sufficiently attractive for angel investors, and the enterprise is not able to utilize any other form.

6. Table: Comparison of equity-based crowdfunding with angel investors and venture capital

Perspective	Angel investors	Venture capitalists	Equity based crowdfunding
Investment target group	Innovative, high growth potential, ambitious company	Exceptionally high growth rate companies, superstars	Limited growth, innovative start-ups
Investor background	Former experienced entrepreneurs	A professional finance team, frequently with a sector specific expert	Varied backgrounds, often without entrepreneurial experience
Investment method	Investment of own capital	Investment of the fund managed by the fund manager	Investment of own capital
Amount	Relatively high	Rather high	Low for each one, but higher as an aggregate
Subject matter of investment	Ordinary shares	Preference shares	Ordinary shares
Channel	Through angel investor networks	Through one's own networks and pro-active search	Through internet platforms
Due diligence	Based on personal experience, performed by the angel investor	Performed by VC employees, sometimes with the assistance of outside consultants	Performed by the platform or the individual
Primary motivation	Profit, altruism, hedonism	High profit	Financial recoupment is important, but it is not the sole motivation
Sector specific preference	Along the lines of unique professional experience	Sectors of high growth potential	No sector preference
Preferred life cycle	Invests in a start-up	Start-up and growth phase	Start-up phase, from idea to implementation
Geographic characteristics	Most of the investments are local	Local, national and international geographic scope, with local partners	Longer distances between the investor and the company
Additional support	Active, operative assistance	Active, strategic assistance	Depending on the individual, but a fundamentally passive participation

Source: Edited by Geiszl on the basis of Béza et al. (2013) and Wilson - Testoni (2014).

2.4. International research results

As we could see in Chapters 2 and 4, crowdfunding had been studied as a new phenomenon in the market of alternative funding opportunities (Bethlendi - Végh, 2014, Kuti-Madarász, 2014, Gábossy, 2016), viewing it as a network which creates value by connecting stakeholders (Freedman - Nutting, 2015) as a social community (Thies et al., 2014), which supports various initiatives along certain principles, providing an alternative forum for announcing products entering the market (Joenssen et al., 2014), as a charitable opportunity, and as a phenomenon connected with the subject matter of open innovation (Freund, 2010).

Some of the studies aid the understanding of the phenomenon (Cumming et al., 2014, Mollick 2014), its operational mechanism (Mollick 2014, Agrawal et al, 2014, Bethlendi - Végh, 2014), and from the stakeholder perspective (Valančienė – Jegelevičiūtė 2014a), some examine the motivations of the supporters. With regard to certain project types, such as artistic, or charitable projects (Bozzon et al., 2013), or technological projects (Cordova et al., 2015), the first publications were created in recent years, posing questions concerning given project types.

Studies have been undertaken with regard to the success of technological projects; the correlation between the measurable indicators of given projects – such as the number of communications with financiers, the existence of the web site, communications activities, and timely performance – and successful financing (Cordova et al., 2015).

The examination of how the enterprise adapts to its life cycle stage and abilities provides a stage for undertaking new research. The crowdfunding guideline of the European Commission (2014) provides a useful overview and examples for enterprises, but practice and a scientifically detailed system of recommendations have not yet been connected.

Based on the processed academic literature, **the expression of recommendations within crowdfunding opportunities is another forward-looking idea that is worthy of additional detailed study; whether - in the context of various financing**

structures - recommendations can be expressed for enterprises that are applying for funding.

2.4.1. The success criteria of crowdfunding

The expected market success of the product/innovation can be improved by early market feedback prior to the actual development. Joenssen Et. Al. (2014) studied the potentially common aspects of crowdfunding and new product announcements with product development marketing and market analysis methodology, and concluded that it was advantageous for enterprises when an opportunity could conceivably arise on the basis of the desire to support or advance purchase for the purpose of validating the estimated market potential (assuming this had not yet taken place).

A successful – potentially many previously successful – crowdfunding campaign can play a value-creating, promotional role. In and of itself the fact that the product appeals to many people and the required amount of the funding had been successfully collected, can improve the faith of the customers in the product and the enterprise. In case of successful implementation, it can improve the chances of the enterprise for the inclusion of other funding sources, as well as for the generation of additional sales. (Henderson 2013).

Joenssen Et. Al. have verified the hypothesis alleging that there is a measurable correlation between the estimated imminent implementation/delivery period and the success of the funding campaign. Frequent reporting to supporters (regular updates), and the existence of a web site connected with the product/project were not deemed to be statistically significant in predicting success (Joenssen et al., 2014).

Lukkrainnen and his colleagues (Lukrainnen et al., 2016) analyzed the motives of investor motivation for community capital financing. The authors used the knowledge base of angel investment, venture capital and reward-based community funding, and analyzed data from a Northern European capital-based platform.

According to their findings, in case of crowdfunding investment decisions, traditional

investor points of view are less likely to rise to the fore; the emphasis is going to shift to the campaign's characteristics and to the degree to which the campaign initiator can utilize the opportunities of his/her personal and public network.

According to Lukrainnen et al. (2016), comprehensibility of the product (being a B2C solution on its own) shows a positive correlation with campaign success, and even among B2C projects, the probability for of a project's success rises along with comprehensibility. the easier to understand the more odds for success a campaign may have.

The Venture Bonsai equity crowdfunding portal performed a survey among investors, where 61% of the responders replied that they had been motivated to make the investment by "an interesting product or service."

2.4.2. Characteristics and success criteria of technological projects

The advantages of utilizing crowdfunding and its effects on the lives of enterprises were studied by Mollick and Kuppuswamy (2014) Agrawal et. al. (2012) and Cordova et. al. (2014). With the aid of the format used to filter technological, design and IT projects, they analyzed the conditions and results of crowdfunding – including the aftermath of the campaign.

The definition of success was a challenge for them as well, finally grasped with the application of the following variables:

- Campaign success (reaching the funding goal)
- Obtaining additional funding after the campaign
- Advantages achieved through the campaign
- Timely delivery of product

Based on the results, even though the average „survival rate "of start-ups is relatively low, our examination concluded that enterprises that had been successful in crowdfunding received other forms of funding with more favorable conditions.

2.4.3. Correlation between innovation content and campaign success

Mukherjee et. al. (2017) examined the correlation between the innovativeness of the project (novelty, utility) and success. The author duo analyzed 50,310 projects that had been launched on Kickstarter in the United States in 9 categories that had potentially contained innovative projects.[7] The innovation content of the project was measured by whether the description or the text of the video contains at least one expression[8] that relates to innovation or improved utility.

The innovation content has been implemented by the analysis of campaign and video texts. Innovation levels were measured along two dimensions, by novelty and utility. The software operated text analysis of the projects and their associated videos and the analysis of available funding data led to the conclusion that the funding level of the project increases with the frequency of statements regarding utility. The same conclusion had been gleaned in connection with statements regarding novel content. In the event that both were present together in the campaign, however, the combination has had a negative effect on project funding. This phenomenon was experienced in every studied project category. (Mukharjee et al, 2017)

Their last finding contradicts the general assumptions made of customer behavior. As possible reasons for this finding, the authors named the deviation between traditional customer behavior and shopping through crowdfunding (specifically, through Kickstarter). The main deviation is the uncertainty regarding the delivery of the product. In the context of crowdfunding campaigns, many authors have emphasized that the factors that increase the sense of security of the consumer with regard to whether the plan sketched out in the campaign is realistic (for example, it asks for a

[7] Clothing, Applications, Fashion, Food, Hardware, Product Design, Board Games, Technology And Video Games. (Mukherjee et al., 2017, pp. 5.)

[8] The novelty: "avant-garde", "creative", "disruptive", "novel", "imaginative", "inventive", "inventor", "novel", "novel", "original", "noteworthy" And "unique"; The usefulness is "good", "useful", "constructive", "comfortable", "easy to use", "effective", "effective", "functional", "practical", "practical", "useful", "utilitarian" "utility" and "valuable". (Mukherjee et al, 2017, pp. 7.)

realistic sum, with a short-term implementation period - Mollick, 2014a), are more successful. Based on their prior research, they had expressed the assumption that the exaggerated degree of innovation decreases the supporter's sense of security, as they might deem the delivery of the product too uncertain.

In Chan and Parhankangas's 2017 study, they had examined the impact of incremental and radical innovation on the outcome of the campaign. They had analyzed 334 technological projects that possessed descriptions and video and fell into the Hardware, Software, Technology, Design and Computer game categories – thus their results are of exceptional importance from the perspective of this study. The content analysis was performed by private individuals through a platform, evaluating the campaign videos according to a given set of criteria. Their findings showed that consumer utility and implementability are important considerations for supporters, with innovation having a positive impact on the amount of the sum that is collected through crowdfunding.

It was unequivocal, however, that on the Kickstarter platform, supporters preferred incremental innovation, as they had found it to be viable, and would rather obtain radically innovative products through channels that provide more consumer protection guarantees. (Chan – Pahrankangas, 2017).

2.4.4. The advantages and limitations of crowdfunding

According to the stakeholder theory, platforms create value by creating the community and funding the ideas.

The complex system of ties between stakeholders generates added value, synergies that eventually lead in the direction of a more innovative social-economic system for enterprises. Valanciene and Gimszauskiene (2012)

The most important findings and results supporting the significance of crowdfunding were as follows:

(1) Crowdfunding yields a marketing advantage which has a positive impact on sales trends (the revenues of enterprises that have received crowdfunding has grown),

(2) Contributed to the creation of new jobs – as typically the funded enterprises had expanded – and inhibits the tracking of investments.

Intermediate and long-term positive impacts:

Thanks to community crowdfunding campaign, potentially implemented successes that are difficult to measure:

1. Assisting the market launch of the product or service – building the circle of supporters and customers,
2. Reaching marketing channels – media buzz
3. Wider market access, globally even.
4. Mitigation of strategic risks – controllability of developmental and financial risks.
5. Conditions to obtain more favorable funding sources.[9]

The compendium of the works of outstanding Hungarian academic authors Kuti and Madarász (2014) on crowdfunding,

Pursuant to the work of Agrawal et. al. (2013), the authors have summarized the drivers and inhibiting characteristics of crowdfunding, grouped by those who are directly affected by the process.

[9] Here we can think about how the enterprise can qualify for venture capital funding, but also about how with successful crowdfunding experience, the enterprise can obtain funding later as well in such a manner, having accumulated the necessary know-how and experience.

7. Table: The drivers and inhibitors of crowdfunding

Intended for	Drivers	Inhibitors
Creators, Project Owners	Reasons of lower capital costs: • Better pairing between the project and supporters, access to global financiers, • Bundling: connecting the sale of shares with early product access, with limited liability products and public exposure, • Provision of information on the project, • Crowdfunding improves supply in the area of early capital financing. Background of additional information: • Early access to product, • Early market research, which reduces the variance of demand post-launch, • Development of early ecosystem around the product, • Inclusion of users into product related idea and design generation.	• Publication risk: the publication of innovation on the public form detracts patentability and bargaining power versus suppliers. It might be disadvantageous that alongside the product or service, the strategy, key people, purchasers and costs must be published. • There is no industry know-how, ties or status, like with angel investors and venture capitalists. • Handling large numbers of investors might be costly (commenting, attention, interaction), and must face diverse visions and personalities. • Difficult to obtain continuous subsequent funding.
Funding providers (Backers)	• Access to investment opportunities, • Early access to new products, • Community participation: social activity, consumer value, appreciation from the creators, • The support of the product, services, or idea, • Formalization of contracts: crowdfunding formalizes otherwise informal financing.	• Creator incompetence. • Scandal: the absence of recurring funding interaction increases the possibility of abuse. Can become a target of criminals. • Project risk, information asymmetry.
Platforms	• Revenue model: the transaction fee is 4-5 percent of the entire acquired financing for successful projects, • Goal: maximalization of the numbers and size of projects, • Requirements: attracting a large community of financiers and creators, a market launch which attracts high quality projects and reduces abuse, assisting the convergence of idea and capital.	• Risk to reputation

Source: Kuti- Madarász, 2014, pp. 337.

8. Table: Advantages and limitations of crowdfunding

Advantages	Limitations, risks
• Necessary steps for financing are taken through a single channel, in a short period of time (Ahlers et. Al, 2012) • Product testing (the market validation of the product concept) (Schwienbacher- Lambert, 2010, Mollick, 2013) • Can offer inspiration for the continued development of the project (Ordanini et al, 2011) • Can simplify the inclusion of additional funding for the enterprise – an indicator of positive market reception (Mollick, 2013) • Over the course of involving financing, all control remains with the enterprise (Gerber et. Al, 2011)	• Carries patent risks (Riedl, 2013) • Financial-accounting regulations ae lacking (Jegeleviciute et al. 2013) • A reward-based model can cause logistical problems (Sigar, 2012)

Source: Edited by the author on the basis of material processed by the cited authors.

2.5. Hungarian results in the research of crowdfunding

Exceptional academic authors in the field of crowdfunding in Hungary are Bethlendi - Végh, 2014, Kuti – Madarász, Gábossy, who made the scientific approach of the phenomenon and the scrutiny of its mechanisms transparent for Hungarian professional audiences with their comprehensive works as published in the Hungarian Financial and Economic Review.

We can encounter the financing form from 2013 onward in the professional literature of corporate finance. The option is also explored in the works of Csubák and Béza, and manuals written for entrepreneurs also consider the method (Vecsenyi - Petheő, 2017). In the defining Hungarian institutions of higher education, the topic has shifted to the focal point of attention, with exceptional overview materials created – for instance, Geiszl's 2017 overview – in master's degree programs as well.

A gap-filling overview was published this year in connection with Hungarian reward-based crowdfunding projects. Kuti et. al. (2018) analyzed Hungarian campaigns on the Kickstarter platform between November 2009 and January 2017. The campaigns have

collected a total of 93 million Forints, translating into HUF 2.5 million per successful campaign.
Their findings indicated that success was correlated with the community capital of the project owner (number of Facebook friends, where available), campaign activity as measured by comments and updates, the relative shortness of the campaign period, and the social objective of the campaign. It is a point of interest from the perspective of practical recommendations that on the basis of the analyzed sample, campaigns launched on business days have achieved a higher success rate and greater level of activity.

The source of daily information is selected from the offerings of professional blogs, on-line media, and the blogs of FinTechZone, and Széchényi Tőkealap Kezelő Zrt.

In total, we can say that over the course of the past 5 years crowdfunding has moved into the focal point of study of financial and entrepreneurial finance professionals and researchers; the Hungarian literature of special innovation management is lacking, however.

3. CROWDFUNDING OUTLOOK

Today, crowdfunding can unequivocally be considered a global model.
More than 450 crowdfunding platforms are active worldwide; most of them hae been registered in North America and Europe. Even though crowdfunding has begun its journey with the birth of platforms built on top of modern technological solutions in North America, in the United States, Europe has soon caught up.

Even though the collection and processing of the data is continuous, in many cases, the most up-to-date reports that are available reference data that had been aggregated from five years ago. Over the course of the study, the last report published by each organization was presented.

3.1. Economic Significance

Data presented in the chapter effectively show that crowdfunding was the sole funding format that was not reduced as a result of the economic crisis; on the contrary, it gained a more prominent role than solutions relying on traditional funding sources.

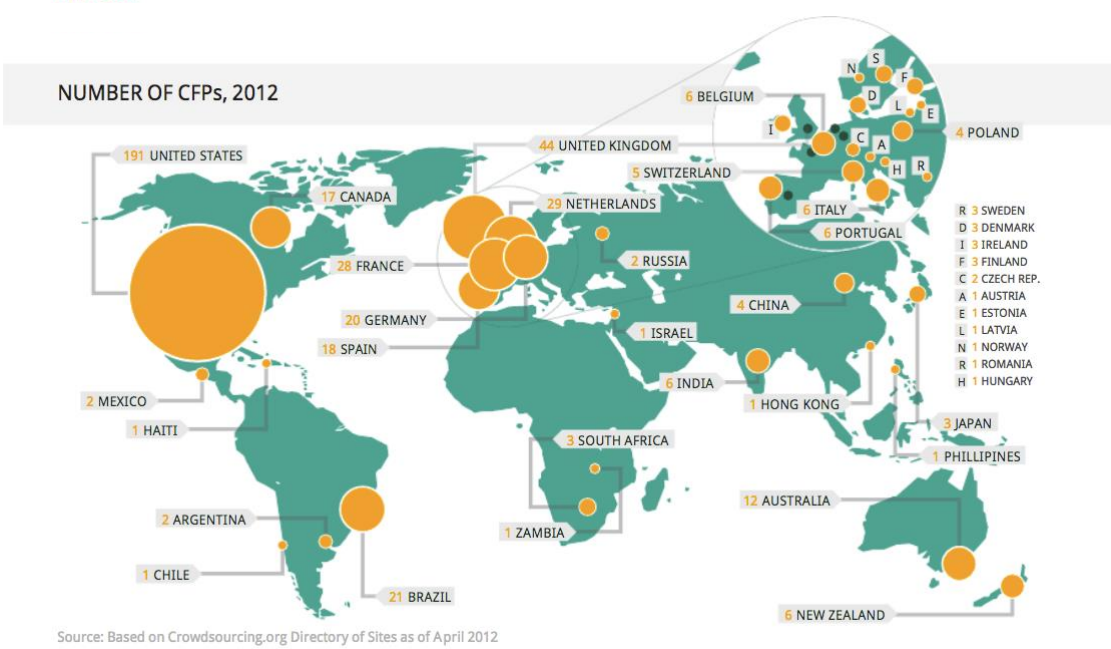
Naturally we can talk about a bidirectional relationship, as changes to the economic environment greatly effect

the expansion and development of crowdfunding – in the United States, for example, alongside lowered interest rates as a result of the crisis, small investors also sought new alternatives, and equity-based crowdfunding provided an exciting opportunity for just that. The local level spread of crowdfunding has a measurable economic stimulus effect; over the course of 2016, crowdfunding sources played a tangible role in supporting British enterprises. (Rees – Mogg, 2013)

According to a report by Crowdfund Capital Advisors (2014), **(equity based) crowdfunding can practically be one of the most important tools of government economic development goals; specifically, stimulating job creation and economic growth, as well as innovation, can all be implemented.** The report states that „we can consider this form of financing a promising mechanism for policy in the interest of implementing economic development and job creation."

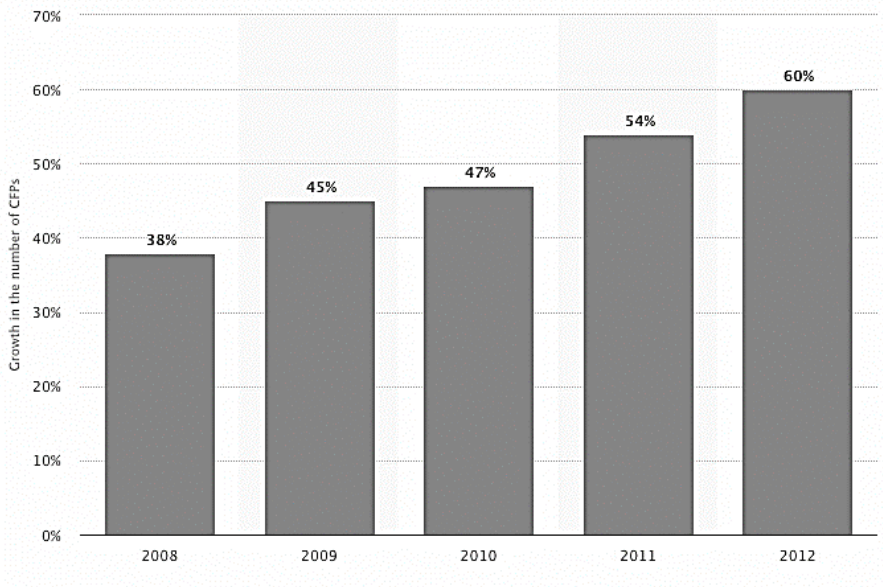
3.2. Volume and expansion

9. Figure: Number of crowdfunding platforms and their geographic distribution in 2012



Source: Crowdexpert, 2015.

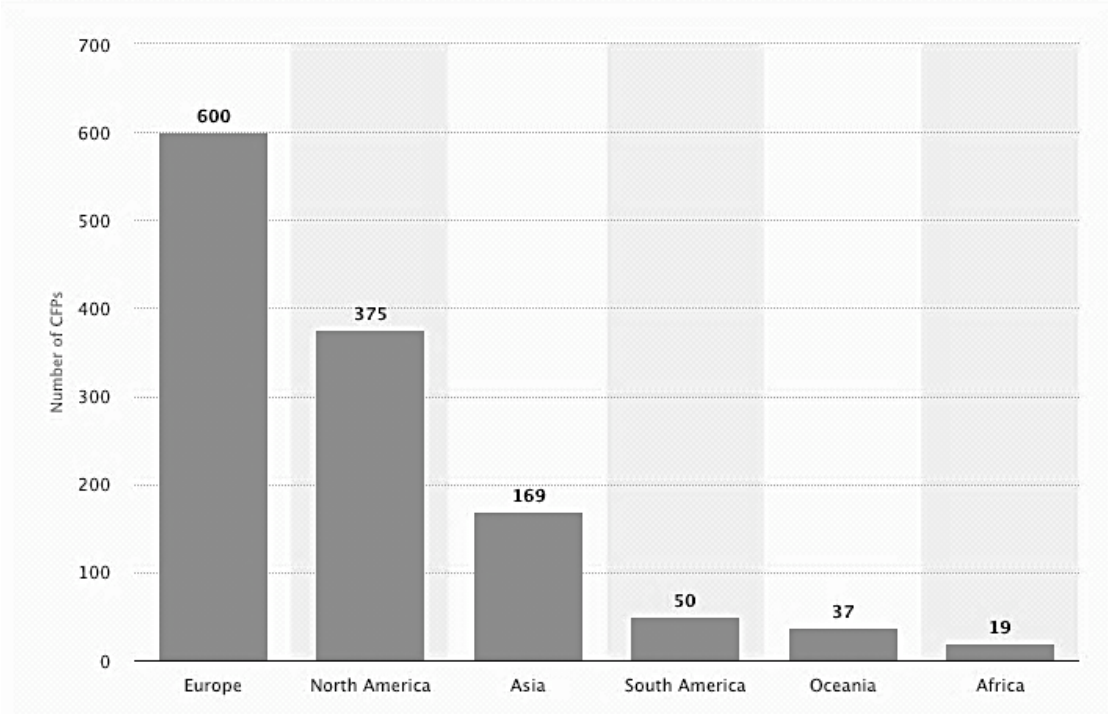
10. Figure: Growth by percentage in the number of crowdfunding platforms between 2008 and 2012



Source: Statista 2012b.

In 2008, the number of crowdfunding platforms increased by 38% globally compared to the previous year. The pace of platform propagation continued to rise over the next few years, with a growth rate of 60 percent in 2012. In April 2012, the total number of platforms was 342 and the estimated number was 536 by the end of December 2012.

11. Figure: Number of crowdfunding platforms by region in December 2014.



Source: Statista, 2014.

Figures 3 and 4 show the geographical distribution of crowdfunding in 2012 and the number of community platforms in the region. Figure 4 shows the number of platforms per region in 2014. That year North America had 375 running platforms, and there were 600 in Europe. With the remaining ones, this globally meant 1250, representing a 133% increase over the 2012 figure.

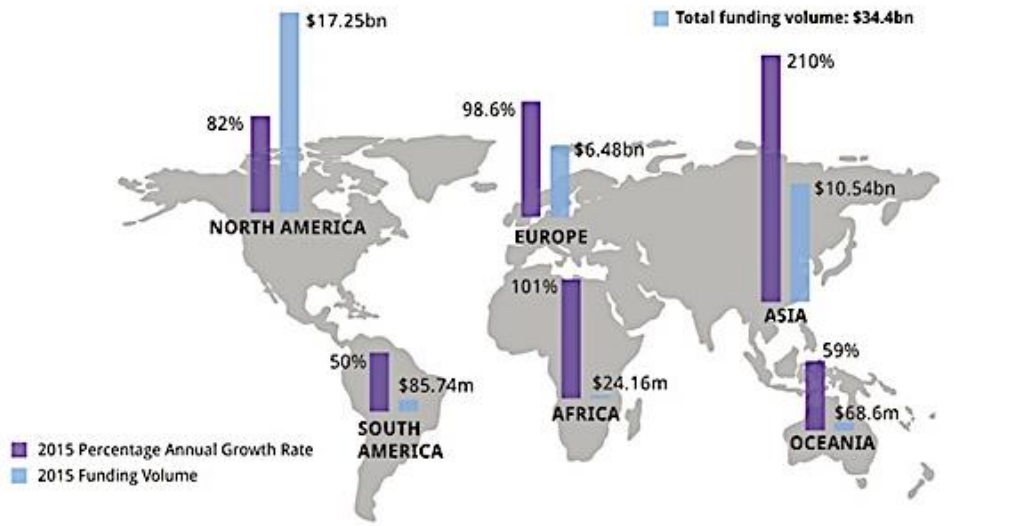
According to Crowdfunding Centers 2014 report, the best performing countries in the field of crowdfunding - based on the number of successful projects (Q2 2014) - were the United States, the United Kingdom, Canada, Germany, France, Australia and Italy.

This is partly caused by the global media coverage of some initial, significant projects and the fact, that after the success of some European projects, support organizations and associations started to rise, promoting the funding method. Support organizations have been established in the listed countries and have begun to develop their legal regulations between 2011 and 2013. (Valenciene - Jegeleviciute, 2015)

Comparing the data for 2012 and 2014, the number of platforms has almost doubled in the period between the surveys and not only in terms of their aggregate value, but in each of the major geographic areas, which proves the global applicability of the model.

Not only the number of platforms has increased to such an extent, but also the volume of outsourced financial resources.

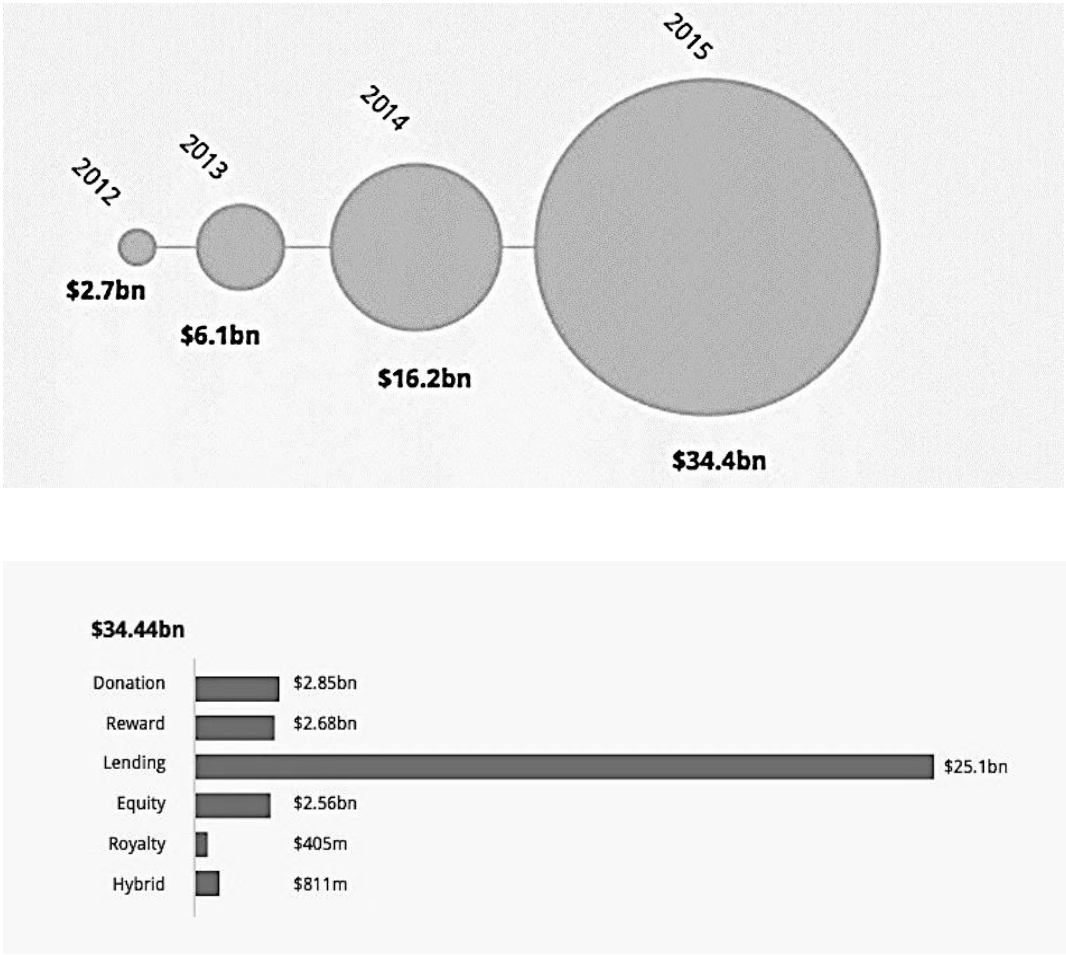
12. Figure: Annual growth rate and volume of crowdfunding in 2015



Source: Massolution 2015.

Between 2012-2015, the amount of resources allocated by the platforms has increased at rate similar to the number of platforms. As shown in the following figure, between 2012 and 2014, the funding amount doubled itself annually.

13. Figure: Amount of funding allocated via crowdfunding platforms between 2012-2015 and breakdown by funding category at the end of 2015

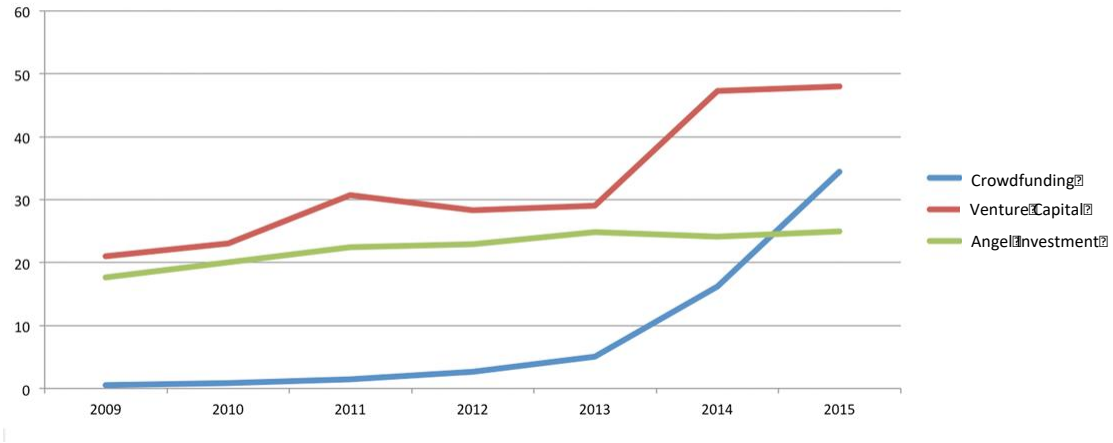


Source: Massolution, 2015.

Reports show that the loan-based crowdfunding (peer-to-peer-lending) ranked first with the highest amount, more than 25 billion USD, with more than five times of the amount compared to the donation and reward categories together.

Placing in context as a potential alternative of other financing options, I reviewed the OECD 2017 SME and Enterprise Finance Report, that provided the measures of the development of business financing for 39 countries.

14. Figure: Venture capital, community financing, angel investment. Annual funding amount evolution between 2009 and 2015 (billions of dollars)

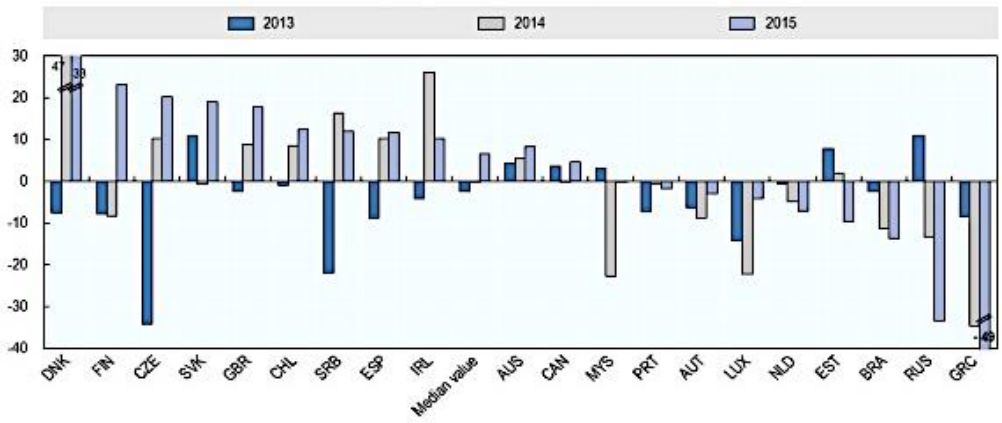


Source: Crowdfunder, 2015.

When comparing the volume and pace of growth crowdfunding with the other resources available to SMEs, we see that it has increased at a much higher rate than loans or venture capital investments (OECD, 2017b), or angel investments (Crowdfunder, 2015)

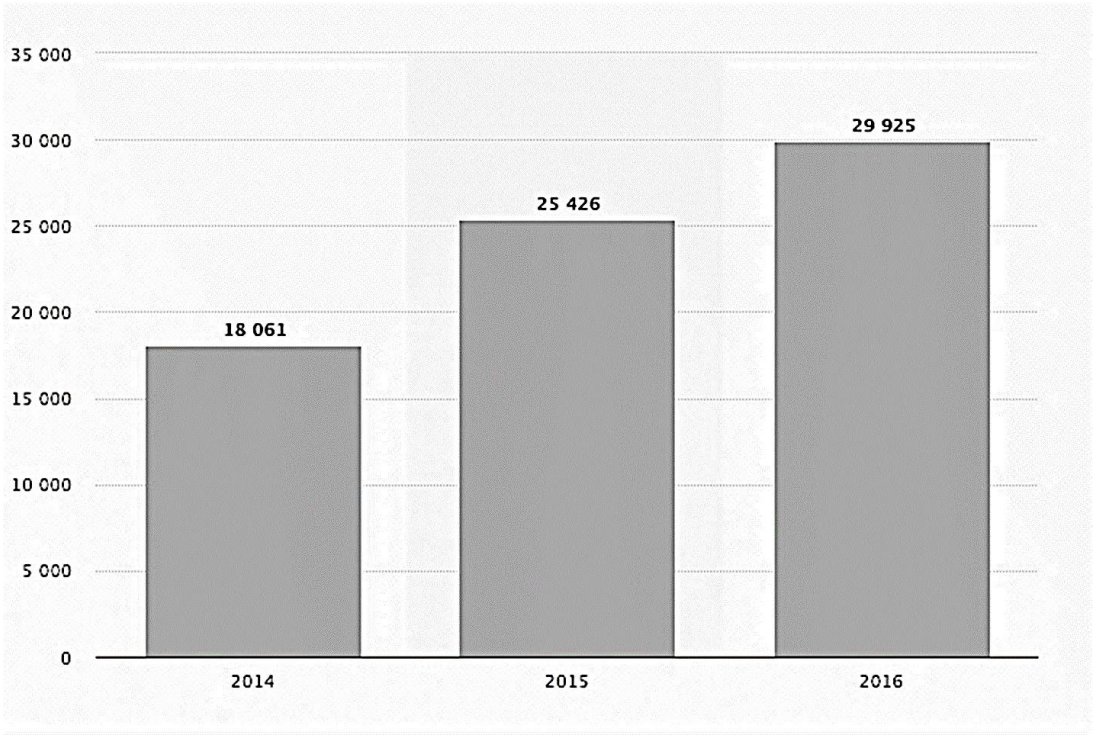
In the OECD countries between 2012 and 2015, venture capital for SMEs grew by an average of 14% in the strongest year, while volume loans, credit and angel investment stagnated in many countries.

15. Figure: New SME Loans Trends, 2013-2015. Annual growth rates in percent.



Source: Eurostat, 2018.

16. Figure: Average amount collected per crowdfunding campaign between 2014-2016 in USD.



Source: Statista, 2016.

It is logical to assume that such rapid expansion of crowdfunding could have been enabled by increased activity of regulatory bodies, clearing up the legal frameworks of application and increasing the support – communication and advisory – towards stakeholders of start-up ecosystems in the countries leading the way. Comparing the timeline of the rise of the application of crowdfunding - see. Figure 8 – with the timeline of establishing crowdfunding associations and setting regulation framework, we see, that the annual financing amounts started to increase exponentially from 2013 onwards.

3.3. Platforms

The number of platforms operating worldwide exceeds 600, but a large proportion of crowdfunding volume is concentrated on a few international platforms. As mentioned in Chapter 3.3, the main bulk of traffic volume is conducted through Kickstarter and Indiegogo, as well as equity-based platforms like Seedr that have been growing ever since the regulatory framework had been settled. The table below provides a brief overview of current dominant crowdfunding platforms.

9. Table: Dominant crowdfunding platforms

Platform name		Platform profile and objective
Kickstarter	Reward/ Donation	Supports the funding of creative projects (albums, books), products and innovations, such as the development of a single person wheeled vehicle or pocket-sized solar-powered charger. It does not explicitly support non-profit or private developmental goals. In the event that the funding goal is not reached, it does not provide funding. (https://www.kickstarter.com/)
Indiegogo	Reward/ Donation	For the funding of any project or idea (including non-profit). (https://www.indiegogo.com/)
RocketHub	Donation	For investors seeking a venture-capital investment. (http://www.rockethub.com/)
GoFundMe	Donation	Primarily used for personal emergency situations and difficulties. (https://www.gofundme.com/)
Razoo	Donation	Collection for child-raising, educational and family matters, animal defense, veterinary treatment of pets and religious matters. (https://www.razoo.com/)
Crowdrise	Donation	Provides support to meet „real life" challenges. Mainly the support of personal matters. (https://www.crowdrise.com/)
Patreon	Reward/ Donation	Subscription platform which allows the disbursement of monthly contributions by supporters and contributors. (https://www.patreon.com/)
Funding Circle	Loan	Disbursement of peer to peer loans – business financing, growth, subsequent steps, e.g. renting, etc. (https://www.fundingcircle.com/us/)
Seedrs	Equity	Equity crowdfunding for enterprises. (https://www.seedrs.com/)
Crowdcube	Equity	Europe's leading equity market platforms for business investments. (https://www.crowdcube.com/)
Crowdfunder	Equity	Equity based crowdfunding platform for any project. (https://www.crowdfunder.com/)
Youcaring	Donation	Platform for projects with a private objective (medical, charitable). (https://www.youcaring.com/)
FundRazr	Reward/ Donation	The collection of funding for personal matters, for non-profit organizations and entrepreneurial projects. (https://fundrazr.com/)
GoGetFunding	Reward/ Donation	This is a London-based donation collection web site for various projects of a personal nature – from the payment of the veterinary care of pets to the shooting of short films. (https://gogetfunding.com/)
StartSomeGood	Donation	Crowdfunding platform for social entrepreneurs, non-profits and private individuals, who desire change. (https://startsomegood.com/)
Moola Hoop	Reward/ Donation	Focuses on the support of female entrepreneurs. (http://moola-hoop.com/)
Fundly	Donation	For private individuals, for any case or matter they would care about, or where funding is needed. (https://fundly.com/)
Kapipal	Donation	For the funding of personal matters by private individuals. (http://kapipal.com/)

PledgeMusic	Reward/ Donation	Primarily for musicians, enabling the recording of albums, marketing activities, and tour expenses. (https://www.pledgemusic.com/)
Crowdfunder	Equity	Similarly, to traditional venture capital programs, it can sell shares and debt with the company to collect money and attract angel investors. (https://www.crowdfunder.com/)
Give	Donation	WordPress plugin for the collection of donations
Lending Club	Loan	Investors who, alongside the investment of their money, would also like to help (https://www.lendingclub.com/).
AngelList	Equity	The collection point of diverse projects, acting as an intermediary for labor and investors for start-ups. (https://angel.co/)
Ulule	Reward/ Donation	Suitable for the funding of typically creative projects. (https://www.ulule.com/)
Charitable	Donation	WordPress plugin for the collection of donations.

Source: Edited by the Author.

Out of the 25 best-known platforms, 8 can be considered as reward-based, since they offer framework for pre-purchasing a product. This is 32% of platforms. 25% of the major platforms is equity-based, 36% allows exclusively the collection of donations and 8% deals with loan-type campaigns.

Having reviewed the platforms, it can be concluded that the descriptions do not include a platform with an explicit focus on product or technology development.

The scope of platforms specialized for explicitly technology related projects is rather narrow; excitingly, it provides funding for the early stages of the innovation process, the integration stages of research and development into science and application.

10. Table: Specialized platforms for technological or scientific projects.

Platform name	Platform objectives
Crowd.Science[10]	Accepts projects of a high level of professional skill, initiatives of recognized institutions and researchers.
Experiment[11]	The project is subjected to an expert analysis where it is evaluated in-depth, providing feedback to those who desire it. Following verification, the evaluation committee of the platform certifies the scientific basis of the project.

[10] https://crowd.science/
[11] https://experiment.com/

FutSci[12]	The scientific background and personal identity of the researchers applying for the funds is checked before the projects are approved, and the feasibility, the scientific foundation and the budget plan of the projects are supervised by professionals.

Source: Edited by the author.

The overview clearly shows that due to the special features of the projects, the quality assurance function shall be given high priority in the case of platforms dealing with scientific projects, both the applicant and the project receive strict professional judgment. I have explored these platforms during the preparation of the research, I excluded platforms that specialize in private or charity or art branches, and scientific activities, that are on a low technology readiness level, and are in rather early research phases with no market application.

3.4. Support Organizations

The influence of governmental and state regulators can be brought to bear through the development of an appropriate supportive environment. Many countries have already recognized the potential inherent in crowdfunding in aiding employment and economic growth (ENC, 2014, Valenciene 2014), and have made efforts to support the model. **These steps include the development of the regulatory framework, the protection of investors, as well as the education and encouragement of society and entrepreneurs.**

In 2015, Valenciene and Jegeleviciute published their summary study providing an overview of the coordination organizations and legal regulations of crowdfunding to date. It is apparent that official frameworks have been supporting the advancement of the funding format since the years 2012-2013.

[12] https://www.futsci.com/

11. Table: Crowdfunding Associations

Name	Year of Founding	Country/region
European Crowdfunding Network (ECN)	2011 (2013)	Europe
World Crowdfund Federation	2012	global
European Equity Crowdfunding Association (EECA)	2014	Europe
National Crowdfunding Association (NLCFA)	2012	United States
American Crowdfunding Investment Association (ACFIA)	2012	United States
Crowdfund Intermediary Regulatory Advocates (CFIRA)	2012	United States
The Crowdfunding Professional Association (CFPA)	2012	United States
UK Crowdfunding Association (UKCFA)	2012	United Kingdom
National Crowd-funding Association of Canada (NCFA)	2012	Canada
German Crowd-funding Network	2011*	Germany
Crowdfunding Institute of Australia (CFIA)	2014	Australia
Italian Crowdfunding Network (ICN)	2013	Italy

Source: Edited by the author on the basis of Valenciene and Jegeleviciute 2015.

Duties of the Associations

Duties performed by the associations on the basis of Valenciene and Jegeleviciute 2015:

- ***a)*** carrying out the educational and communications duties in connection with crowdfunding: communicating the mechanisms of crowdfunding to entrepreneur communities,
- ***b)*** providing crowdfunding platforms with quality certifications,
- ***c)*** presenting successful examples to potential investors, drafting informational and decision support materials and guides for entrepreneurs.
- ***d)*** assisting the development of legal regulations in the interest of protecting investors and ensuring the transparent operation of the platforms.

Based on the above list, it is evident that crowdfunding (as any innovation), as the expansion of micro-lending and technological innovation that is reshaping the SME

financing market, is greatly dependent on the operation of national innovation systems (Buzás, 2007, Pakucs-Papanek 2016, Kiss 2014) in which the assistance of the regulatory framework can speed up the spread of the solution.

Based on the above referenced correlations, the spread of the model was greatly aided by the settling of the legal environment, thus I am going to undertake a brief overview of regulations effecting crowdfunding.

ECN's 2014 report highlights regulatory practice in German and the United Kingdom, genuinely capable of achieving „a reasonable balance between the advancement of funding as an alternative financing method for individuals and enterprises, while providing investors a suitable level of protection."

3.5. Legal regulation

From a legal perspective, the substantive element of crowdfunding is that it enables the consumers and the enterprises to come into direct contact before the existence of the product or service. (Szabó, 2014) The private individual or organization requesting the support – or the project manager – publishes the goal for which he/she/it collects funding and provides information, sharing the details of his/her/its developmental or business plan.
Based on the published information, the supporters or investors can decide on whether they wish to support the projects, and with what amount.

In exchange for the support, the existence or non-existence – as well as its nature – of the consideration offered by the project manager distinguishes the types of crowdfunding, and defines its legal regulation. (Szabó, 2014)

From a legal perspective, the donation type model is the simplest, the project initiator does not undertake any obligations as consideration; the supporter provides support out of altruist considerations, free of charge.

In case of reward-based models, we can look upon the act as an onerous contract; the project founder agrees to assign title to an object or asset in consideration of the support, which can be an expression of gratitude, a challenge, or multiple copies of the manufactured product or service. (Szabó, 2014) The „reward" can be a simple thanks toward the supporters, but it can even be one or more units of the product that was made with the help of the donations. (Kickstarter, 2016)

In case of loan-based crowdfunding, a debtor-creditor relationship is established between the supporter and the project founder, where the project founder must repay the received support, including the contractually mandated interest.

In the case of an equity-based crowdfunding, the project owner transfers (dematerialized) securities to the sponsors in return for their support.

The impact of the legal regulators can depend on:

- The financing model – Donation, reward, or investment style crowdfunding
- The operational model of the platform – How it contracts with the supporter, the applicant, and the financial service provider) – the collection of support and the storage of electronic funds can take place through the involvement of multiple service providers, thus – when utilizing individual platforms – the project founders can contract with as many as 3-4 different legal entities.
- Depending on the type of legal entity (private individual, entrepreneur, for or non-profit company) of the platform, supporter and supported.
- Depending on the nature (product, application, security) and value of the consideration.

In case of crowdfunding with an investment purpose (loan and capital), due to the general financial commercial and investment guidelines, the adaptation of the legal environment is slower.

Szabó's study (2014) examining the Ulule platform from a contract law perspective emphasized that in many cases in the basic legal relationship between the supporter

and the project founder, the crowdfunding side does not participate directly (e.g. Ulule), only advances the creation of a contractual legal status between the parties in the capacity of an intermediary. Thus, the supporter cannot make the service provider (Ulule, Indiegogo, Kickstarter) responsible the project founder for the failure, late delivery or defective performance of the promised consideration.

Among the contractual terms of the platforms, the uncertainty of project implementation is typically expressed (Kickstarter, 2016). What the platforms and financial service providers can guarantee is that in case of unsuccessful (not reaching the support objective) campaigns, the supporters do not take on financial liability, thus late or failed performance only yield problems for supporters in case of successful projects.

3.5.1. Regulations in the European Union

The February 2015 position paper of the **European Banking Authority** on crowdfunding **analyzes seven kinds of risk** pertaining to crowdfunding: (1) partner risk, (2) risk of fraud, (3) lack of transparency and risks arising from misleading information, (4) legal risks, including risks arising from claim enforcement uncertainties, (5) liquidity risks, (6) operational risk (7) money laundering risk.

Over the course of shaping the regulations on crowdfunding, the most important issue is the protection of investors. (Bethlendi - Végh, 2014, Gárdos-Szabó, 2017)

In their 2015 compendium work, Valenciene et.al. review regulations[13] protecting investors in the most successful countries with regard to the use of crowdfunding.

In France, every type of crowdfunding is in operation; in 2014, it has gotten a considerable boost when the government published the regulation of the new funding

[13] The regulatory environment was examined in those countries where English language information was available on the web sites of the associations.

format (2014 October 1). According to the ECN (2014) report, the decree has to have a positive impact on the crowdfunding market, in spite of the fact that it tightens the prior system of conditions in the interest of protecting investors.

In Italy, capital-based financing is regulated by the CONSOB decree since June of 2013, but the regulation of the lending based, profit sharing, and real estate investment models have not concluded yet.
In Germany, the reviewed draft of the General Small Investor Protection Act ("Kleinanlegerschutzgesetz") was published in November of 2014 and it was adopted in April 2015.

We can learn about the European legal regulatory background of crowdfunding from the comprehensive 2017 study of Sadzius and Sadzius 2017. The Lithuanian author duo present in-depth the adaptation of crowdfunding within the European legal system, from the general, financial regulations all the way to the member state provisions adopted exclusively for crowdfunding.

With regard to crowdfunding with an investment purpose, the following member states have adopted a law by the beginning of 2017.

12. Table: Effective dates of laws on crowdfunding with an investment purpose in the member states of the European Union.

Member State	Effective date
Austria	2015. September 1.
Belgium	2017 February 1.
Finland	2016 September 1.
France	2014 October 1.
Germany	2015 July 10.
Italy	2013 June 26.
Lithuania	2016. December 1
UK	2014 April 1.
Netherlands	2016 April 1.
Portugal	2015 April 14.
Spain	2015 April 29.

Source: Sadzius-Sadzius, 2017.

3.5.2. The results of the JOBS-Act

On April 2012, President Obama signed the Jumpstart Our Business Startups (JOBS) Act.
The JOBS Act has significantly reduced regulatory burdens effecting the financing activities of small enterprises in public and private capital operations, having exceptional significance in assisting enterprises in obtaining funding.

The Act contains 7 Titles, of which Titles II and III were of exceptional importance in the spread of crowdfunding.

Title II (Access to Capital for Job Creators) amended the execution of closed fundraising transactions, mandating the Securities and Exchange Commission of the United States (SEC) to lift the prohibition on publication and advertising, which has previously greatly limited start-up opportunities to attract investors.

Prior to the Act, according to Rule 506 of Regulation D, the entrepreneur planning to raise capital must have had a „previously existing, substantive relationship" with the investor before they could even involve the investor in a private security transaction. After the SEC amended Rule 506 of Regulation D in the fall of 2013, it became possible for enterprises to advertise their offers to accredited investors – such as publicizing them on a crowdfunding platform with an investment purpose.

Title III „Crowdfunding", regulating crowdfunding, made it possible for non-accredited investors to provide funding for enterprises.
Nearly 3 years were required for the regulation to come into force; the SEC adopted the draft in the fall of 2015 and its effective date was in May 2016.

During the transitional period, many states have introduced supplemental rules that allowed for non-accredited private individuals to invest inside the given state, but the 2016 adoption had also formally opened the gates for start-up fundraising.

Between 2016 and 2017, the number of capital-based crowdfunding campaigns had

grown by 170%, the amount invested had grown by 80%, and the number of supported projects had doubled; crowdfunding that was subject to the regulation moved 267% more funding than in previous years. (Briggman, 2018).

3.6. The situation of Crowdfunding in Hungary

3.6.1. Hungarian platforms

5 Hungarian crowdfunding platforms had been launched by 2014, (creativeselector.hu, startheted.hu, indulj.be, adjukossze.hu, osszedobjuk.hu). Of these, only adjukossze.hu remains in operation, hosting explicitly charitable initiatives.

13. Table: Hungarian Crowdfunding Platforms

Platform	Year of founding	model	status
creativeselector.hu	2013	reward/donation	defunct
adjukössze.hu	2013	donation	active
startheted.hu	2012	reward/donation	defunct
indulj.be	2012	reward/donation	defunct
összedobjuk.hu	2012	reward/donation	defunct
tőkeportál.hu	2018	equity	launching

Source: Edited by the author.

Péter Inkei's 2014 study claims that the owners and leaders of unsuccessful, revolutionary initiatives named the lack of societal trust, unwillingness to take risks, a lack of entrepreneurial spirit, and political division as the reasons for failure.

The only success story was brought into being by adjukossze.hu, Nonprofit Információs és Oktató Központ Alapítvány (Non-profit Informational and Educational Center Foundation).

3.6.2. Hungarian projects

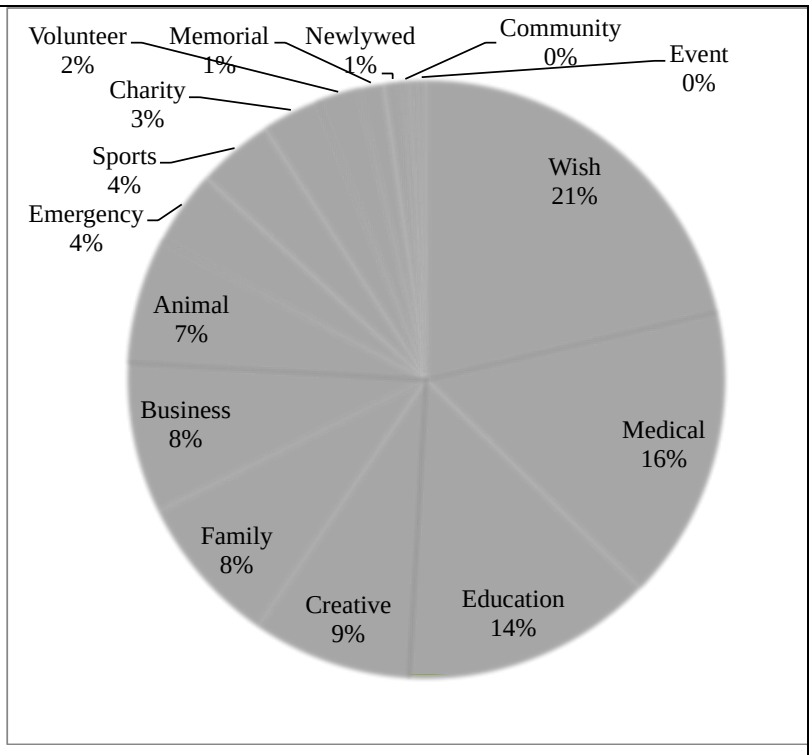
Comprehensive studies about the use of crowdfunding in Hungary are unavailable, as the divergent data management structures of individual platforms inhibit data mining.

In their 2018 study, Kuti and her colleagues have analyzed 116 campaigns that had been launched on the Kickstarter platform between 2009 and 2017. 37 of the projects were successful, key success indicators were a found to be previous successful campaign, and the social network of the creator. (Kuti et. al, 2018)

A short secondary research was performed on the most known Hungarian projects: Shokabell, Liber8 Smart Bracelet, Brewie, Virivee, Keyboard, SmartBrick, Western + Zombies, Anachrony Board Game, Cinnibird, PIKKPACK, were the most referred in the media.
On the GoFundMe platform, a total of 220 Hungarian projects were to be found in the following categories:

17. Figure: Hungarian crowdfunding campaigns launched on GoFundMe

Number of Hungarian projects by category	
Wish	47
Medical	35
Education	30
Creative	19
Family	18
Business	18
Animal	15
Emergency	9
Sports	9
Charity	7
Volunteer	5
Memorial	3
Newlywed	2
Community	1
Faith	1
Event	1
Competition	0
	220



Source: Secondary research by the author – GoFundMe (www.gofundme.com)

I contacted the Indiegogo platform directly to request data regarding Hungarian launched campaigns, as their site did not support secondary research – and the Berkeley database has not been accessible since spring of 2018.
The presence of Hungarian campaigns is not significant on international platforms.
One of the reasons for this fact is that, for instance, Kickstarter does not allow a campaign launch with Hungarian documentation and bank accounts, thus the entrepreneur is forced to rely on help from abroad in all cases. Based on the results of empirical research (Katona, 2018), the lack of language skills, know-how, appropriate marketing and communications abilities, as well as the current favorable, plentiful funding for enterprises performing technology-based development in the market of traditional funding options can provide a rationale for why domestic presence is less robust. What the low number of successful projects evidently show, however, is that the opportunity itself is a given for Hungarian enterprises as well.

3.6.3. Legal regulations in Hungary

Referencing the position of the **National Bank of Hungary**[14] (MNB, 2015, pp. .5)", currently, no special regulation exists in Hungary regarding crowdfunding. The activity must be adjudicated in line with applicable prevailing laws and regulations concerning financial and investment services, the legal acts of the European Union, and the opinions of the European Banking Authority (EBA) and European Securities and Markets Authority (ESMA)."
Crowdfunding activity can be examined in the area of financial regulations from the perspective of the parties and the intermediary (platform) alike.

Subsequent to having taken this position, it was a significant step forward when from the summer of 2016 onward, the Act on Capital Markets *(Act CXX of 2001)* enabled the stock exchange to operate platforms **aiding the capital market fundraising of companies**. The amendment of the Act had explicitly served the objective of enabling the creation of a niche-market specialized to meet the needs of SMEs, including a

[14] http://alk.mnb.hu/data/cms2450224/tmp2F0F.tmp(11394111).pdf,

closed financing platform and so-called **crowdfunding platform** as well, and to continue its operations in a regulated environment. (Gábos – Szabó, 2017)

According to guidelines published for enterprises Gábos et al. (2017), the Hungarian regulatory environment – even if it is not outstanding – it does enable the spread of crowdfunding.

The various versions of crowdfunding can be currently equated to – or are at least very similar to – those financial activities that are already regulated today and can be conducted exclusively on the basis of **financial supervisory permit or subject to reporting requirements (Gábos, 2017),** while reward and donation-based versions don't not fall under strict regulations.

Thus, we can state that as an innovation, crowdfunding has reached the growth-stage of its lifecycle, with ever fewer obstacles in the way of its economic utilization. Beyond ensuring the legal and regulatory framework, these can be eliminated through the understanding and communicating of the phenomenon, as well, had discussed the same among the duties of supporting organizations.

The starting point for the marketing and teaching of crowdfunding is provided by the understanding of the phenomenon and the exploration of the interests of stakeholders.

3.7. Crowdfunding of technology-based innovation

Admitting to researcher's bias, technology-based innovation projects offer the most attractive, most exciting aspect of crowdfunding. Products that do not pass through a traditional corporate product development procedure can come into being; the multi-step, skewed communications steps over the course of which complete units attempt to design „what the consumer desires" are skipped.

One of the most important results of crowdfunding is that it has brought enterprises with ideas, private individuals, and consumers with a potential interest in the ideas, unto a single platform. This avoids the distortion effect of long-term organizational

processes, making the necessary communication for product and technology development between the manufacturer/service provider and the consumer into a direct process.

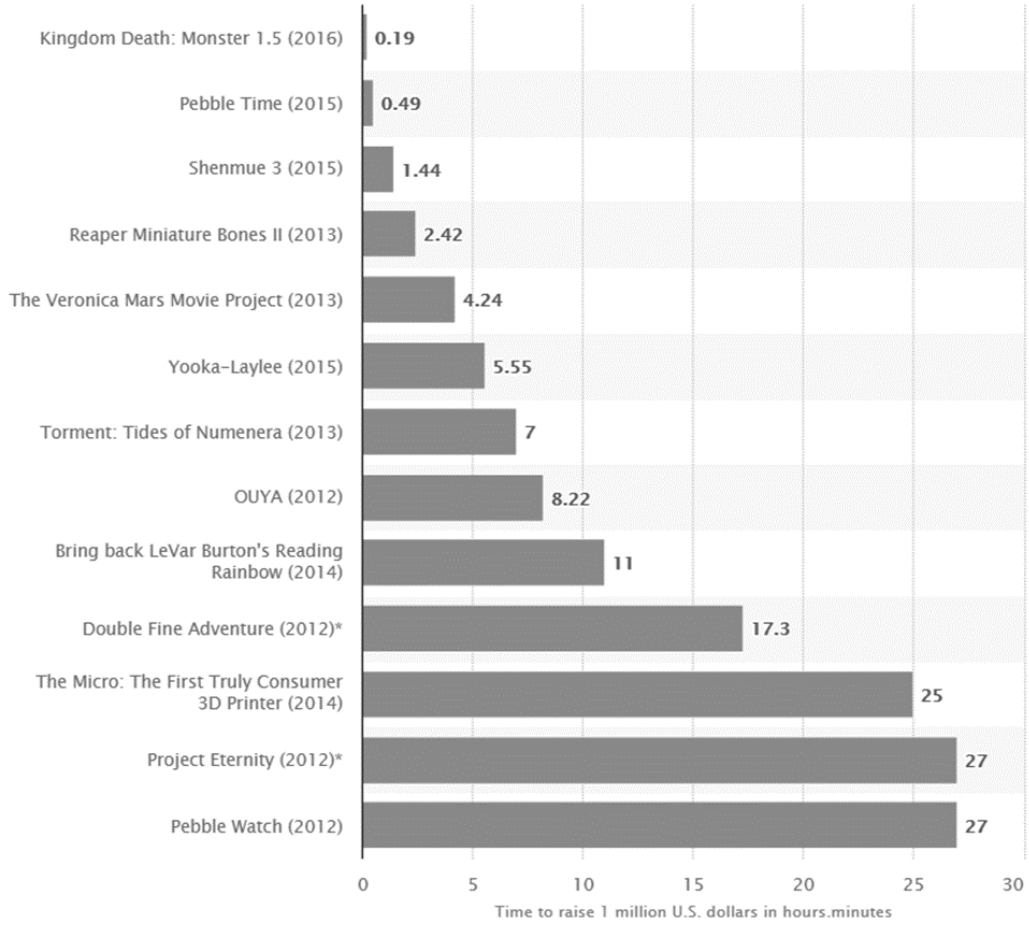
In recent years, the lay public could not escape from hearing about record-breaking crowdfunding projects either; this is how one might have heard about the Pebble smartwatch, or the FlowHive beehive that is revolutionizing amateur beekeeping.

The parameters of the success stories are absolutely astonishing, as far as the possible speed of obtaining funding, the extent of available funding, and the potential number of buyers reached through the campaign are concerned. There is no other way to imagine how a product development project could raise many millions of dollars in funding in just hours[15]

When we examine the record holders, the following projects had been the fastest in securing USD one million:

[15] Naturally not counting the time needed to prepare the campaign, but this arises with the compilation of any marketing materials.

18. Figure: The fastest crowdfunding projects that have achieved a funding level of USD 1 million in 2016 (hour: minute)



Source: Statista, 2016.

The first-place winner – aiming to develop an analogue tabletop boardgame[16] reached funding of USD 1 million in under 19 minutes. The campaign – originally requesting USD 100,000 – in the end collected more than USD 12 million from supporters, was successfully implemented and to this date is shipping all over the world.

The second-place finisher is the second generation of the Pebble smartwatch. This project is one of the most interesting examples of technology-based crowdfunding projects, which is why I am dedicating a separate case study to it in the doctoral thesis. The enterprise launched its first campaign in 2012, with the ambitious goal of creating

[16] https://www.kickstarter.com/projects/poots/kingdom-death-monster-15

a smartwatch which has 5x the battery life when compared to products on the market, but has similar functionality in other parameters.

The first campaign was successful; 3 years later, the satisfied customers pre-financed the development of the second generation of the watch in under 50 minutes.

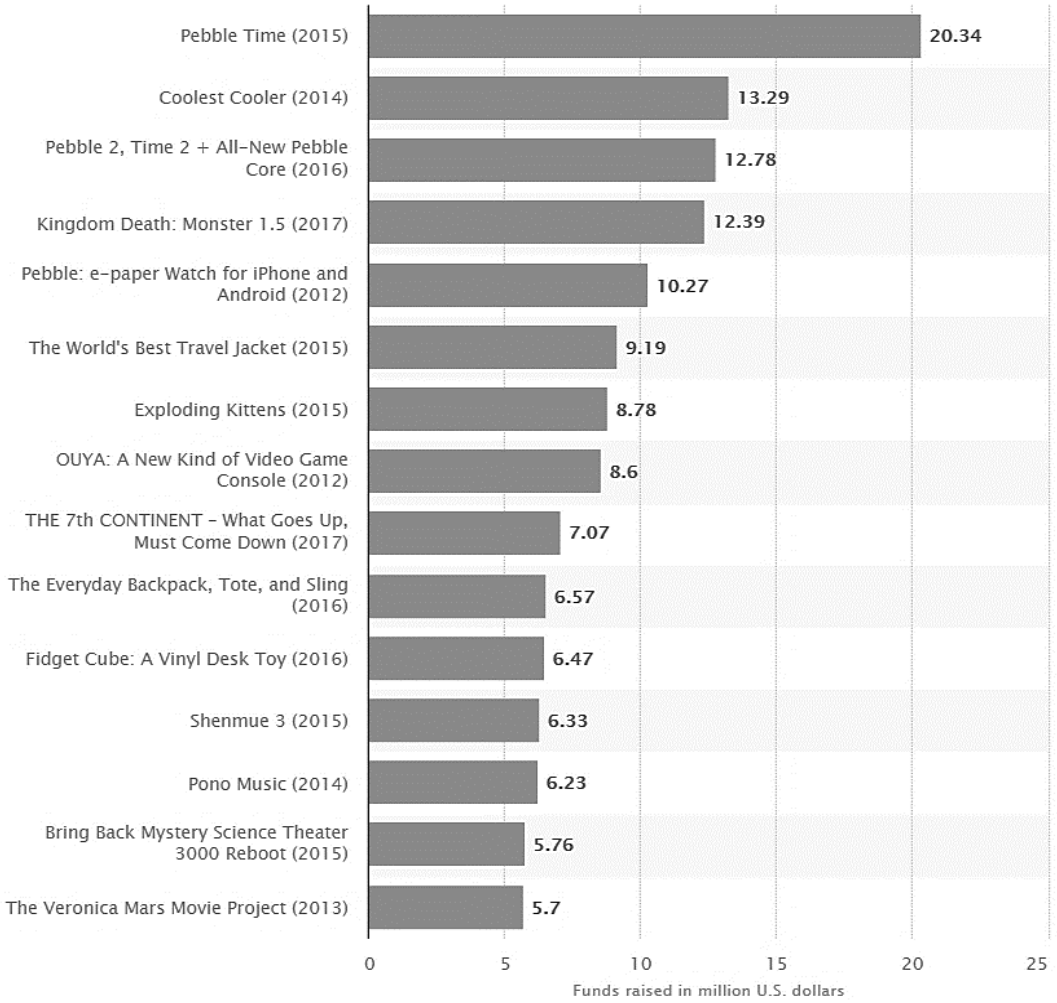
Examining the timing of the projects, it may become apparent that they are almost *evenly distributed over the course of the examined period, thus success had not been affected by whether it had been launched in 2012 or 4 years thereafter*.[17]

Continuing to move along the level of superlatives, it is worth examining how the records of amounts collected for the funding of the projects turned out.

An interesting aspect of projects reaching the highest funding amounts is that nearly all of them are technology-based innovations. Of the 15 projects listed in Figure 15, 13[18] had implemented OECD criteria compliant technology-based innovation.
Of these, 3 are considered new development from the perspective of the enterprise – tabletop, analogue games – but the steps of product development, development, manufacturing – are also implemented here; 5 projects filled gaps discovered in the market of high-tech consumer goods (Pebble projects, OUYA, Pono Music), and in the other cases the design and development of specific products had taken place as well.

[17] Naturally, this is not a representative finding.
[18] On the basis of information located on the web sites of the projects.

19. Figure: Kickstarter projects achieving highest level of funding 2012-2018, (in millions of USD)

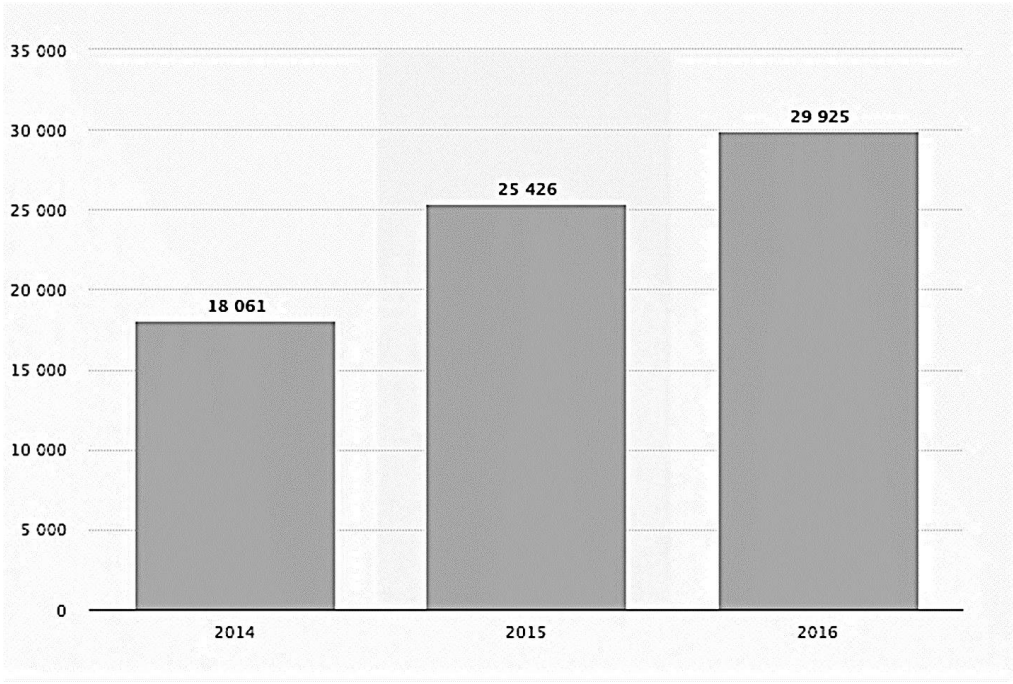


Source: Statista, 2018.

As we can see, the project that had achieved the highest level of funding of all time was Pebble Time, which had collected USD 20.34 million, more than 40 times the requested amount. The financing of the projects through the platform enables the projects to collect a sum that is even higher than what had been requested.

Naturally, these are the outliers; the average amount of support collected by the projects was around USD 30,000 in 2016.

20. Figure: Average sum collected per crowdfunding campaign (USD) 2014-2016



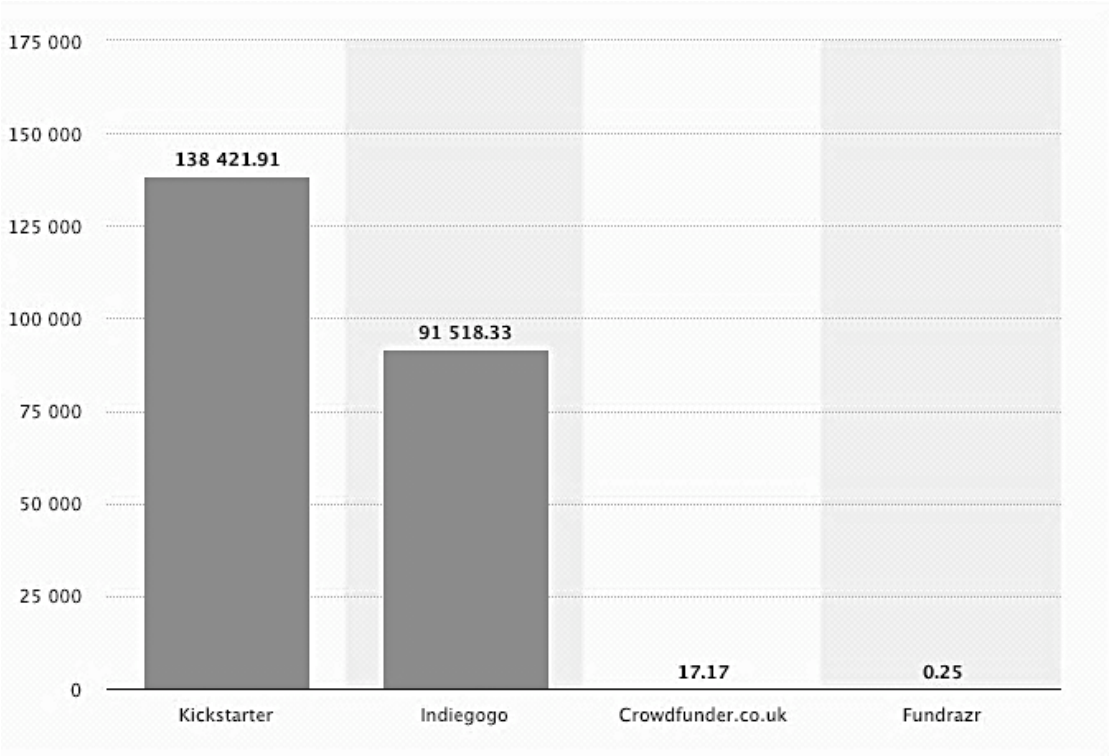
Source: Statista, 2016.

While in connection with Figure 14 we found that projects that have reached outlier level of financing occurred in similar numbers in each year, the average sum of funding achieved by the projects grew on a linear curve between 2014 and 2016.

The distribution of projects targeting technological innovation is not evenly distributed among the various platforms. Based on 2016 data, on the basis of the collected funding in technological sectors, Kickstarter and Indiegogo were the two dominant platforms.

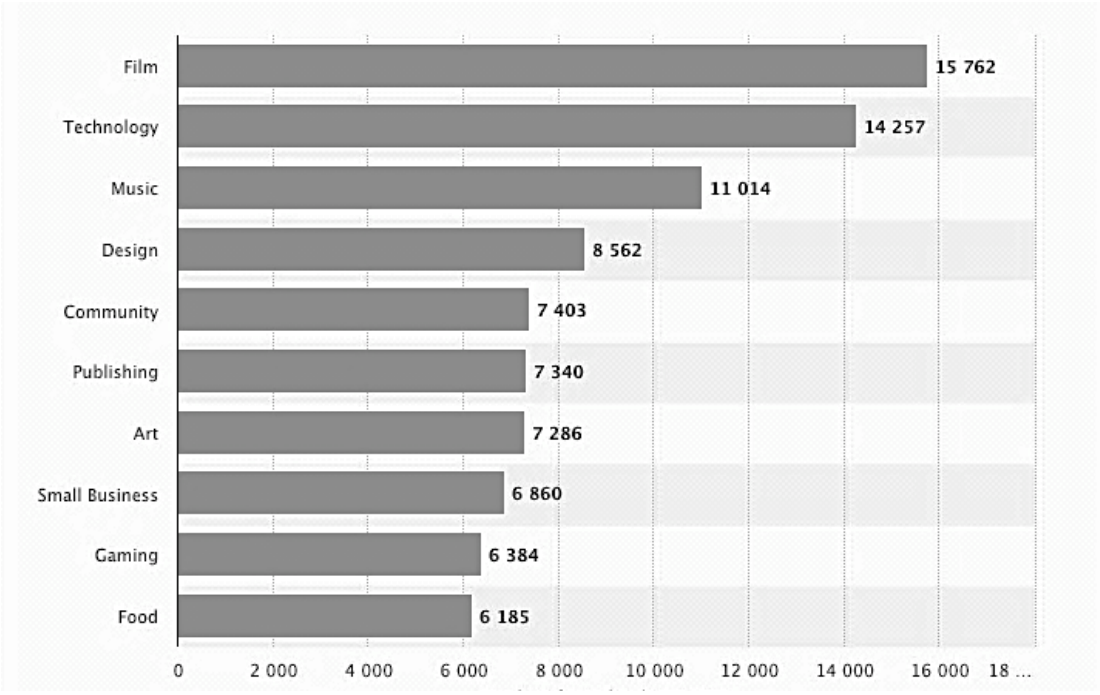
This is favorable from the perspective of the study, as the data of the two most frequented, most frequently employed platforms (as far as technology projects are concerned), had been subjected to analysis.
Figure 18 shows that the second most common category of crowdfunding projects is the technology category, which also justifies the potential of the use of crowdfunding for product and technology development.

21. Figure: Leading crowdfunding platforms in the technology sector in 2016, according to the value of collected funding



Source: Statista 2016.

22. Figure: Trending of the number of crowdfunding campaigns by project category, in 2016



Source: Statista 2016.

4. Hypotheses of the research

H1: Reward-based crowdfunding has a place among corporate funding sources during the initial stage of the life of enterprises that are built on technology-based innovation or are implementing the same.

a) Crowdfunding is a relevant supplement to traditionally available corporate financing formats.
b) Reward-based crowdfunding plays an outstanding role in the initial stage of the life-cycle of enterprises implementing technology-based innovation.
c) Reward-based crowdfunding can be a competitor to traditional funding sources.
d) Reward-based crowdfunding is capable of replacing other, traditional entrepreneurial funding sources that would be utilized by enterprises implementing technology-based innovation.
e) The reward-based crowdfunding campaign of an enterprise planning to implement technology-based innovation positively influences the continued funding opportunities of the enterprise.
f) Reward-based crowdfunding can translate into a point of entry in the process of becoming an entrepreneur.

H2. **Over the course of the crowdfunding campaigns of technology-based innovation projects launched on Kickstarter, the innovation campaign of the projects is a relevant factor from a campaign outcome perspective.**

a) Innovation content positively influences the success of the campaign.
b) The higher the number of utility dimensions in which the emphasis of innovation of the product or service appears, the higher the level of funding that can be achieved over the course of the reward-based crowdfunding of technology-based innovation projects.
c) The higher the number of planned utility dimensions in which the emphasis of innovation of the product appears, the higher the amount of donations achieved.

d) The higher the number of planned utility dimensions in which the emphasis of innovation of the product appears, the higher the amount of donations achieved.

H3: The success of reward-based crowdfunding is a positive indicator of the successful survival of enterprises implementing technology-based innovation (the enterprise continues to exist two years after the project).

a) The relationship between the success of the campaign and the 2-year survival (activity) of the enterprise.
b) There is a relationship between the success of the project and the 2-year survival (activity) of the enterprise.
c) There is a positive correlation between the success of the campaign and the post 2-year availability of the product.

H4: The quality/trust indicators of the campaign forecast the success of the Kickstarter project (the implementation and quality of delivery).

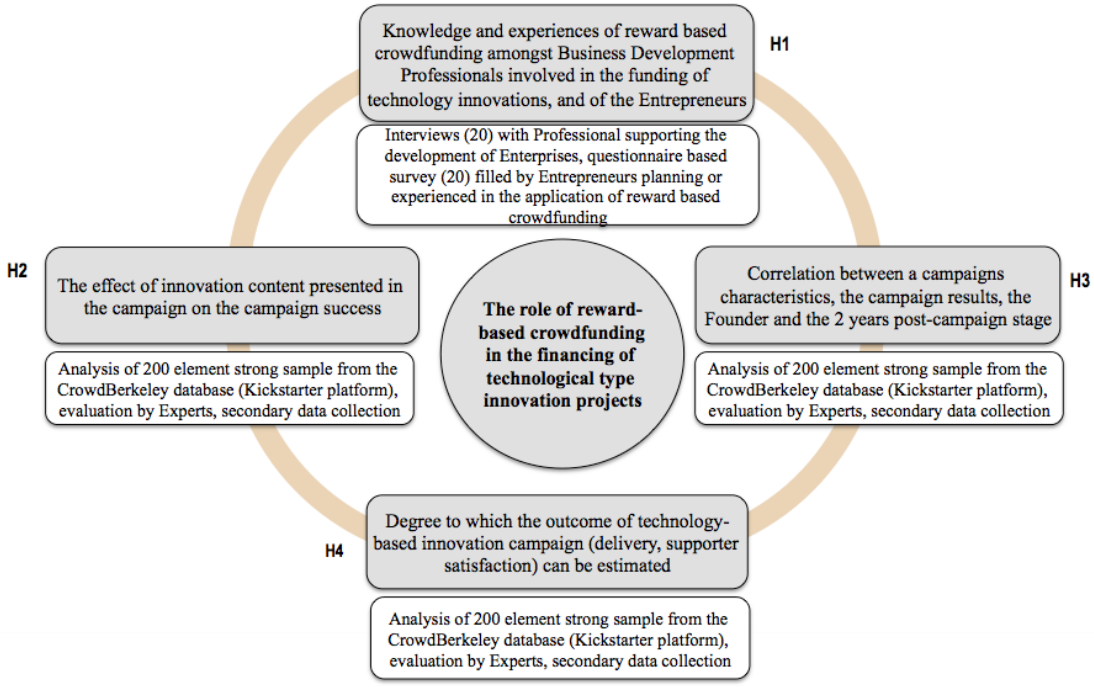
a) There is a relationship between the quality/trust indicators of the campaign and the success of the project.
b) There is a relationship between the quality/trust indicators and delivery.
c) There is a relationship between the quality/trust indicators of the campaign and the satisfaction of the supporters.

5. EMPIRICAL RESEARCH

5.1. The research model

The next model demonstrates the structural elements of the research, including the hypotheses and the scope and source of the information used to justify them. The applied research methods are introduced in detail in the relevant chapter.

23. Figure: The structural model of the doctoral research.



Edited by the Author.

5.2. Literature research

The methodology that was utilized over the course of laying the foundation of the study and the development of the hypotheses was research in the academic literature. A non-systematically compiled, large number of academic literature sources – more than 150 – had been processed. The academic foundation of crowdfunding is relatively recent (Alegre-Moleskis, 2016); similarly, it has only been a few years since structured data collection on crowdfunding has come into existence, thus a significant portion of sources have come into being just within the last 10 years. Academic literature providing guidance on management, innovation and technology management, project management, and financing go back to earlier periods (Schumpeter, 1911, Drucker, 1985, Pataki, 2005, Görög, 2003, Mészáros, 2002).

A comprehensive overview of the available scientific literature was presented in the Theoretical Overview Chapter of the thesis, while exploring specific phenomenon regarding the relation of innovativeness and success of reward-based crowdfunding, and designing the questionnaires, I have relied on the following studies.

14. Table: Factors influencing the success of the campaign (1 – technology projects, 2 – reward-based model) Source: Own edition.

1	2	**Factor influencing campaign success**	**The studied factor has a positive correlation with the successful outcome**	Negative correlation	No correlation
	X	The size of the founder's (enterprise) social network	Belleflame et. al, 2014, Agrawal et. al, 2012, Mollick, 2014, Byrnes et. al, 2014		
	X	Realistic (short) project implementation period	Belleflame et. al, 2014, Mollick, 2014, Lukkrainnen, 2016		
X	X	Realistic funding goal	Mollick, 2014		
	X	High amount funding goal		Mollick, 2014	
		Minimum investment floor		Lukkrainnen et al, 2016	
		B2C type project	Lukkrainnen et al, 2016		
	X	Non-profit characteristic	Belleflame, 2014, Kuti et al, 2018		
	X	How supported is the of the project one week after launch	Rao et Al, 2014		
		Video availability	Mollick, 2014, Petitjean, 2016, Colombo - Wright, 2017, Courtney et al, 2017		
		Financial plan of the project disclosed	Lukkrainnen et al, 2016		
		Existence of social media network	Lukkrainnen et al, 2016		
		Size of personal social network of Creator	Lukkrainnen et al, 2016, Mollick, 2014		Petitjean, 2016
		Frequent interaction with supporters	Kuppuswamy-Bayus, 2015, Petitjean, 2016, Xu et. al, 2014		
	X	Previous campaign launch	Kuti et al. 2018		
		The use of expressions referencing novelty or utility	Mukherjee et. al, 2017		
		Previous project success within the given project category	Lukkrainnen et al, 2016		
X	X	The incremental nature of innovation	Mukharjee et al, 2017		
X	X	Emphasizing innovative aspect in the campaign (expressions)	Chan-Parhankangas, 2017		
X	X	Highlighting Utility OR innovation content in the campaign text	Mukharjee et al, 2017		
X	X	Emphasizing Utility AND innovation content in the campaign literature		Mukharjee et al.,2017	
X	X	Project quality	Chen et. al, 2009, Mollick, 2014a		
X	X	Project "comprehensibility"	Lukkrainnen et al, 2016		
X		Project "interesting" aspect	Venture Bonsai, 2013		

5.3. Databases used in the research

5.3.1. CrowdBerkeley database – Year 2016 Kickstarter Projects

Multiple databases have been downloaded from the CrowdBerkeley site of the University of California at Berkeley in the beginning of 2018. A 2016 Kickstarter database was used for the purpose of the analysis, containing projects that have been launched after January 1 and concluded before the end of the year.

The data of more than thirty-seven thousand projects are located in the database, including 4,700 projects in the technology category. The issue raised by the research was aimed at the characteristics of the crowdfunding of technology-based innovation projects, thus we viewed these projects as the base population size.

The 200-element strong sample in the technology category was selected from this population, which contained 50 unsuccessful and 150 successful (including 39 extremely successful) projects. We subjected the sample to an in-depth expert inspection, over the course of which an average of 2.2 evaluators had examined a given project. This enabled the near objective quantification of the innovation content of a given project, as well as the exploration of the relationships and correlations between the outcome of the campaign, the outcome of the project, and the post-campaign life of the enterprise two years thereafter. The 200-element strong sample enabled the application of complex methods of statistical analysis, including multi-variable regression and discriminant analysis.

On the basis of the academic literature, the analysis and quantification of innovation content and the size of the analyzed sample are unique.

5.3.2. Primer research - Entrepreneurial funding expert interviews

As part of the research, between May and October of 2018, semi-structured in-depth interviews with 20 interested parties of the Hungarian and international enterprise funding ecosystem have been conducted. These had been conducted primarily with experts who participate in the development of enterprises implementing technology-based innovation.

13 Hungarian, 6 European[19] and one American expert shared their thoughts, know-how and experience on the role and applicability of reward-based crowdfunding. The issues under examination focused on how well-known crowdfunding is, as well as its advantages and disadvantages, including the adaptation of the funding format or the nature of the competitor or complementer as compared to traditionally known entrepreneurial funding formats. Replies given by the experts have helped map precise cases of recommended uses of the application as well.

According to their institutional background, the responding experts represented the venture capital, incubator and accelerator, as well as the academic innovation ecosystem. On the average, the responders possessed professional experience of 12-years – 2 at a minimum, 45 at maximum, generally 8-15 years - in the field of financing and developing enterprises. Of them, 12 individuals (60%) were directors, founders or owners of the represented institution, possessing practical investment or corporate evaluation experience.

Their responses, due to, in particular, their relatively large proportion as compared to the Hungarian ecosystem, gave a result that can be considered a relevant overview.

5.3.3. Primer research – Entrepreneur Questionnaire Survey

General know-how and opinions associated with the utilization of reward-based crowdfunding have been explored through a questionnaire survey among those entrepreneurs and private individuals possessing an entrepreneurial spirit who had already launched technology-based projects or are thinking of doing so. Questionnaires were sent to more than 400 Hungarian and international enterprises, from which responses arrived between July 1 and September 1 of 2018. Having obtained a response rate of 5%, a total of 20 questionnaires have been processed.

60% of responders were Hungarian; the remainder were filled out by Finnish, Polish, Portuguese, German, Italian, Swedish and French entrepreneurs. A quarter of responders have already launched crowdfunding campaigns, of whom the campaigns of two persons

[19] 2 Portuguese, 1 Polish, 2 French, 1 German.

were elements of the 200-element strong Kickstarter database examined over the course of the study.

The number of observations were relatively low; thus, the entrepreneurial questionnaire results were primarily applied over the course of the evaluation of the hypothesis to provide refinement of the analytical results of the database.

In either case, the studied databases are not to be considered representative.

5.4. The content and interpretation of the most important indicators used in the analysis

Innovation content:

- Or the extent of innovation, novelty content, improvement of consumer utility over the course of interpreting the results and employing them as synonyms.

A total of nine binary variables were introduced to capture innovation content. Of these, experts in the field may be familiar with eight so-called „consumer utility dimensions“ from the customer utility map of the Kim- Mauborgne author duo (2010), with the nine being the existence of the patent (or pending patent application).

The customer utility dimensions cover the extent and areas to/in which the presented product or service provides something new to the supporters of the campaign as compared to what is already known.

1) „Use (Fit to Purpose)“: How suitable the product is for its intended purpose – e.g., how precisely and well the digital tape measure measures.
2) „Simplicity“: How easy and simple its use is.
3) „Convenience“: Does use improve the comfort level of the purchaser (supporter), or is it more convenient to use it than competitor products.
4) „Fun and Image“: Does it provide a fun experience, a sense of belonging to the community, does it entertain? Let us consider the case of luxury watches and

products for children manufactured with an appealing design, an entertaining aspect, alongside its primary function.

5) „Risk (Reduction)“: Whether it reduces user (supporter) side risk – even if only by finding out whether the person employs the product – e.g. does not forget important things, or the risk potentially arising over the course of the product's use decreases as compared to the risk with using another product.
6) „Maintenance“: Requires less care, promising simpler or cheaper maintainability as compared to other solutions.
7) „Environmental friendliness“: Environmental consciousness considerations were taken into account over the course of the development of the product or service, or have assisted the protection of the environment.
8) „Compatibility“: The solution is compatible with solutions that are already possessed and used by the buyer (supporter). (E.g. a smart device is easily connected and is compatible with multiple operating systems)

I examined these variables individually as well and also compiled them into an Innovation Indicator, which is the sum of the binary variables (0.1), thus it assumes a value between 0 and 9.

Quality and Trust Indicators:

Over the course of the examination of the respective motivation of crowdfunding players and socio-economic drivers defining the phenomenon, experts researching the topic have come to the conclusion that winning over supporters – meaning a successful outcome – is an „issue of trust“. It can be achieved through characteristics that can reduce the sense of uncertainty of a supporter regarding how trustworthy the campaign founder is, and whether the supporter can rely on receiving the given product. This can be interpreted as a kind of principal-agent dilemma, the backdrop of which has been studied by multiple authors (Lovas, 2016, Mollick, 2014).

Over the course of the study I have grouped the following variables, guided by the principle of how the sense of security of the supporter can be improved, whether they suggest that the campaign is of „high quality“.

The **Trust/Quality indicator of the campaign** encompasses the following variables:

1) Personal anecdote: The campaign founder shares a personal anecdote about himself/herself, such as what had motivated them to launch the campaign.
2) Team introduction: The introduction of the project implementation team (the members of the enterprise).
3) Developmental Schedule: Whether they publish a developmental schedule.
4) Risk management plan: Whether they publish a risk management plan: more significant risk specifically associated with the risk and a plan regarding its management.
5) Financial plan: Whether they publish a budget – main expenditures, items, potential revenue,
6) Social proof: Whether they possess social proof – is there applicable news or recommendation on a known forum (e.g. Forbes article)
7) Video: Whether the campaign has a video.

6. METHODS USED

Of primer research methodologies, surveys utilizing interviews and questionnaires had been utilized.

In the interest of learning of the knowledge, perspectives and experience on crowdfunding of the *stakeholders of entrepreneurial financing*, *semi-structured in-depth interviews had been conducted.* Responses given to structured questions have been subsequently clarified, typically by text analysis, to a small extent by content analysis (Babbie, 2008), which enabled the classification and analysis of the collected information. In the interest of ensuring the expertise in special fields and those asked, the selection of the prospective responders had taken place through recommendations, via snowball sampling (Babbie, 2008).

Over the course of the *Entrepreneur Questionnaire Survey*, an English language, on-line, unassisted questionnaire (Babbie, 2008) had been sent to the entrepreneur ecosystems and groups, with language that took into account the characteristics and knowledge of the target group. Adapting to the nature of the studied subject field, closed-ended, semi closed-ended, and open-ended questions had been posed. Naturally, the questionnaire began with „warmup" questions and demographic questions, and affected the position and funding opportunities of the enterprise and the prejudices, opinions, and experience of the entrepreneur pertaining to crowdfunding in a separate section. In case of certain questions on importance and strength of effects, a 4-point attitude scale „forcing" an unequivocal position was employed. The avoidance of errors in content, format and logic was ensured by edits on the basis of experience of 5 responders. Their responses had not been analyzed.

The analyzed database was built upon the information stored in the CrowdBerkeley database, which has been expanded in three ways to comply with study requirements.

(1) In the interest of adapting to the objective of the study, data derived from secondary data that could be accessed in the original database have been generated; these variables included contribution amount per single supporter, the length of the campaign, % of funding, and the country of launch.

(2) New variables have been defined to record the results of the expert content analyses of the campaigns. Of the newly established variables, the indicator of innovation content is of exceptional importance – it has captured the appearance of 8 consumer utility dimensions (Kim- Mauborgne, 2000) with the aid of binary variables, and also took into account whether the enterprise has already submitted a patent application, and the non/for profit nature of the campaign.

(3) The examination of Kickstarter founder profiles required additional research and data gathering and the categorization of supporter comments. In the event of missing information in connection with the operation of the enterprise, its size, and the availability of its product, information filtered on the basis of searches on Linkedin, Bloomberg and Google searches have enabled the completeness of the database. Research and analysis conducted under Sections (2) and (3) had expanded threefold the circle of analyzable variables associated with a given campaign.

Multi-variable statistical methodologies have been employed over the course of the analysis of the 200-element strong project database.

I performed the analysis of the relationships and correlations between individual variables and changing groups in accordance with research methodological recommendations (Malhotra, 2002, Füstös 2010, 1985, Kovács, 2014).

In case of the examination of the relationships between the variables measured on the ordinal scale, I employed *cross-tabulation analysis* – thus, for example, when examining the first hypothesis, over the course of the analysis of the correlation between the type of founder actor and the categorized result variables of the campaign. Over the course of the examination of the correlation between the quality indicators of the innovation content and of the campaign as measured on a ratio scale, and the result variables showing the success of the campaign and the descriptive parameters of the campaign, *multi-variable regression* and *discriminant analysis* had been employed, while over the course of the study of the relationship between individual indicators and a given result variable, *linear regression* had been used.

Some additional considerations regarding the application of multi-variable analytical methodologies used over the course of the study of the hypotheses:

When running the regression analyses, I had typically examined the variables with the Enter method. In spite of the fact that this may have yielded an outcome that non-relevant variables remain in the model, it had simplified the validation of applicable academic results and my own assumptions.
In some cases, I later employed the Backward/Stepwise filtering process in the interest of including only significant variables into the final models that provided individual questions. Where the size of the table allowed, I presented the table containing parameter estimates, including the others in the Attachment.

Over the course of the analysis of the projects, we examined 200 elements, subjecting them to a detailed evaluation, 75% of which was successful. Our goal was to explore the characteristics of successful – as successful as possible – projects, emphatically as a function of innovation content. As the individual methods typically require the existence of special application conditions, multiple variables had been introduced to capture identical phenomena, but on varied measurement scales or category numbers.
Thus, for example, campaign success
– by which we mean the idea of how effective the effort initiating the launch of the campaign was, how much the founder had collected, how many supporters were acquired, and to what extent the target amount had been exceeded –
had been captured as a *continuous variable* (success indicator, generated from the sum of the normalized values of the sample of the three listed variables), as a *binary variable* (successful/unsuccessful), and as the variable of the two kinds of nominal categories (4 elements - unsupported („uninterested”,unsuccessful”,successful”,extremely successful) (5 elements – „entirely uninterested”,un- or just barely successful”,successful”,very successful”,extremely successful).
Consequently, methodological constraints have not played a limited role, allowing for a much more subtle picture of the respective role of individual variables.

15. Table: Applying the various variables, the estimation of successful campaign outcome, and the significant[20] variables of innovation indicator in the given model.

Campaign capture	Method	Forecast potential of model	Significant variables	Not significant variables
Successful Unsuccessful	Logistics regression analysis	73%	Image, Convenience, Environmentally friendly aspect, Compatibility.	Use, Simplicity, Maintenance, Patent, Risk
Uninterested, Unsuccessful, Successful, Extremely successful	Multinomial logistic regression	61%	Simplicity Image, Environmentally friendly aspect, Compatibility	Use,, Risk, Maintenance, Patent Convenience
Completely uninterested, Un-, or just barely Successful, Successful, Very Successful, Extremely Successful	Multinomial logistic regression	43.5%	Convenience Image	Use, Simplicity, Risk Environmentally friendly aspect, Compatibility, Maintenance, Patent
Uninterested, Unsuccessful, Successful, Extremely successful	Discriminant analysis[21]	44%	Simplicity Image, Environmentally friendly aspect, Convenience Compatibility	Use, Risk

Source: Results compiled by the author.

The table makes it apparent how the binary variables (that represent certain dimensions of consumer utility, or having a patent) role have changed when predicting the outcome of the campaign using different scales and analytical methods. To determine whether the given campaign is going to be successful or unsuccessful, the variables of Fun/Image (the for the feeling it conveys for the customer), Convenience (is it more convenient than another product), Compatibility (whether it is compatible with the existing tools of the supporter), and Environmentally Friendly Aspect (more environmentally friendly than

[20] In case of discrimination analysis, the variables have explained 86% of variance.
[21] As the conditions concerning the application of discriminant analysis have not been fulfilled, the model underestimates; still, however, it provided interesting additional information for aiding the exploration of the variables of innovation content.

similar solutions or they special attention to the issue during development) were used in the calculation. With the aid of these identical variables – without knowing the other campaign indicators – the group in which the given campaign was supposed to belong to could be estimated 61% of the time within the given sample. When I attempted to categorize the campaign in a more differentiated manner than this, however, only the Convenience and Image variables proved to be relevant.

Consequently, it justified the capture of individual phenomena via multiple types of variables as well.

7. DISSERTATION RESULTS

The objective of the study was to fill in gaps in the applicable recommendations and know-how in entrepreneurial crowdfunding and contribute to the financial toolbox of technology-based innovation projects, as well as explore new correlations between the innovation content of crowdfunding campaigns and their respective outcomes. This objective has been achieved through four hypotheses. The theses were supported through the examination of multiple subpoints. In all cases, the academic literature research and conducted primer research, as well as the correlations detected over the course of the database analysis were jointly taken into consideration.

7.1. Role and Positioning of Reward-based Crowdfunding

Based on a review of the academic literature, crowdfunding definitely appeared to be a corporate financing alternative of note; however, its system of recommendations was even less developed, particularly as it pertained to technology-based innovation projects. With the first hypothesis, the place and role of reward-based crowdfunding is getting clarified, expressed as follows:

H1: Reward-based crowdfunding has a place among corporate funding sources during the initial stage of the life of enterprises that are built on technology-based innovation or are implementing the same.

a) Crowdfunding is a relevant supplement to traditionally available corporate financing formats.

In case of the questions regarding the role of crowdfunding in technology related innovation projects „To what extent can it be considered a complementary source or a competitor of the traditional financing methods?" all of the responders considered it to be a complementary source that can extend the number and volume of the resources being available for the enterprises. 85% of responders thinks that the (reward based[22]) crowdfunding has advantages compared to the traditional financing methods.

[22] At the begining of the questionnaire it was clarified that the whole survery was focusing on the reward-based crowdfunding of technology related innovation projects, so it was not explicitly mentioned at each question.

b) Reward-based crowdfunding plays an outstanding role in the initial stage of the life-cycle of enterprises implementing technology-based innovation.

As far as the question of which life cycle stage of a technology-based innovation planning enterprise does reward-based crowdfunding assume exceptional importance, 35% of experts named the pre-seed stage. 25% opined that its application could be recommended in the pre-seed and seed stage, 30% positioning it in the seed stage, while according to one responder, its application can be recommended in every stage of the life of the enterprise (even in the growth and maturity stage). 60% of responders had unequivocally named the early stage as the optimal period of application.

c) Reward-based crowdfunding can be a competitor to traditional funding sources.

As far as the question of whether reward-based crowdfunding can be a competitor of traditional funding sources or if it can replace traditional sources over the long term, 60% of responding experts have given an unequivocal, categorical negative response. 30% of experts considered it conceivable, however, that it can entirely replace certain traditional funding sources in technological developments. At this time, the 3F-s, bank financing, venture capital, as well as angel investor capital had all been checked. 10% of responders – even though they had not given a categorically negative response – had not considered it a likely outcome.

This subpoint helped to clarify the relationship of crowdfunding and traditional methods, it confirmed its complementary nature while stating that it does not replace the traditional sources – according to the responders.

d) Reward-based crowdfunding is capable of replacing other, traditional entrepreneurial funding sources that would be utilized by enterprises implementing technology-based innovation.

Even though the majority of experts have agreed that reward-based crowdfunding cannot be competitor to traditional funding sources, 95% of them named at least one traditional

funding source that could be replaced by this fundraising method. Every third responder had voluntarily named at least two such funding sources.

According to 35%, in some cases, the application of reward-based crowdfunding can replace the inclusion of venture capital. 25% each marked bank financing, angel investor capital, and 3F sources. 10% each marked bootstrapping and funding sources provided by business incubators, which could be replaced by crowdfunding.

According to 30% of entrepreneur responders, crowdfunding could be capable of covering the entire funding requirements of a startup enterprise launching with a technology-based project. According to 60%, it is worth combining it with other funding sources, as the application of other sources could garner other advantages; 10% stated that it could be suitable for the funding of a project, but it cannot cover the cost of launching the enterprise. The opinion of the entrepreneurs – that it is capable of replacing other funding sources, while at the same time it is worth combining it with them – matches the opinion of entrepreneurial financing experts.

e) The reward-based crowdfunding campaign of an enterprise planning to implement technology-based innovation positively influences the continued funding opportunities of the enterprise.

According to 95% of experts, prior to fundraising, the evaluation of the enterprises was positively impacted having launched a reward-based crowdfunding campaign in the past. For close to half of responders, the fact itself that the enterprise had had its idea weighed on some kind of for-profit platform could be adjudged positively even if that effort had not succeeded. According to a significant proportion of financiers, after a successful campaign, enterprises can obtain funding subject to unequivocally better terms from even the traditional players, thus they considered it decidedly a recommended course of action prior to, for instance, the inclusion of more significant venture capital funding.

f) Reward-based crowdfunding can translate into a point of entry in the process of becoming an entrepreneur.

The aim of the subsection was to explore the potential significance of crowdfunding in advancing the cause of becoming an entrepreneur. Does it truly „democratize” this

transformation and assist many on starting out on this path? Expert opinions split the most on this topic. Two of 20 responders did not offer an opinion, with the remainder of the responses split equally among affirmative and negative positions. According to 20% of experts the answer is yes, crowdfunding utilization can be a gateway to the process of becoming an entrepreneur. 10% claimed not at all, with 25% stating „more likely yes", and 35% „more likely no", thus by combining the categories, the ratio of affirmative to negative responses is 45-45%.

80% of entrepreneur responders agreed with the claim of that a successful campaign would motivate them to launch their enterprise. 50% agreed completely, 30% partially. 15% of responders did not agree with the claim. In the case of this subsection, the responses of the responders were much more positive than expert statements.

Based on the empirical results of the research, it can be stated that reward-based crowdfunding is an important supplement in the financing of enterprises planning technology-based innovation, it can be a real alternative to known enterprise funding sources, advancing entrepreneurial development and expanding the circle of available funding sources.

Recommendations and considerations points derived from the primer research results supporting the first hypothesis can be summarized and represented according as it follows.

7.1.1. Overview on the recommended cases of the application of reward-based crowdfunding

16. Table: The application matrix of reward-based crowdfunding campaigns
Recommended uses and features of the application distinguished by the availability of budget for the campaign and the availability of the product.

	Budget for the campaign available	No or limited budget for the campaign
Product is available[23]	Campaign: - Large budget marketing campaign - Can handle a larger supporter (sales) volume	Campaign: - Low budget campaign - Lower price, lower volume of orders – otherwise very high risk

[23] Prototype is ready, the mass production is prepared.

	Goal: - Product validation tool prior to the launch of new product line; - More expensive products, larger requested sum (may increase risk); - High price, niche B2C product. Phase: Any phase – seed, or even growth Can be a regular fundraising effort, a regular sales and communications channel; • For operational small and medium enterprises, instead of any other funding source.	- smaller campaign budget - it can manage only a smaller order volume without risk (or in case of extremely simple product) Goal: - To acquire initial customers; - for the purpose of creating media buzz; - To estimate potential of the product and assess market value. Phase: Early (pre-seed, start-up stage) In case of easy-to-understand, innovative, easily manufactured ideas; In place of VC, or as a preemptive step (but it cannot substitute for smart money) •
Product is not available[24]	Campaign: High quality, more expensive campaign High or moderate amount of orders (depending from the investment need of production) Goal: Validation of product concept Prior to the diversification of the product portfolio Global reach, gaining media attention Marketing tool to boost up initial sales	Campaign: DIY campaign, Low campaign budget, Low, manageable quantities Rather low order volume (depending from the type of product) Goal: Validation of idea, improvement of entrepreneurial spirit Phase: Concept and pre-seed phase, as complementer or instead of 3F and bootstrapping.

[24] Conceptual design exists, a few working prototype and visuald materials.

	Phase: Seed (later seed), substitute of VC in case of moderate growth plans, complementer if high budget is necessary • In the case of quickly manufacturable products, a larger campaign amount and number of orders can be managed timely, with existing abilities and capacities and company can handle delivery.	In case of clearly understandable niche project with moderate manufacturing cost, potentially with strong fun or factor (hobbies where customers are extremely emotion driven) or non-profit characteristics (children education or medicine), and a personal anecdote attracting sympathy.

Source: Results compiled by the author. (Katona, 2018 – in press)

After analyzing the 200 projects, four main business groups could have been distinguished based on the project features:

1. Serial Kickstarter User Businesses
2. Business being born – Well established hobby projects growing to the market
3. Established businesses opening to new market segment with new or modified product
4. Entrepreneur being born – personal projects.

7.2. The connection between innovation content and campaign success

To date, just two authors have examined the correlations between the innovation content of campaigns launched on reward-based platforms, and the success of the campaigns, in the context of technology-based projects. One of them had established the radical or incremental nature of innovation and presented its implementability[25], as factors that influence campaign success (Chan – Pahrankangas, 2017), while Mukherjee et. al. (2017) had employed a text analysis application to determine whether the appearance of terms pertaining to innovation or utility content result in changes insofar as the campaign

[25] Independent, private individuals not familiar with the topic, performed the content analysis through a paid platform, based on a list of questions compiled by the researchers.

outcome is concerned. In the case of this study, the objective measurement of innovation content was enabled by expert evaluation, which measured innovation content with the number of consumer utility dimensions appearing in the campaign on an interval scale of 0-8. This was supplemented with information regarding the existence of a patent or patent application.

H2: Over the course of the crowdfunding campaigns of technology-based innovation projects launched on Kickstarter, the innovation content of the projects is a relevant factor from a campaign outcome perspective.

Employing a regression model, I compared the role of the innovation indicator with other variables influencing a successful outcome that are mentioned in the academic literature. These variables included the length of the campaign (Belleflame et. al, 2014, Mollick, 2014, Lukkrainnen, 2016), the requested campaign sum (Mollick, 2014, Belleflame et al., 2014, Agrawal, et al., 2014), and the quality indicators of the campaign (which contains, among other, whether the campaign possesses a video (Mollick, 2014, Petitjean, 2016) or if it shares personal anecdotes). I performed a multi-variable regression to do so, where the dependent variable was successful campaign outcome (binary variable).

The model had an 82% success rate in estimating the success of a given campaign. The of innovation content indicator that captures the utility dimensions and the existence of patents proved to be significant as well on 5% significance level. Its per unit change improved the probability of the campaign being in the successful group by 70%, in the analysed sample.

17. Table. Binary logistic regression: campaign success (successful or unsuccessful), innovation content indicator, quality indicators, type of creator (private person, 2-11-person team, established business with more than 12 employee), campaign length and funding goal - 83% estimate.

Classification Table[a]

	Observed		Predicted		
			II._Sikeres kampány (I/N)		Percentage Correct
			.00	1.00	
Step 1	II._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	24	126	84.0
	Overall Percentage				83.5
Step 2	II._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	24	126	84.0
	Overall Percentage				83.5

a. The cut value is .750

Block 1: Method = Backward Stepwise (Wald)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	112.417	4	.000
	Block	112.417	4	.000
	Model	112.417	4	.000
Step 2[a]	Step	-.017	1	.897
	Block	112.401	3	.000
	Model	112.401	3	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	112.517[a]	.430	.637
2	112.533[a]	.430	.637

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	9.943	8	.269
2	7.154	8	.520

Correlation Matrix

		Constant	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	K_Par_KAMPANY_HOSSZA_KATEGORIA2	K_PAR_CELOSSZEG_KATEGORIA_UJ
Step 1	Constant	1.000	-.088	-.598	-.401	-.266
	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	-.088	1.000	-.028	-.195	-.276
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	-.598	-.028	1.000	-.056	-.228
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	-.401	-.195	-.056	1.000	-.163
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.266	-.276	-.228	-.163	1.000
Step 2	Constant	1.000	-.186	-.677		-.367
	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	-.186	1.000	-.040		-.316
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	-.677	-.040	1.000		-.243
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.367	-.316	-.243		1.000

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	1.040	.197	27.919	1	.000	2.830	1.924	4.164
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.547	.184	8.831	1	.003	1.728	1.205	2.478
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	.036	.276	.017	1	.897	1.036	.603	1.780
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-1.096	.263	17.342	1	.000	.334	.200	.560
	Constant	-1.198	1.045	1.313	1	.252	.302		
Step 2[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	1.046	.193	29.297	1	.000	2.845	1.948	4.154
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.548	.184	8.921	1	.003	1.730	1.207	2.480
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-1.091	.260	17.635	1	.000	.336	.202	.559
	Constant	-1.144	.957	1.429	1	.232	.319		

a. Variable(s) entered on step 1: Q_SUM_MINOSEG_INDIKATOR_qualityindicators, I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL, K_Par_KAMPANY_HOSSZA_KATEGORIA2, K_PAR_CELOSSZEG_KATEGORIA_UJ.

Source: Own result of the author.

Point (a) of the hypothesis, therefore, that innovation content has a positive impact on the success of the campaign can be justified.

a) Innovation content positively influences the success of the campaign.

Based on the results of the cross-tabulation analysis, there was a significant, positive, weaker than average relationship detectable between innovation content and the success of the campaign, similarly in the following sections from b) to d).

b) The higher the number of utility dimensions in which the emphasis of innovation of the product or service appears, the higher the level of funding that can be achieved over the course of the reward-based crowdfunding of technology-based innovation projects.
c) The higher the number of utility dimensions in which the emphasis of innovation of the product or service appears, the higher the number of supporters of a given project;
d) The higher the number of planned utility dimensions in which the emphasis of innovation of the product appears, the higher the amount of donations achieved.

In order to explore how value presented in the different consumer utility dimensions contributes to campaign success, the following regression studies were conducted, as I wrote in the introduction, from multiple approaches.

18. Table: Logistics regression examination – Campaign Success (successful/unsuccessful) and Innovation Content Indicator - the appearance of certain consumer utility dimensions and patent in the campaign.

Method: Enter

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	76.619	9	.000
	Block	76.619	9	.000
	Model	76.619	9	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	148.315[a]	.318	.471

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[a]

			Predicted		
			II._Sikeres kampány (I/N)		Percentage Correct
	Observed		.00	1.00	
Step 1	II._Sikeres kampány (I/N)	.00	37	13	74.0
		1.00	28	122	81.3
	Overall Percentage				79.5

a. The cut value is .750

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	I_HASZNALAT_Fit_to_purpose_BIN	20.660	12661.204	.000	1	.999	938449464
	I_Egyszeruseg_Easiness_BIN	.383	.653	.344	1	.558	1.467
	I_KENYELEM_Comfort_BIN	1.346	.586	5.283	1	.022	3.841
	I_KOCKAZATCs_risk_reduction_BIN	.566	.473	1.436	1	.231	1.762
	I_IMAZS_image_BIN	1.510	.467	10.450	1	.001	4.526
	I_KORNYEZETB_eco_friendly_BIN	-1.524	.636	5.745	1	.017	.218
	I_KOMPATIBILITAS_compatibility_BIN	1.202	.528	5.182	1	.023	3.327
	I_FENNTARTAS_maintenance_BIN	.691	.825	.701	1	.402	1.995
	I_SZABADALOM_BIN	-1.343	.854	2.473	1	.116	.261
	Constant	-22.788	12661.204	.000	1	.999	.000

a. Variable(s) entered on step 1: I_HASZNALAT_Fit_to_purpose_BIN, I_Egyszeruseg_Easiness_BIN, I_KENYELEM_Comfort_BIN, I_KOCKAZATCs_risk_reduction_BIN, I_IMAZS_image_BIN, I_KORNYEZETB_eco_friendly_BIN, I_KOMPATIBILITAS_compatibility_BIN, I_FENNTARTAS_maintenance_BIN, I_SZABADALOM_BIN.

Source: Results compiled by the author.

When we look at the entire model, the model is significant. On the basis of the pseudo R squares, the model's fit is weaker. In connection with the level of significance of the variables, it can be stated that in the model, the variables „Use“„Simplicity“„Maintenance”, „Risk“ were not significant.

The variables „Image“„Convenience“„Environmentally Friendliness” aspects, and „Compatibility“ were significant.

The model accurately estimated unsuccessful campaigns 74% of the time, with this figure increasing to 81% in the case of successful ones. In total, it had forecast the successful campaign outcome 79.5% of the time, which is a 29.5% increase when we assume that we do not know anything about the given campaign.

The cut off value was set at 0.75, which is identical to the ratio of successful and unsuccessful projects, thus predicting either group at the same ratio.

Omitting non-significant variables and re-running the model, the explanatory force dropped to 73%, but it had reached this level of precision with the application of 4 instead of 9 variables.

19. Table: Logistics regression analysis - Model – Campaign Success (successful/unsuccessful) and the appearance of certain consumer utility dimensions in the campaign. Method: Stepwise

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	76.619	9	.000
	Block	76.619	9	.000
	Model	76.619	9	.000
Step 5[a]	Step	-1.964	1	.161
	Block	71.468	5	.000
	Model	71.468	5	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	148.315[a]	.318	.471
5	153.466[a]	.300	.445

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.748	6	.577
5	2.633	4	.621

Contingency Table for Hosmer and Lemeshow Test

		II._Sikeres kampány (I/N) = .00		II._Sikeres kampány (I/N) = 1.00		
		Observed	Expected	Observed	Expected	Total
Step 1	1	20	17.765	0	2.235	20
	2	11	11.700	9	8.300	20
	3	4	6.108	15	12.892	19
	4	4	5.284	19	17.716	23
	5	2	2.007	11	10.993	13
	6	6	4.595	45	46.405	51
	7	2	1.874	32	32.126	34
	8	1	.667	19	19.333	20
Step 5	1	19	18.506	2	2.494	21
	2	9	9.101	7	6.899	16
	3	7	6.035	13	13.965	20
	4	3	5.961	20	17.039	23
	5	2	1.958	7	7.042	9
	6	10	8.440	101	102.560	111

Classification Table[a]

			Predicted		
			II._Sikeres kampány (I/N)		Percentage Correct
	Observed		.00	1.00	
Step 1	II._Sikeres kampány (I/N)	.00	37	13	74.0
		1.00	28	122	81.3
	Overall Percentage				79.5
Step 5	II._Sikeres kampány (I/N)	.00	38	12	76.0
		1.00	42	108	72.0
	Overall Percentage				73.0

a. The cut value is .750

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	I_HASZNALAT_Fit_to_purpose_BIN	20.660	12661.204	.000	1	.999	938449464	.000	.
	I_Egyszeruseg_Easiness_BIN	.383	.653	.344	1	.558	1.467	.408	5.275
	I_KENYELEM_Comfort_BIN	1.346	.586	5.283	1	.022	3.841	1.219	12.102
	I_KOCKAZATCs_risk_reduction_BIN	.566	.473	1.436	1	.231	1.762	.698	4.450
	I_IMAZS_image_BIN	1.510	.467	10.450	1	.001	4.526	1.812	11.304
	I_KORNYEZETB_eco_friendly_BIN	-1.524	.636	5.745	1	.017	.218	.063	.757
	I_KOMPATIBILITAS_compatibility_BIN	1.202	.528	5.182	1	.023	3.327	1.182	9.363
	I_FENNTARTAS_maintenance_BIN	.691	.825	.701	1	.402	1.995	.396	10.055
	I_SZABADALOM_BIN	-1.343	.854	2.473	1	.116	.261	.049	1.392
	Constant	-22.788	12661.204	.000	1	.999	.000		
Step 5[a]	I_HASZNALAT_Fit_to_purpose_BIN	20.880	12668.224	.000	1	.999	1.169E+9	.000	.
	I_KENYELEM_Comfort_BIN	1.584	.528	9.008	1	.003	4.875	1.733	13.716
	I_IMAZS_image_BIN	1.447	.436	11.037	1	.001	4.251	1.810	9.983
	I_KORNYEZETB_eco_friendly_BIN	-1.718	.606	8.048	1	.005	.179	.055	.588
	I_KOMPATIBILITAS_compatibility_BIN	1.217	.507	5.753	1	.016	3.378	1.249	9.133
	Constant	-22.631	12668.224	.000	1	.999	.000		

a. Variable(s) entered on step 1: I_HASZNALAT_Fit_to_purpose_BIN, I_Egyszeruseg_Easiness_BIN, I_KENYELEM_Comfort_BIN, I_KOCKAZATCs_risk_reduction_BIN, I_IMAZS_image_BIN, I_KORNYEZETB_eco_friendly_BIN, I_KOMPATIBILITAS_compatibility_BIN, I_FENNTARTAS_maintenance_BIN, I_SZABADALOM_BIN.

Source: Results compiled by the author.

When we examine innovation content in the interest of distinguishing successful and unsuccessful projects, the four variables that were selected to show the main difference among the projects analyzed in the sample were the „Convenience“,„Image“,„Environmentally Friendly Aspect“, and „Compatibility“ variables.

The variables that capture innovation content do not participate in distinguishing successful and unsuccessful projects. This might be the case in some of the variables („Use“, „Simplicity“) due to the fact that they appeared in a significant number of campaigns, thus they did not make a difference, while the variables „Maintenance“ and „Patent“ were low frequency variables.

Based on the Exp(B) values in the examined sample, the display of the „Convenience“, „Image“ and „Compatibility“ utility dimensions doubled (388%, 325%, 238%) the probability of a successful outcome of the campaign.

By examining the success of the campaign and the indicators of innovation content via multinomial logistic regression, I obtained the following results for each variable.

20. Table: Multinomial logistic regression analysis – the examination of the correlation between Campaign Success (uninterested, unsuccessful, successful, very successful, extremely successful) and given consumer utility dimensions. Method:Enter.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	295.766			
Final	167.379	128.387	36	.000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	79.509	148	1.000
Deviance	89.752	148	1.000

Pseudo R-Square

Cox and Snell	.474
Nagelkerke	.496
McFadden	.208

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	167.379[a]	.000	0	.
I_HASZNALAT_Fit_to_purpose_BIN	175.867	8.488	4	.075
I_Egyszeruseg_Easiness_BIN	172.272	4.893	4	.298
I_KENYELEM_Comfort_BIN	177.013	9.634	4	.047
I_KOCKAZATCs_risk_reduction_BIN	171.599	4.220	4	.377
I_IMAZS_image_BIN	185.142	17.763	4	.001
I_KORNYEZETB_eco_friendly_BIN	173.506	6.127	4	.190
I_KOMPATIBILITAS_compatibility_BIN	175.023	7.644	4	.106
I_FENNTARTAS_maintenance_BIN	174.186	6.807	4	.146
I_SZABADALOM_BIN	168.986	1.607	4	.807

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Classification

Observed	Predicted					
	teljesen érdektelen	nem, vagy éppen csak sikeres	sikeres	nagyon sikeres	extrém sikeres	Percent Correct
teljesen érdektelen	26	4	4	0	0	76.5%
nem, vagy éppen csak sikeres	2	15	20	5	0	35.7%
sikeres	5	9	37	11	0	59.7%
nagyon sikeres	0	6	21	16	0	37.2%
extrém sikeres	0	0	16	3	0	0.0%
Overall Percentage	16.5%	17.0%	49.0%	17.5%	0.0%	47.0%

Source: Results compiled by the author.

Model fit: by involving every variable in the analysis, the H1 hypothesis concerning the ineffectiveness of the variables, could be discarded. Based on the pseudo-R squares, the model is a mediocre fit, while according to the McFadden coefficient, it is weak.

By examining the significance of individual variables, we can state that at a 95% level of significance, the variables „Use”, „Simplicity„ „Risk”, „Environmentally Friendly

Aspect", „Compatibility", „Maintenance", and „Patent", were not significant. Significant variables: „Convenience", and „Image."

21. Table: Multinomial logistic regression model – the examination of the correlation between Campaign Success (uninterested, unsuccessful, successful, very successful, extremely successful) and the appearance of individual consumer utility dimensions. Model: Stepwise.

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	161.163			
Final	69.142	92.021	12	.000

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	15.820	16	.466
Deviance	18.528	16	.294

Pseudo R-Square

Cox and Snell	.369
Nagelkerke	.386
McFadden	.149

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	69.142[a]	.000	0	.
I_KENYELEM_Comfort_BIN	92.506	23.364	4	.000
I_IMAZS_image_BIN	92.642	23.500	4	.000
I_KOMPATIBILITAS_compatibility_BIN	83.473	14.330	4	.006

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Classification

Observed	Predicted					
	teljesen érdektelen	nem, vagy éppen csak sikeres	sikeres	nagyon sikeres	extrém sikeres	Percent Correct
teljesen érdektelen	25	2	5	2	0	73.5%
nem, vagy éppen csak sikeres	2	4	28	8	0	9.5%
sikeres	5	1	49	7	0	79.0%
nagyon sikeres	0	3	31	9	0	20.9%
extrém sikeres	0	0	18	1	0	0.0%
Overall Percentage	16.0%	5.0%	65.5%	13.5%	0.0%	43.5%

Source: Results compiled by the author. See the Attachment for the parameter estimates.

In the model the variables „Convenience", „Image" and „Compatibility" variables are significant. The model provides an accurate estimate in 43% of cases. In case of the „uninterested", „successful" and „very successful" projects, the average value would be 57.5%, but it can be seen – at least on the basis of innovation content – in the event of the regression model's 5 categories, it can no longer separate properly the „successful", "very successful" and „extremely successful" campaigns.

As a methodological experiment, I also examined the effect of given utility dimensions through discriminant analysis[26] to measure the level of success of the campaign. In an of itself, knowledge of the 9 variables improved the probability of the correct classification of the outcome of the campaign by 20% (to 44%) in the „disinterested[27]"„unsuccessful", „successful", „extremely successful" categories. When the campaign had to be classified into just the successful or unsuccessful binary variable interpreted outcomes, the binary regression model successfully assigned the campaign 80% of the time, exclusively on the basis of knowing the innovation content indicating variables.

22. Table: Discriminant analysis: Campaign Success – on the basis of sample composition (unsupported), unsuccessful, successful, extremely successful) and innovation content – utility dimensions and the existence of a patent, among binary variables[28]

Variables Entered/Removed[a,b,c,d]

Step	Entered	Wilks' Lambda											
						Exact F				Approximate F			
		Statistic	df1	df2	df3	Statistic	df1	df2	Sig.	Statistic	df1	df2	Sig.
1	2._Kompatibilitás	.744	1	3	196.000	22.515	3	196.000	.000				
2	2._Használat	.668	2	3	196.000	14.524	6	390.000	.000				
3	2._Környezetbarát	.609	3	3	196.000					11.854	9	472.296	.000
4	2._Életérzés	.558	4	3	196.000					10.506	12	510.922	.000
5	2._Egyszerűség	.510	5	3	196.000					9.761	15	530.429	.000

At each step, the variable that minimizes the overall Wilks' Lambda is entered.

a. Maximum number of steps is 18.

b. Minimum partial F to enter is 3.84.

c. Maximum partial F to remove is 2.71.

d. F level, tolerance, or VIN insufficient for further computation.

Wilks' Lambda

Step	Number of Variables	Lambda	df1	df2	df3	Exact F				Approximate F			
						Statistic	df1	df2	Sig.	Statistic	df1	df2	Sig.
1	1	.744	1	3	196	22.515	3	196.000	.000				
2	2	.668	2	3	196	14.524	6	390.000	.000				
3	3	.609	3	3	196					11.854	9	472.296	.000
4	4	.558	4	3	196					10.506	12	510.922	.000
5	5	.510	5	3	196					9.761	15	530.429	.000

[26] Taking into consideration that in case of certain variable types the models can under estimate the real degree of the correlation between variables due to the prerequisites not being fulfilled.

[27] Campaigns not supported by anybody.

[28] The conditions of multi-dimensional normal distribution and covariance matrices have not been fulfilled (or rather, due to the non-continuous nature of the variables, the Box'm test has not been run), thus it underestimates. The conditions for matching multidimensional normal distribution and covariance matrices were not met (and because of the non-continuity of the variables the Box'm test did not run), so the model is underestimated.

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.741[a]	85.6	85.6	.652
2	.116[a]	13.4	99.0	.323
3	.008[a]	1.0	100.0	.091

a. First 3 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 3	.510	130.885	15	.000
2 through 3	.888	23.007	8	.003
3	.992	1.605	3	.658

Standardized Canonical Discriminant Function Coefficients

	Function		
	1	2	3
2._Használat	.434	-.097	.899
2._Egyszerűség	.414	.366	-.347
2._Életérzés	.454	-.181	-.079
2._Környezetbarát	-.025	.917	.154
2._Kompatibilitás	.461	-.107	-.458

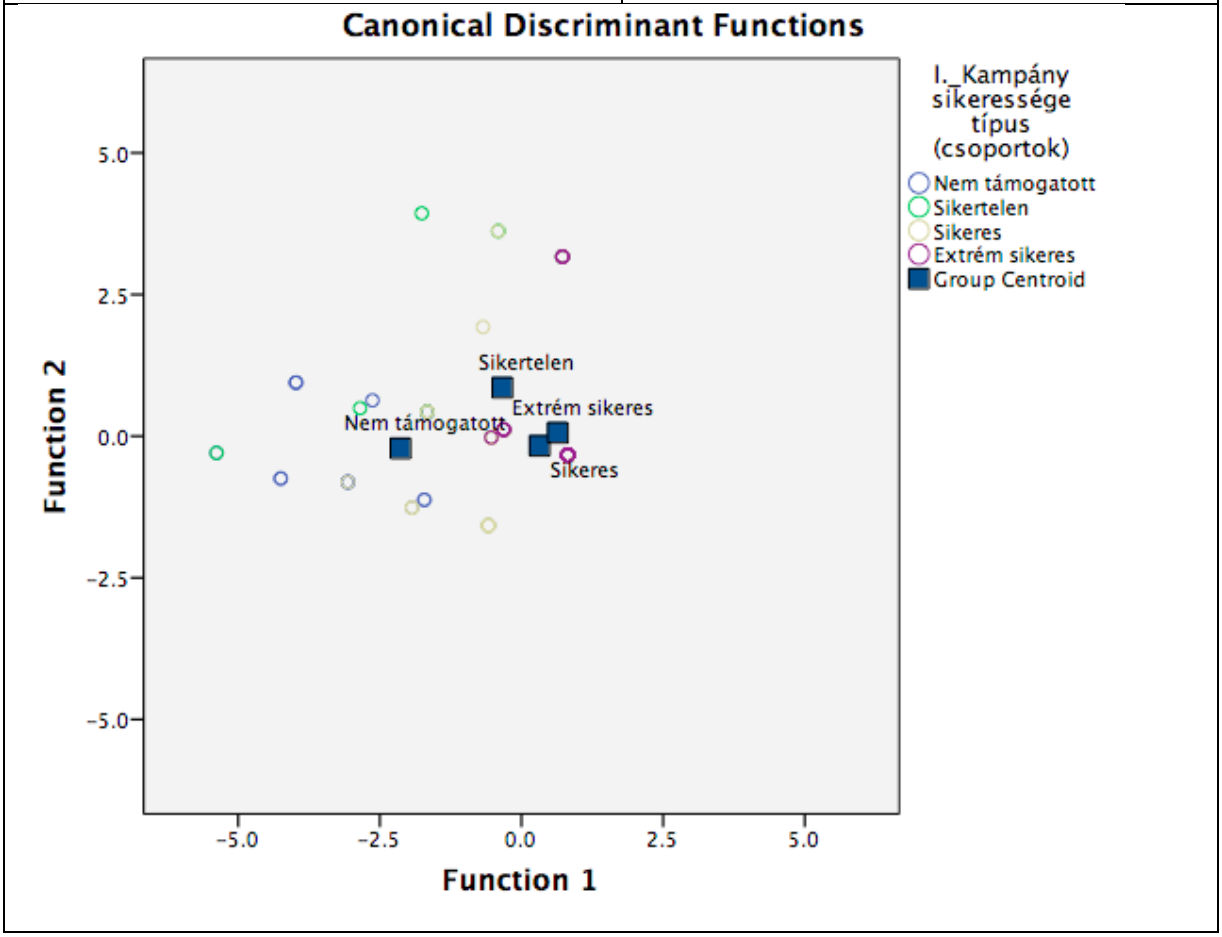
Structure Matrix

	Function		
	1	2	3
2._Kompatibilitás	.681*	-.019	-.313
2._Életérzés	.521*	-.210	-.108
2._Egyszerűség	.488*	.354	-.344
2._Kényelem[b]	.332*	.184	-.127
2._Fenntartás[b]	.072*	.022	.004
2._Környezetbarát	.048	.901*	.162
2._Szabadalom[b]	.094	.154*	-.001
2._Használat	.574	-.046	.783*
2._Kockázat csökkentés[b]	.043	.000	.059*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions
Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

b. This variable not used in the analysis.



Classification Results[a]

			Predicted Group Membership				
		I._Kampány sikeressége típus (csoportok)	Nem támogatott	Sikertelen	Sikeres	Extrém sikeres	Total
Original	Count	Nem támogatott	20	0	1	4	25
		Sikertelen	4	7	7	7	25
		Sikeres	5	5	29	69	108
		Extrém sikeres	0	4	6	32	42
	%	Nem támogatott	80.0	.0	4.0	16.0	100.0
		Sikertelen	16.0	28.0	28.0	28.0	100.0
		Sikeres	4.6	4.6	26.9	63.9	100.0
		Extrém sikeres	.0	9.5	14.3	76.2	100.0

a. 44.0% of original grouped cases correctly classified.

Source: Results compiled by the author.

The goal was to determine how we could distinguish the 4 categories on the basis of innovation content variables.

The application of three estimation functions provided the best outcome to delineate the groups. Based on the eigenvalues, the first function explains 85.6% of the variance of the dependent variable, thus it plays a significant role in separating the groups. With the inclusion of the second, the model explains 99% of the variance, with the last function explaining 1%. The last function is not significant and may be omitted. On the basis of the structure matrix, we can say that Function 1 and the Compatibility variable correlates well. This dimension of utility does not participate in Function 2, while in Function 3, the relationship is inverse. In the first function, the „Compatibility“ variable stands (there is a roughly medium strength correlation), while „fun”, „Simplicity”, and „Convenience“ are showing a significant, but relatively weak relationship, with the other variables being not significant or very weak. The direction of the relationship was positive for all the of the utility dimensions that were significant in Function 1. Function 2. is most highly dependent on the „Environmentally Friendliness“ variable, it distinguishes the groups accordingly. Function 3. explains 1% of variance and has a positive, stronger than medium correlation with the „Use (Fit to Purpose)“ variable.

According to the classification results, the model properly classified the cases into the four groups 44% of the time.

In the two dimensional latent variable space depicted by the two functions, the „unsupported“ projects are the most distinguished from the other groups, with the

centroids of „successful“ and extremely „successful“ functions are situated rather closely in the latent variables space.

Summary:

Based on the analyses, a significant and detectable positive correlation exists on a statistical level as well between innovation content and the success – and its variables - of the campaign; I was able to accept the H2 hypothesis, including all of its subsections. This relationship is relatively weak, however; in the examined sample, the development of innovation content had not shaped the outcome of the campaign in a particularly robust manner, and in and of itself is either not capable of forecasting campaign outcome, or at most in a limited fashion. However, higher innovation content was specific for the extremely successful campaigns.

After building an own model, it was clear, it can play a role in the prediction of campaign success, that will be explained in more detail in chapter 7.5.

7.3. The success of the crowdfunding campaign the two-year survival of enterprises

H3: The success of reward-based crowdfunding campaign is a positive indicator of the successful survival of enterprises implementing technology-based innovation (the enterprise continues to exist two years after the project)

Exploration of this hypothesis was interesting because there is a need of indicators that can reduce uncertainties about the survival of enterprises over the course of entrepreneurial development.

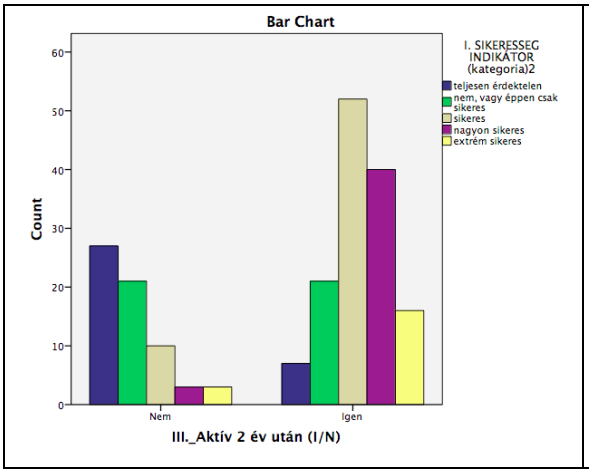
I used cross tabulation analysis to examine the relationship between the success of the campaign (category), activity after the project, the availability of the product, as well as the relationships generated from these variables. The indicator of campaign success (and their categories) and the post-life[29] (whether the product is available for order and the activity of the founder two years after the campaign) of the project or enterprise on the

[29] As it is possible that the project continues to exist but the enterprise transforms, and the reverse as well.

basis of the Somers' D scale (a dependent variable as it pertains to the post-life of the project) is statistically significant, with a rather weak but positive relationship.
The results of the cross tabulation supported the following conclusions:

a) The relationship between the success of the campaign and the 2-year survival (activity) of the enterprise.
b) There is a relationship between the success of the project and the 2-year survival (activity) of the enterprise.
c) There is a positive correlation between the success of the campaign and the post 2-year availability of the product.

24. Figure: Cross Tabulation Table Analysis, Campaign Success (5 element category) and 2-year survival.



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	63.222[a]	4	.000
Likelihood Ratio	64.830	4	.000
Linear-by-Linear Association	50.243	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.08.

Directional Measures

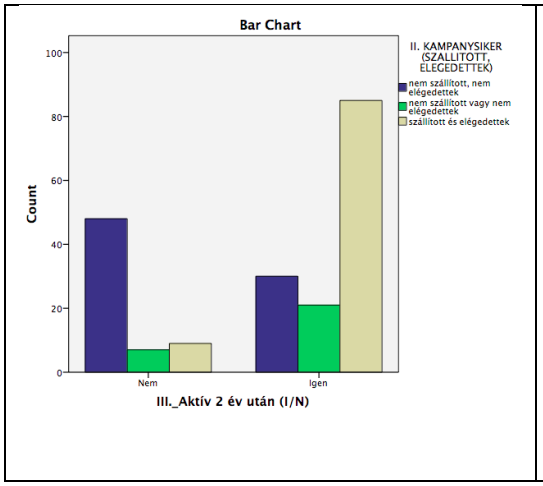
			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.183	.058	2.924	.003
		III._Aktív 2 év után (I/N) Dependent	.313	.113	2.325	.020
		I. SIKERESSEG INDIKÁTOR (kategoria) 2 Dependent	.123	.041	2.851	.004
	Goodman and Kruskal tau	III._Aktív 2 év után (I/N) Dependent	.316	.063		.000[c]
		I. SIKERESSEG INDIKÁTOR (kategoria) 2 Dependent	.080	.018		.000[c]
	Uncertainty Coefficient	Symmetric	.149	.033	4.440	.000[d]
		III._Aktív 2 év után (I/N) Dependent	.259	.057	4.440	.000[d]
		I. SIKERESSEG INDIKÁTOR (kategoria) 2 Dependent	.105	.024	4.440	.000[d]

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on chi-square approximation
d. Likelihood ratio chi-square probability.

Source: Results compiled by the author.

Based on the results, a significant, positive correlation can be shown between the two variables, positive but mild, according to the Lambda and Goodman Kruskal coefficients.

25. Figure: Cross Tabulation Table Analysis, Kickstarter Project Success – according to customer satisfaction (3 element category) and the activity of the campaign founder past 2-years).



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	53.631[a]	2	.000
Likelihood Ratio	55.979	2	.000
Linear-by-Linear Association	52.138	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.96.

Directional Measures

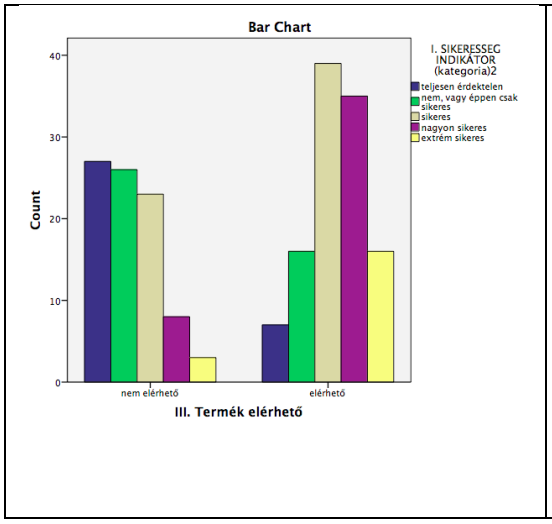
			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.335	.074	3.890	.000
		III._Aktív 2 év után (I/N) Dependent	.281	.117	2.060	.039
		II. KAMPANYSIKER (SZALLITOTT, ELEGEDETTEK) Dependent	.368	.057	5.549	.000
	Goodman and Kruskal tau	III._Aktív 2 év után (I/N) Dependent	.268	.062		.000[c]
		II. KAMPANYSIKER (SZALLITOTT, ELEGEDETTEK) Dependent	.185	.043		.000[c]
	Uncertainty Coefficient	Symmetric	.172	.042	4.083	.000[d]
		III._Aktív 2 év után (I/N) Dependent	.223	.053	4.083	.000[d]
		II. KAMPANYSIKER (SZALLITOTT, ELEGEDETTEK) Dependent	.140	.035	4.083	.000[d]

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on chi-square approximation
d. Likelihood ratio chi-square probability.

Source: Results compiled by the author.

There is a positive but mild correlation between the variables, thus the more successful projects – those that deliver and the supporters are also satisfied with the received product or service, are typically active at a higher proportion 2-years past the launch of the campaign. With regard (as dependent variable) to the activity 2-years after the campaign, the value of the Lambda and Goodman Kruskal coefficients were 0.268 and 0.281 (weak, positive correlation).

26. Figure: Cross Tabulation Table analysis: Campaign success and the availability of the product past 2-years.



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.443[a]	4	.000
Likelihood Ratio	43.808	4	.000
Linear-by-Linear Association	39.406	1	.000
N of Valid Cases	200		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.27.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.151	.055	2.576	.010
		III. Termék elérhető Dependent	.345	.081	3.548	.000
		I. SIKERESSEG INDIKATOR (kategoria) 2 Dependent	.029	.050	.566	.571
	Goodman and Kruskal tau	III. Termék elérhető Dependent	.207	.053		.000[c]
		I. SIKERESSEG INDIKATOR (kategoria) 2 Dependent	.048	.014		.000[c]
	Uncertainty Coefficient	Symmetric	.098	.027	3.585	.000[d]
		III. Termék elérhető Dependent	.160	.045	3.585	.000[d]
		I. SIKERESSEG INDIKATOR (kategoria) 2 Dependent	.071	.020	3.585	.000[d]

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on chi-square approximation
d. Likelihood ratio chi-square probability.

Source: Results compiled by the author.

It is also significant when there was a mild correlation between the variables. It is interesting that in case of very or extremely successful campaign, the product was typically available 2-years later as well, thus it appears to be a valid tool for entering the market; however, in case of just barely funded campaigns, less than half of the products were available two years later.

Examining the 2-year survival of the enterprises, the proportion of enterprises in the 2-10-person category was 8% higher as compared to the average 70% survival rate (McIntyre, 2018), which suggests that the expected survival indicators of the enterprises develop more favorably – even if not significantly so – among those players who had launched campaigns before. Among enterprises that employed more than 10 employees in the sample, the survival rate was 92%.

Taking into account that on the basis of their staff count they had not launched the campaign in the year of their founding, this proportion is exceptionally high.

This suggests that in the later stages of enterprises, those enterprises that launch a crowdfunding campaign perform better than their counterparts. This could occur due to the fact that they are more self-aware and possess better strategy into which they successfully integrate crowdfunding as a tool; we can also not exclude the possibility that experience obtained over the course of crowdfunding and the clientele that was constructed there that is aiding their success.

Based on the examined sample, we can state that the comprehensive success of a reward-based crowdfunding campaign – the number of supporters, the achieved donation amount, and the percentage extent of overfinancing – can contribute to an estimation of the latter survival of the enterprise.

7.4. The role of quality indicators in the reduction of uncertainty regarding the outcome of the crowdfunding project

One of the „childhood illnesses" of reward-based crowdfunding is that in many cases, a successful campaign does not go hand-in-hand with successful delivery/performance to the supporters.

This can be interpreted as a kind of moral risk, an exhibition of the principal-agent problem between the campaign founders and supporters; in many cases, however, the campaign initiator simply cannot realistically estimate its time and cost requirements that arise over the course of manufacturing development, manufacturing, and shipping.

In the interest of avoiding the risks of „non-delivery" and receiving „product of inadequate quality", the supporters strive to favor projects that do not appear to be radically innovative (Chan – Pahrankangas, 2017), and are receptive to the existence of certain factors – such as the accessibility of the video, the number of social proofs, and communications, all of which presumably reduce risk. I employed multiple methods to examine the relationship between quality indicators and the success of the crowdfunding project (delivery and supporter satisfaction). Examining the relationship between variable via cross-tabulation analysis, the relationship between the two variables was significant, but weak. This enabled the acceptance of the hypothesis, to wit:

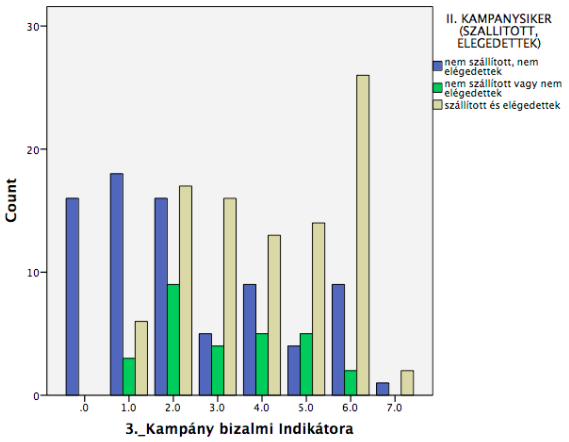
H4: The quality/trust indicators of the campaign forecast the success of the Kickstarter project (the implementation and quality of delivery).

a) There is a relationship between the quality/trust indicators of the campaign and the success of the project.
b) There is a relationship between the quality/trust indicators and delivery.
c) There is a relationship between the quality/trust indicators of the campaign and the satisfaction of the supporters.

Correlation analysis – cross tabulation table analysis:

As the quality indicator and the examined outcomes are variables that can be measured on an ordinal scale with a 0 origin (the increasing values measure proportionately better results), I had first studied the relationship between the variables with cross tabulation table analysis.

27. Figure: Cross tabulation table analysis – Examination of the correlation between Campaign quality indicator – Project outcome (delivery and satisfaction)



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	54.233[a]	14	.000
Likelihood Ratio	60.630	14	.000
Linear-by-Linear Association	31.766	1	.000
N of Valid Cases	200		

a. 8 cells (33.3%) have expected count less than 5. The minimum expected count is .42.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Somers' d	Symmetric	.342	.055	6.243	.000
		3._Kampány bizalmi Indikátora Dependent	.410	.066	6.243	.000
		II. KAMPANYSIKER (SZALLITOTT, ELEGEDETTEK) Dependent	.293	.047	6.243	.000

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.472	.073	6.243	.000
	Spearman Correlation	.405	.064	6.225	.000[c]
Interval by Interval	Pearson's R	.400	.063	6.133	.000[c]
N of Valid Cases		200			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

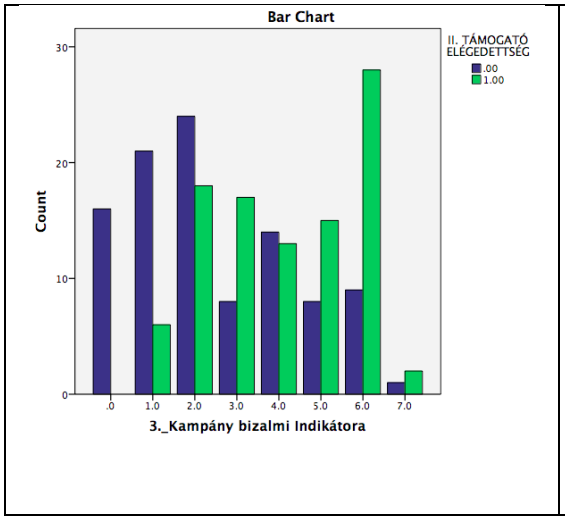
c. Based on normal approximation.

Source: Results compiled by the author.

Based on the Khi square test values, the model is significant. The Somer's d value takes the dependent or independent variable aspect into account and defines the closeness of the correlation, thus I had interpreted it. Based on the Somer's d, there is a relatively weak, but significant, positive correlation between the two variables. Accordingly, the hypothesis could be accepted.

The histogram shows that it is apparent that at least 6 quality indicators can be found in the campaign; the probability of delivery to achieve supporter satisfaction had risen significantly. This is also apparent that the correlation – if it exists at all – is not strong.

28. Figure: Cross tabulation table analysis – Quality indicators and supporter satisfaction. On the basis of the Somer's d value, a positive but weak correlation.



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40.672[a]	7	.000
Likelihood Ratio	47.940	7	.000
Linear-by-Linear Association	32.039	1	.000
N of Valid Cases	200		

a. 2 cells (12.5%) have expected count less than 5. The minimum expected count is 1.49.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Somers' d	Symmetric	.343	.051	6.703	.000
		3._Kampány bizalmi Indikátora Dependent	.463	.069	6.703	.000
		II. TÁMOGATÓ ELÉGEDETTSÉG Dependent	.272	.040	6.703	.000

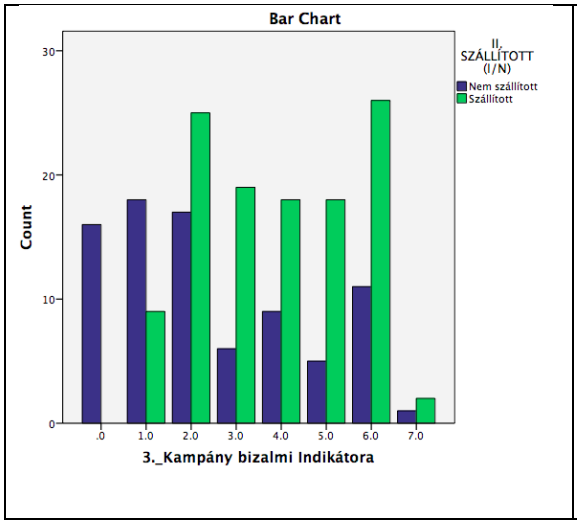
a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.529	.075	6.703	.000
	Spearman Correlation	.406	.060	6.250	.000[c]
Interval by Interval	Pearson's R	.401	.060	6.164	.000[c]
N of Valid Cases		200			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

29. Figure: Cross tabulation table analysis – Quality indicators and delivery. Based on the Somer's d value, a significant, positive, but weak correlation



Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	39.405[a]	7	.000
Likelihood Ratio	45.525	7	.000
Linear-by-Linear Association	23.278	1	.000
N of Valid Cases	200		

a. 2 cells (12.5%) have expected count less than 5. The minimum expected count is 1.25.

Directional Measures

			Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Somers' d	Symmetric	.292	.056	5.159	.000
		3._Kampány bizalmi Indikátora Dependent	.402	.077	5.159	.000
		II. SZÁLLÍTOTT (I/N) Dependent	.230	.044	5.159	.000

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Ordinal by Ordinal	Gamma	.461	.085	5.159	.000
	Spearman Correlation	.347	.067	5.213	.000[c]
Interval by Interval	Pearson's R	.342	.065	5.121	.000[c]
N of Valid Cases		200			

a. Not assuming the null hypothesis.
b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

Source: Results compiled by the author.

I examined the correlation between the quality indicators and customer satisfaction with binary logistic regression analysis. Based on the academic literature, I examined the binary variables of the presence of a personal anecdote, the team introduction, budget, schedule, risk management plan, social proof and video, as well as including other variables mentioned in the academic literature (Kuti et al., 2017, Mollick 2014), such as

the launch experience of previous campaigns, the number (by category) of shared information items (FAQ), the type of campaign founder, as well as the number of campaign supporters (also a category variable). The initial model was significant, it had assigned the anticipated supporter satisfaction correctly four-fifth of the time.

23. Table: Binary logistic regression analysis – examination of the correlation between quality indicators and customer satisfaction (0 – dissatisfied, 1 – satisfied), initial model.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	77.201	12	.000
	Block	77.201	12	.000
	Model	77.201	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	200.038[a]	.320	.427

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	9.864	8	.275

Contingency Table for Hosmer and Lemeshow Test

		II. TÁMOGATÓ ELÉGEDETTSÉG = .00		II. TÁMOGATÓ ELÉGEDETTSÉG = 1.00		
		Observed	Expected	Observed	Expected	Total
Step 1	1	20	19.571	0	.429	20
	2	20	17.849	0	2.151	20
	3	11	15.241	9	4.759	20
	4	11	12.080	9	7.920	20
	5	12	10.286	8	9.714	20
	6	9	8.190	10	10.810	19
	7	6	7.087	14	12.913	20
	8	6	5.273	15	15.727	21
	9	3	3.465	17	16.535	20
	10	3	1.958	17	18.042	20

Classification Table[a]

			Predicted		
			II. TÁMOGATÓ ELÉGEDETTSÉG		Percentage Correct
	Observed		.00	1.00	
Step 1	II. TÁMOGATÓ ELÉGEDETTSÉG	.00	72	29	71.3
		1.00	23	76	76.8
	Overall Percentage				74.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Q_SZEMELYES_TORTENET_Personalteamstory_BIN	.146	.406	.130	1	.718	1.157	.523	2.563
	Q_TEAM_BEMUT_Team_intro_BIN	.198	.473	.176	1	.675	1.219	.482	3.083
	Q_IDOTERV_Timeline_BIN	.237	.453	.273	1	.601	1.267	.521	3.080
	Q_PENZUGYI_T_Fin_plan_BIN	.124	.566	.048	1	.827	1.132	.374	3.430
	Q_KOCK_TERV_Risk_plan_BIN	1.390	.425	10.708	1	.001	4.015	1.746	9.230
	Q_TARS_BIZ_BIN_socialproof_BIN	-.673	.521	1.667	1	.197	.510	.184	1.417
	Q_video_BIN	1.744	.871	4.009	1	.045	5.721	1.037	31.546
	C_Social_media_page_BIN	.358	.379	.894	1	.344	1.431	.681	3.008
	C_FAQ_KATEGORIA	-.209	.239	.768	1	.381	.811	.508	1.295
	Ind_Jell_CEG_TIPUS_COMP_TYPE	-.288	.296	.945	1	.331	.750	.419	1.340
	Ind_Jell_Korabbi_KS_KAMPANY_BIN_prevousKScampaign_BIN	1.241	.450	7.623	1	.006	3.460	1.433	8.350
	I_K_Eredm_TAMOGATO_SZAM_KATEGORIA	.732	.259	7.973	1	.005	2.079	1.251	3.456
	Constant	-3.671	.942	15.191	1	.000	.025		

a. Variable(s) entered on step 1: Q_SZEMELYES_TORTENET_Personalteamstory_BIN, Q_TEAM_BEMUT_Team_intro_BIN, Q_IDOTERV_Timeline_BIN, Q_PENZUGYI_T_Fin_plan_BIN, Q_KOCK_TERV_Risk_plan_BIN, Q_TARS_BIZ_BIN_socialproof_BIN, Q_video_BIN, C_Social_media_page_BIN, C_FAQ_KATEGORIA, Ind_Jell_CEG_TIPUS_COMP_TYPE, Ind_Jell_Korabbi_KS_KAMPANY_BIN_prevousKScampaign_BIN, I_K_Eredm_TAMOGATO_SZAM_KATEGORIA.

Source: Results compiled by the author.

Running it with the Stepwise method, after omitting non-significant variables, the final model has retained this power of categorization, alongside the marginal improvement of the „satisfied“ outcome and the marginal decrease of the estimation of dissatisfaction.

24. Table: Binary logistic regression analysis – examination of the correlation between quality indicators and customer satisfaction (0 – dissatisfied, 1 – satisfied), final model.

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	77.201	12	.000
	Block	77.201	12	.000
	Model	77.201	12	.000
Step 9[a]	Step	-1.892	1	.169
	Block	71.639	4	.000
	Model	71.639	4	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	200.038[a]	.320	.427
9	205.600[a]	.301	.401

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	9.864	8	.275
9	17.586	8	.025

Contingency Table for Hosmer and Lemeshow Test

		II. TÁMOGATÓ ELÉGEDETTSÉG = .00		II. TÁMOGATÓ ELÉGEDETTSÉG = 1.00		Total
		Observed	Expected	Observed	Expected	
Step 1	1	20	19.571	0	.429	20
	2	20	17.849	0	2.151	20
	3	11	15.241	9	4.759	20
	4	11	12.080	9	7.920	20
	5	12	10.286	8	9.714	20
	6	9	8.190	10	10.810	19
	7	6	7.087	14	12.913	20
	8	6	5.273	15	15.727	21
	9	3	3.465	17	16.535	20
	10	3	1.958	17	18.042	20
Step 9	1	18	17.573	0	.427	18
	2	14	13.627	1	1.373	15
	3	17	15.886	3	4.114	20
	4	8	12.617	11	6.383	19
	5	15	11.193	6	9.807	21
	6	3	2.064	2	2.936	5
	7	12	14.804	24	21.196	36
	8	4	5.553	15	13.447	19
	9	7	3.139	8	11.861	15
	10	3	4.542	29	27.458	32

Classification Table[a]

			Predicted		
			II. TÁMOGATÓ ELÉGEDETTSÉG		Percentage Correct
	Observed		.00	1.00	
Step 1	II. TÁMOGATÓ ELÉGEDETTSÉG	.00	72	29	71.3
		1.00	23	76	76.8
	Overall Percentage				74.0
Step 9	II. TÁMOGATÓ ELÉGEDETTSÉG	.00	70	31	69.3
		1.00	21	78	78.8
	Overall Percentage				74.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Q_SZEMELYES_TORTENET_Personalteamstory_BIN	.146	.406	.130	1	.718	1.157	.523	2.563
	Q_TEAM_BEMUT_Team_intro_BIN	.198	.473	.176	1	.675	1.219	.482	3.083
	Q_IDOTERV_Timeline_BIN	.237	.453	.273	1	.601	1.267	.521	3.080
	Q_PENZUGYI_T_Fin_plan_BIN	.124	.566	.048	1	.827	1.132	.374	3.430
	Q_KOCK_TERV_Risk_plan_BIN	1.390	.425	10.708	1	.001	4.015	1.746	9.230
	Q_TARS_BIZ_BIN_socialproof_BIN	-.673	.521	1.667	1	.197	.510	.184	1.417
	Q_video_BIN	1.744	.871	4.009	1	.045	5.721	1.037	31.546
	C_Social_media_page_BIN	.358	.379	.894	1	.344	1.431	.681	3.008
	C_FAQ_KATEGORIA	-.209	.239	.768	1	.381	.811	.508	1.295
	Ind_Jell_CEG_TIPUS_COMP_TYPE	-.288	.296	.945	1	.331	.750	.419	1.340
	Ind_Jell_Korabbi_KS_KAMPANY_BIN_prevousKScampaign_BIN	1.241	.450	7.623	1	.006	3.460	1.433	8.350
	I_K_Eredm_TAMOGATO_SZAM_KATEGORIA	.732	.259	7.973	1	.005	2.079	1.251	3.456
	Constant	-3.671	.942	15.191	1	.000	.025		
Step 9[a]	Q_KOCK_TERV_Risk_plan_BIN	1.209	.378	10.228	1	.001	3.349	1.597	7.024
	Q_video_BIN	1.815	.821	4.884	1	.027	6.142	1.228	30.720
	Ind_Jell_Korabbi_KS_KAMPANY_BIN_prevousKScampaign_BIN	1.202	.421	8.149	1	.004	3.327	1.457	7.593
	I_K_Eredm_TAMOGATO_SZAM_KATEGORIA	.527	.193	7.429	1	.006	1.693	1.159	2.472
	Constant	-3.718	.833	19.943	1	.000	.024		

a. Variable(s) entered on step 1: Q_SZEMELYES_TORTENET_Personalteamstory_BIN, Q_TEAM_BEMUT_Team_intro_BIN, Q_IDOTERV_Timeline_BIN, Q_PENZUGYI_T_Fin_plan_BIN, Q_KOCK_TERV_Risk_plan_BIN, Q_TARS_BIZ_BIN_socialproof_BIN, Q_video_BIN, C_Social_media_page_BIN, C_FAQ_KATEGORIA, Ind_Jell_CEG_TIPUS_COMP_TYPE, Ind_Jell_Korabbi_KS_KAMPANY_BIN_prevousKScampaign_BIN, I_K_Eredm_TAMOGATO_SZAM_KATEGORIA.

Source: Results compiled by the author.

Thus, knowledge of 4 variables alone – appropriate risk plan, the existence of video, prior campaign launch, and knowing the number of campaign supporters – allowed for a 25% more precise estimation of expected customer satisfaction (or dissatisfaction), as compared to the situation of not knowing anything about the campaign.

Based on the Exp(B) values, it can be seen that the biggest impact – in agreement with the academic literature (Mollick, 2014, Petitjean, 2016) – was the existence of the video, followed by the existence of the risk management plan and the prior campaign launch.

Using the same method to undertake the analysis of the correlation between delivery and quality indicators, the following findings resulted:

25. Table: Binary logistic regression analysis – examination of correlation between quality indicators and delivery (0 – undelivered, 1 – delivered), final model.

Block 1: Method = Backward Stepwise (Wald)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	62.645	5	.000
	Block	62.645	5	.000
	Model	62.645	5	.000
Step 3[a]	Step	-.243	1	.622
	Block	62.401	3	.000
	Model	62.401	3	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	208.806[a]	.269	.362
3	209.050[a]	.268	.361

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	9.227	8	.324
3	15.264	8	.054

Classification Table[a]

Observed			Predicted		
			II. SZÁLLÍTOTT (I/N)		
			Nem szállított	Szállított	Percentage Correct
Step 1	II. SZÁLLÍTOTT (I/N)	Nem szállított	48	35	57.8
		Szállított	15	102	87.2
	Overall Percentage				75.0
Step 3	II. SZÁLLÍTOTT (I/N)	Nem szállított	50	33	60.2
		Szállított	15	102	87.2
	Overall Percentage				76.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	.380	.111	11.778	1	.001	1.462	1.177	1.816
	Ind_Jell_CEG_TIPUS_COMP_TYPE	.127	.258	.242	1	.623	1.135	.685	1.880
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.419	.149	7.973	1	.005	1.521	1.137	2.035
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	-.005	.197	.001	1	.978	.995	.675	1.465
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.866	.192	20.251	1	.000	.421	.288	.613
	Constant	-.805	.797	1.020	1	.313	.447		
Step 3[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	.387	.106	13.350	1	.000	1.473	1.197	1.814
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.444	.140	10.101	1	.001	1.560	1.186	2.051
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.856	.190	20.328	1	.000	.425	.293	.616
	Constant	-.760	.728	1.088	1	.297	.468		

a. Variable(s) entered on step 1: Q_SUM_MINOSEG_INDIKATOR_qualityindicators, Ind_Jell_CEG_TIPUS_COMP_TYPE, I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL, K_Par_KAMPANY_HOSSZA_KATEGORIA2, K_PAR_CELOSSZEG_KATEGORIA_UJ.

Source: Results compiled by the author.

Summary:

There was a significant, positive correlation between trust indicators and the success of the campaign, having examined the relationship between the success of the campaign and the quality indicators through a binary regression model. In other words, all-in-all the sample shows that projects possessing better quality indicators conclude the campaign with better results.

Based on the results of the cross-tabulation analysis, the existence of these indicators has only mildly differentiated when it is time for the delivery of the promised product; the relationship between quality indicators, the two-year survival of the enterprise, and the availability of the product was likewise weak.

7.5. Additional Models

Based on the literature results and relying on own knowledge, I have built the following binary logistic regression models to estimate the outcome of the campaign's success:

26. Table: Binary Logistic Regression: Campaign Success (Successful or Unsuccessful) and Innovation Content Indicator, Quality Indicators, Starter Type, Campaign Length and Required Campaign Amount. - 83% estimate.

Classification Table[a]

Observed			Predicted		
			II._Sikeres kampány (I/N)		Percentage Correct
			.00	1.00	
Step 1	II._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	24	126	84.0
	Overall Percentage				83.5
Step 2	II._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	24	126	84.0
	Overall Percentage				83.5

a. The cut value is .750

Block 1: Method = Backward Stepwise (Wald)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	112.417	4	.000
	Block	112.417	4	.000
	Model	112.417	4	.000
Step 2[a]	Step	-.017	1	.897
	Block	112.401	3	.000
	Model	112.401	3	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	112.517[a]	.430	.637
2	112.533[a]	.430	.637

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	9.943	8	.269
2	7.154	8	.520

Correlation Matrix

		Constant	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	K_Par_KAMPANY_HOSSZA_KATEGORIA2	K_PAR_CELOSSZEG_KATEGORIA_UJ
Step 1	Constant	1.000	-.088	-.598	-.401	-.266
	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	-.088	1.000	-.028	-.195	-.276
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	-.598	-.028	1.000	-.056	-.228
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	-.401	-.195	-.056	1.000	-.163
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.266	-.276	-.228	-.163	1.000
Step 2	Constant	1.000	-.186	-.677		-.367
	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	-.186	1.000	-.040		-.316
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	-.677	-.040	1.000		-.243
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.367	-.316	-.243		1.000

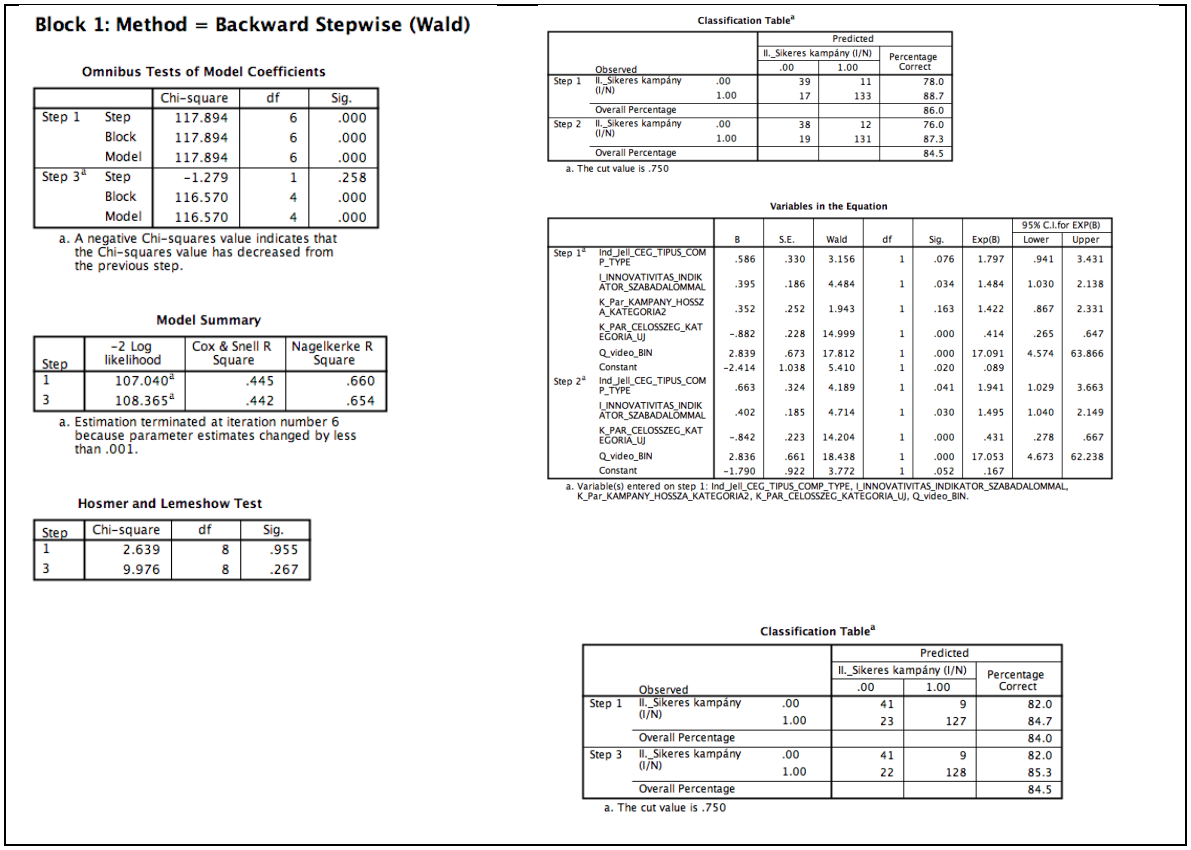
Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	1.040	.197	27.919	1	.000	2.830	1.924	4.164
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.547	.184	8.831	1	.003	1.728	1.205	2.478
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	.036	.276	.017	1	.897	1.036	.603	1.780
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-1.096	.263	17.342	1	.000	.334	.200	.560
	Constant	-1.198	1.045	1.313	1	.252	.302		
Step 2[a]	Q_SUM_MINOSEG_INDIKATOR_qualityindicators	1.046	.193	29.297	1	.000	2.845	1.948	4.154
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.548	.184	8.921	1	.003	1.730	1.207	2.480
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-1.091	.260	17.635	1	.000	.336	.202	.559
	Constant	-1.144	.957	1.429	1	.232	.319		

a. Variable(s) entered on step 1: Q_SUM_MINOSEG_INDIKATOR_qualityindicators, I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL, K_Par_KAMPANY_HOSSZA_KATEGORIA2, K_PAR_CELOSSZEG_KATEGORIA_UJ.

Source: Results compiled by the author.

27. Table: Binary logistic regression: Campaign success (successful or unsuccessful) and the indicator of innovation content, quality indicators, type of founder, campaign length and requested campaign amount – 84.5% estimate.



Block 1: Method = Backward Stepwise (Wald)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	117.894	6	.000
	Block	117.894	6	.000
	Model	117.894	6	.000
Step 3[a]	Step	-1.279	1	.258
	Block	116.570	4	.000
	Model	116.570	4	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	107.040[a]	.445	.660
3	108.365[a]	.442	.654

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	2.639	8	.955
3	9.976	8	.267

Classification Table[a]

Observed			Predicted		
			Il._Sikeres kampány (I/N)		Percentage Correct
			.00	1.00	
Step 1	Il._Sikeres kampány (I/N)	.00	39	11	78.0
		1.00	17	133	88.7
	Overall Percentage				86.0
Step 2	Il._Sikeres kampány (I/N)	.00	38	12	76.0
		1.00	19	131	87.3
	Overall Percentage				84.5

a. The cut value is .750

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Ind_Jell_CEG_TIPUS_COMP_TYPE	.586	.330	3.156	1	.076	1.797	.941	3.431
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.395	.186	4.484	1	.034	1.484	1.030	2.138
	K_Par_KAMPANY_HOSSZA_KATEGORIA2	.352	.252	1.943	1	.163	1.422	.867	2.331
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.882	.228	14.999	1	.000	.414	.265	.647
	Q_video_BIN	2.839	.673	17.812	1	.000	17.091	4.574	63.866
	Constant	-2.414	1.038	5.410	1	.020	.089		
Step 2[a]	Ind_Jell_CEG_TIPUS_COMP_TYPE	.663	.324	4.189	1	.041	1.941	1.029	3.663
	I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL	.402	.185	4.714	1	.030	1.495	1.040	2.149
	K_PAR_CELOSSZEG_KATEGORIA_UJ	-.842	.223	14.204	1	.000	.431	.278	.667
	Q_video_BIN	2.836	.661	18.438	1	.000	17.053	4.673	62.238
	Constant	-1.790	.922	3.772	1	.052	.167		

a. Variable(s) entered on step 1: Ind_Jell_CEG_TIPUS_COMP_TYPE, I_INNOVATIVITAS_INDIKATOR_SZABADALOMMAL, K_Par_KAMPANY_HOSSZA_KATEGORIA2, K_PAR_CELOSSZEG_KATEGORIA_UJ, Q_video_BIN.

Classification Table[a]

Observed			Predicted		
			Il._Sikeres kampány (I/N)		Percentage Correct
			.00	1.00	
Step 1	Il._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	23	127	84.7
	Overall Percentage				84.0
Step 3	Il._Sikeres kampány (I/N)	.00	41	9	82.0
		1.00	22	128	85.3
	Overall Percentage				84.5

a. The cut value is .750

Source: Results compiled by the author.

The model classifies the successful project correctly 8.7 out of 10 times on the basis of the quality indicator, the innovation indicator, the target amount of the campaign, and the existence of the video. By setting the cutoff threshold to 0.75, knowing the sample, it provides an accurate estimate 8 times out of 10 with regard to assignment into the successful and unsuccessful group.

The results confirm that the existence of the video continues to be the most convincing variable; its application yields identical results as if I had included quality indicators in the model. Based on previous analyses, this might have happened because

a) the video does a good job of summarizing all the information that may be relevant to the supporter,

b) it is exceptionally suitable to support the text of the campaign in the sample in those utility dimensions that distinguish successful campaigns, e.g. „fun, convenience“.

8. CONCLUSIONS

8.1. Summary of the research results

One of the most significant results of the study is that in comparison with earlier analyses, it provides guidelines prepared with academic rigour to the development of a substantially more accurate system of recommendations regarding the use of reward based crowdfunding.

The analyzed academic literature lacked such detailed evaluation of innovation content, and the perspective of entrepreneurial financing also has been given reign in this format.

The study of innovation content enabled me to seek out correlations between previously unanalyzed information pertaining to the success of the technological projects of the enterprises.

Over the course of answering the study's questions, the system of perspective and know-how of practicing entrepreneurs and institutional investors have assumed the foreground, which has made preconceptions, perceptions and experience associated with reward-based crowdfunding transparent, with particular focus on clarification of the objective and timing of the application.

On the basis of my research, I formulated the following summary conclusions in the field:

a) **Reward-based crowdfunding – in the appropriate case of application – is a good and recommended tool for enterprises initiating a technology-based project.**

As the result of a well-prepared, conscious decision, as compared to traditional funding sources and smart capital, a successful reward-based crowdfunding campaign can offer a larger consumer base, international renown, and a cheaper fundraising opportunity. Additional research studies are justified on the appropriate cases of application, but on the

basis of this study we can define it as the following: an enterprise that is prepared for manufacturing and possesses sufficient capital and/or abilities, can develop the product or service garnering advantages that are comprehensible and tangible to the customer, and implement the campaign at a high quality, with quality content and intensive communications activity, is recommended to use this funding alternative.

b) **In case of enterprises initiating early stage, technology-based projects, reward-based crowdfunding can be a good supplement to traditional funding sources, providing advantages to the enterprise and subsequent financiers alike. It can significantly reduce risks associated with the development of the enterprise and innovative solutions for both parties.**

Compared to other crowdfunding models, in case of the reward-based, the supplemental aspect is most obvious as compared to traditional enterprise financing tools.

One of its greatest advantages lies in easing the product concept validation, on a quick, effective way, covering a broad geographical area. During the pre-seed period, launching a campaign on a reward-based crowdfunding platform – over the course of the building of the prototype –, reduces the risk of loss in time and effort invested into unsuitable market potential, and can assist redesign efforts. A successful campaign improves the situation of capital investors and financiers by reducing the listed risks. It improves the bargaining position of enterprises over the course of fundraising and reduces the risk of principals arising on the side of the capital investors.

Pursuant to stakeholder interviews, Hungary also possesses the entrepreneurial circle for whom this opportunity would be explicitly useful, but fearing failure, or overestimating resource needs, they do not take advantage of the opportunity. Not familiar with the conditions of launching a campaign, other enterprises – as it is genuinely difficult to obtain information in the field that is objective, structured, and aiding operations – initiate the campaign in an unprepared state.

In order to advance the cause of realizing the opportunities offered by the funding model, it would be worthwhile to consciously design a developmental path for enterprises– along with the cooperation of traditional financiers – in which campaign launch is part of the

strategy of the enterprise's product validation and growth-financing strategy. This enables the setting of additional research objectives in the future.

c) **Familiarity with innovation content and quality indicators can contribute to an estimation of the outcome of the campaign and enterprise. Knowing other campaign parameters can help provide more precise estimates as to the expected campaign outcome.**

The study of innovation content and the select consumer utility approach methodology proved to be a useful tool. On the one hand, it was so because it enabled structured and relatively objective quantification, while on the other hand, this approach to the interpretation of innovation content was not alien to experts and entrepreneurs either. Those research results that show that the relationship between innovation content and success was significant but not a robust factor in this sample, raises additional questions.

d) **With regard to the role of individual dimensions of innovation content – certain consumer utility dimensions – we can state on the basis of the study that from the perspective of buyers, the most obvious dimensions appeared in a significant proportion of the campaigns.**

The analysis of the sample confirmed the results of the two available studies in the area: The value increase of the indicators over a value of one innovation content is not differentiated. In other words, innovation detection has a saturation point, above which it has either no effect or a negative effect on success. This had also confirmed that reward-based crowdfunding platforms are stages of incremental innovation, aiding a further clarification of recommendations made to enterprises.

Degree of familiarity with reward-based crowdfunding:

A little more than one quarter of surveyed professionals possessed in-depth knowledge about the process, advantages, pitfalls, and costs of the application.

Half of them had contextual knowledge of a general nature, lacking detail, while approximately one quarter of them knew the terminology and the mechanism of operation, but did not possess more in-depth knowledge.

I discovered that today this opportunity is known to entrepreneurial development professionals and enterprises, but few have a complete picture of how it is worth employing along the developmental path, for what purpose, and in what manner.

Because they lack in-depth know-how, the available system of recommendations pertaining to the application are unstructured, without written points of reference, and a given event with bad media overtones or a negative secondhand experience may lead to a recommendation of traditional funding sources.

In spite of the foregoing, more and more people are recommending to enterprises they aid to research and consider the utilization of reward-based crowdfunding platforms.

It was a positive experience when it is a goal for all stakeholders equally within the entrepreneurial development ecosystem to reduce unexpected uncertainties and risks; these stakeholders relate to new tools in support of this effort in an open-minded and interested manner.

Thanks to this attitude, we can rely on the growth of reward-based crowdfunding in the Hungarian entrepreneurial environment.

8.2. Recommendations

Over the course of the study, I had also supported certain reward-based crowdfunding related views with primer research findings and the analysis of the database, and also explored areas that are not self-evident to practicing professionals in all cases. I am summarizing my findings as follows, according to entrepreneurial development professionals, opportunities proffered to the enterprises, and the field of innovation management

8.2.1. Value and benefits for reward-based crowdfunding in entrepreneurial development and financing professionals

Reward-based crowdfunding in the toolbox of entrepreneurial development professionals

One of the tasks of professionals is to aid entrepreneurs and enterprises in evaluating whether the application of the platforms is recommended in their case:

Whether the platforms provide an appropriate audience for their product or service, or if they are capable of recruiting supporters prior to the campaign, whether they possess sufficient available resources and appropriate communications competencies during the given period. On the other hand, they must be supported in obtaining the abilities and know-how that are necessary for successful application.

Preparation for and launch of a reward-based crowdfunding campaign offers a very good, fast developmental path, improving the capabilities and opportunities of the enterprise alike.

a) Aids the distillation of the enterprise's value offer

The preparation of the campaign – in order to ensure success – forces enterprises to clarify the value offer of their product, to customize it, and to apply a customer-centric perspective. The results of the campaign validate whether this effort has been successful.

The entrepreneurial development experts reported that even unsuccessful campaigns have significantly advanced the subsequent success of launching enterprises: after the campaign the founders have re-envisioned the market segment, the pricing of the product, the marketing messages, and achieved better results as a consequence of the changes later.

b) Reduces risks arising on the funder side

With regard to the team:

The launch of a reward-based crowdfunding campaign can in and of itself bear with an indicator value: in the first stage, it can provide information; was the given team sufficiently active, open-minded, possessing an entrepreneurial spirit to engage in such an enterprise, or not. In and of itself this is a trait that can be taken into consideration by an expert over the course of the team evaluation or the measure of individual character(s).

It provides information about whether the enterprise has realistically assessed its capabilities and opportunities when it had decided to launch the campaign, and about how it had processed the experience of success or failure.

Concerning the product and the market:

Experience obtained on the platform validate or call into question the market assumptions of the team (and at times those of other effected investors or experts involved in the process), helping to arrive at a more accurate evaluation of the tasks that await the enterprise to engender successful growth. When a campaign is successful over the course of communicating and reaching supporters, and is successful in recruiting buyers, this is convincing proof of market potential, thus aiding subsequent venture capital investors arrive at a more valuation of the enterprise and reducing risk arising on that side.

Professionals in entrepreneurial development, in incubator and accelerator houses, must aid entrepreneurs to grow up to the challenge of taking advantage of these opportunities and to consciously harness this tool to stimulate their development.

8.2.2. Relevance for Entrepreneurs

From the perspective of entrepreneurs, reward based crowdfunding platforms can provide valuable assistance at various points along the process of becoming an entrepreneur and the management of the enterprise.

In the initial stage of the lifecycle of enterprises, it enables entrepreneurs to mitigate risks arising over the course of launch.

a) Mitigates the risk of not working on a suitable idea

In many cases, private individuals also launch campaigns, with low budgets, primarily to evaluate if their project is interesting to others, and whether they can find enough potential buyers to support the plan of the enterprise.

b) Reduces the personal and financial risks of bootstrapping and 3F during the initial stage

The campaign provides assistance during the launch phase so that the entrepreneurs do not have to put to the test their personal relationships to secure funding, and to avoid having to risk their savings. One third of examined campaigns had been launched by private individuals; when successful, an average of HUF 6-9 million was raised. This might be enough for the initial steps, and also aids in obtaining other funding sources with favorable terms later.

c) **It can serve as the first low-cost sales channel**

It is an excellent forum those enterprises that possess a scattered customer base that is active on-line.

The tool itself provides a simple, user-friendly framework for the project initiator to easily communicate with a globally scattered consumer group with even a specialized area of interest. In many cases the community – which can be receptive to the solution – already exists and the platform provides a tool for both parties to comfortably undertake the financing operation. This can help entrepreneurs and enterprises that for some reason do not wish to engage in online sales, or are in a developmental stage where this is not an option.

8.1.3. For Supporters

Over the course of the examination of the successful outcome of the campaigns, a few recommendations can be expressed for the supporters of technology-based projects as well, in the interest of improving their chances to pick a suitable campaign.

In the event that they wish to support a project without a charitable rationale, the primary motivation being the acquisition of the product instead, the following aspects should be taken into consideration:

a) Whether the team, private individual, or already operating enterprise is the launching entity should be noted: even smaller enterprises perform well, while every third private individual had failed to deliver.
b) A prior, successful campaign and associated comments can also aid in making the decision.
c) It is a good sign when the founder presents a more in-depth risk management plan, particularly when it touches upon risks arising over the course of manufacturing and delivery.
d) It is not worth acquiring very novel products – particularly when the founder is just a few members strong team – on these platforms, unless the enterprise has proved itself on multiple occasions.
e) Overall, it was true that enterprises presenting a detailed, well developed product offer, possessing a video and web site, elevated in the media, and actively communicating with supporters, also deliver better.

8.3. The role of reward-based crowdfunding in technology-based innovation

Over the course of the analysis of the examined 200 campaigns, reward-based crowdfunding platforms – Kickstarter without a doubt – host truly innovative initiatives as well. A significant proportion of the campaigns was tied to various areas of consumer electronics. Among the most successful campaigns, I found many high quality and complex solutions possessing many proprietary patents and targeting gaps in the market.

The analysis of the sample supported the finding that reward-based crowdfunding platforms genuinely aid innovative enterprises in vaulting over the barriers to entry in the market of technological equipment, a conclusion that was confirmed by a few entrepreneurs who had launched campaigns previously.

This alternative funding format can be applied at the launch of the enterprise, but in the case of enterprises possessing a special target market, it can also serve as a regularly employed sales channel.

It could be measured that the effect of innovation content had real influence on the outcome of the campaigns, even though this is not a strong effect.

Among the various dimensions of innovation content, the developmental elements associated with fun and convenience are differentiated in the studied sample – which focused on successful campaigns – but typically, compatibility, simplicity of use, and environmentally friendly aspect and risk reduction had also played a role. A suitability for use in the studied sample did not make a difference from a success perspective, its presentation was baseline.

The results of sample analysis have confirmed, that general insight to consumer preferences is true on the platforms as well, that outcome is more uncertain in case of radical innovation.

Innovation management related experience showed that during the period of development and manufacturing planning, reward-based crowdfunding either cannot or can only partially help. It aids the creation and planning of the solution and the launch of sales operations, but a large proportion of enterprises is not prepared for difficulties that can be experienced over the course of manufacturing. This is typically the point where the inclusion of smart capital would be a lifesaver in many cases, since they can aid the growth of the enterprise on the basis of the experience of the partners and similarly profiled enterprises in their network.

Projects that propose to offer products with a long lifecycle, requiring more significant maintenance and operational costs, and solutions targeting the food and medical sectors, occur at a lower frequency.

We can say about the platforms – if we employ the terminology of a growth curve – that they had reached the „productivity plateau“; it is already known what they are useful for and in what case their application is worth integrating into the developmental strategies of enterprises.

8.4. Future avenues of research

Crowdfunding is an extremely grateful field of academic research: by standing on the ground of economic sciences, entirely new solutions are created to respond to the needs of stakeholders.

The new areas of crowdfunding – the effects of ICO and crypto currencies, and similarly to hybrid models forming a transition between product and capital, as well as hybrid solutions forming a bridge between traditional and alternative financing methods – can be extremely exciting.

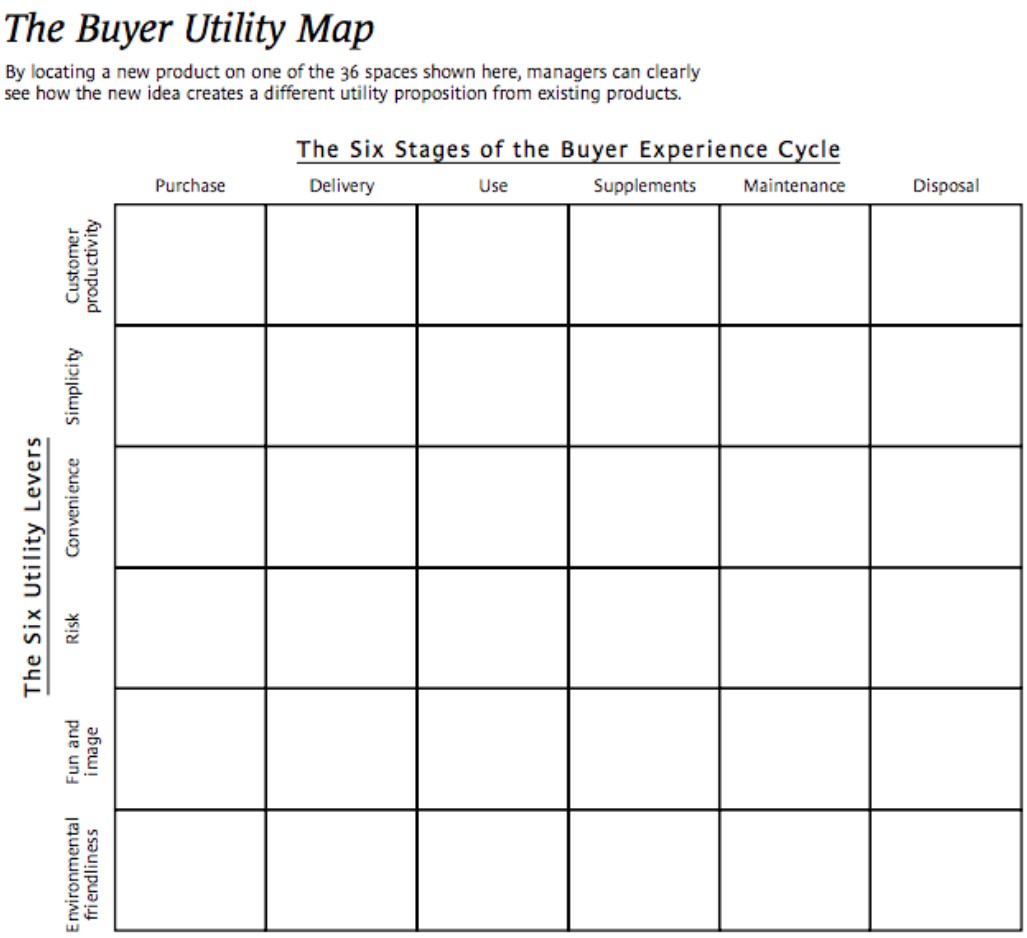
Approaches that can provide assistance in the development of abilities needed for an international launch in the early stage can be interesting for the funding and development of enterprises.

The innovation valuation metric employed in this study can also be a worthwhile tool – supported by multiple findings – to provide a broad-spectrum tool that can be employed over the course of entrepreneurial development.

I highly recommend that researchers interested in the topic take advantage of the open, interactive attitude of the ecosystem's members, and conduct as many primer studies as possible in the field.

9. APPENDIX

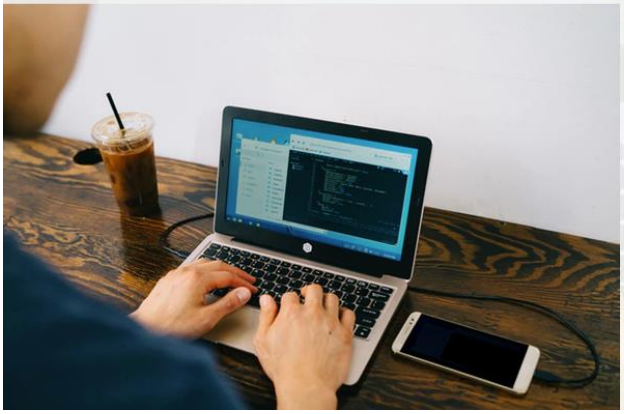
1. Figure. „Buyer Utility Map“.(see also on page 26.)



Source: Kim- Mauborgne (2000), pp 131.

28. Table: A few examples from among the analyzed projects.

Superbook - Transform Your Smartphone Into A Laptop



Superbook is the Universal Laptop Dock that transforms your Android smartphone into a laptop. Get the LIMITED PREORDER PRICE while it lasts! Don't miss out - www.sentio.com

PREORDER NOW

Created by

Andromium Inc.

Pullup & Dip - work out wherever you want!

KICKSTARTER

World's first portable pullup and dip bar for your outdoor & indoor Freeletics, Calisthenics and other fitness workouts!

ORDER NOW

Created by

FT Fitness Technology

RuuviTag - Open-Source Bluetooth Sensor Beacon

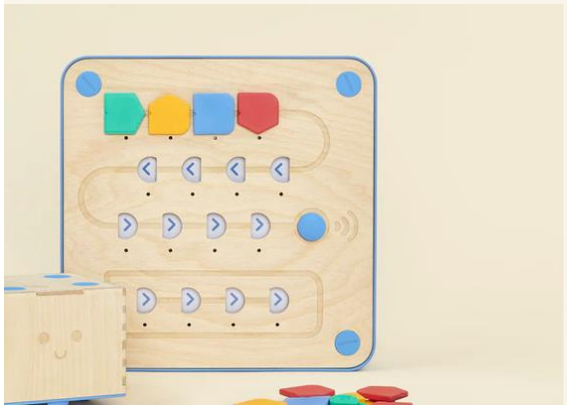
RuuviTag is an advanced open-source sensor beacon platform designed to fulfill needs of business customers, developers, makers, students and even regular people. Contact: info@ruuvi.com

tag.ruuvi.com

Created by

Sharnon Tulabadi

Cubetto - Hands on coding for ages 3 and up



A playful programming language you can touch. Montessori approved, and LOGO Turtle inspired. Learn programming away from the screen.

Get Cubetto here!

Created by

Primo Toys

Lucid360 - VRSpace

LUCID360 VR

www.lucidvr.se

'Interactive Virtual Reality Space in Järna Sweden" Ett utrymme där virtuella världar kan skapas och interageras med.

Follow along!

Created by

Daniel Lucid

OneRing - An Intelligent Monitoring Device for Parkinson's

OneRing

Artificial Intelligence for Parkinson's Disease

OneRing identifies Parkinson's motor symptoms to generate daily patient reports and help doctors prescribe medications more accurately.

OneRing Website

Created by

Utkarsh Tandon

64 backers pledged $3,590 to help bring this project to life.

29. Table: Questions of the Expert Interviews

	GENERAL QUESTIONS ON THE EXPERTS BACKGROUND
1.	Stakeholder type (eg. business angel, VC, incubator house)
2.	Name
3.	Country
4.	City of operation
5.	Role
6.	Background
7.	Current position
8.	Institution
9.	Other institutions
10.	Request anonymity (personal institution)
11.	Do you deal with start-ups and entrepreneurs?
12.	What is your role in supporting start-ups and entrepreneurs?
	a) Business development mentoring
	b) Start-up evaluation
	c) Entrepreneur financials
	d) Incubation
	e) Business Angel role
	f) Grant evaluator
	g) Business incubation house manager
13.	Since how long are you involved to start-up mentoring/evaluation/funding?
14.	Do you work with a special portfolio of start-ups? (Like healthcare, or art, design, or technology)
15.	Which domain is you institution specialized?
16.	Do you regularly meet start-ups, Entrepreneurs, who used crowdfunding, or are thinking of it?
17.	Approximately what is their percent?
18.	Were there times when you contacted the on a daily basis?
19.	Have you launched a business?
20.	How many?
21.	Were there any product/technology development related amongst them?
22.	Do you have experiences with crowdfunding on the first hand?
	GENERAL QUESTIONS ON CROWDFUNDINGS ROLE
23.	Have you heard about crowdfunding?
24.	First when?
25.	Where?
26.	What was your impression first about crowdfunding?
27.	How it changed over time, by today?
28.	How many, which types of crowdfunding do you know?
29.	Which platforms do you know?
30.	Do you meet with this funding phenomenon regularly in your job?
31.	How does crowdfunding connect to your activity?
32.	How do you see crowdfunding's role in start-up financing? How do you see, does it have a particular importance at some of the start-up lifecycle phases?

33.	Where do you see it's place in the funding chain of the business lifecycle?
34.	Is it a complementer tool to existing funding sources, or shall we expect to overrule the start-up funding market? How do you see?
35.	Which traditional funding source could it substitute?
36.	It is sad to be a game changer, allowing entrepreneurs to move away from their employee
37.	How common choice is crowdfunding in your domain/ geographic region?
38.	What do you think, what prevents start-ups from using crowdfunding more?
39.	How often do you meet start-ups or entrepreneurs who are requesting funding after a
40.	What is the typical/ average amount of funding a start-up requests?
41.	How do you see, can start-ups estimate their funding needs realistically?
42.	What are the typical conditions under your institution provides funding for a start-up? (Amount, length, prerequisites)
43.	Is it considered positive if a business has already had launched a crowdfunding campaign to fund their ideas?
44.	Does it count if it the campaign was successful?
45.	Is it a criterion for exclusion of funding by your institution, if the campaign failed?
46.	Do you think a successful crowdfunding campaign is an indicator of later success of the business or a good exit?
47.	Have you ever recommended the use of the crowdfunding for a start-up you have worked with?
48.	What was the case?
49.	Can you define its optimal use case - like in what situation shall a start-up or entrepreneur use it?
	SPECIALITIES OF TECH/ PRODUCT DEVELOPMENT PROJECTS
50.	Have you worked with start-ups, entrepreneurs with product development / technology projects, ideas?
51.	Do you see some common features, special needs, prerequisites for the success of that type of businesses? What are these?
52.	Do you think it is easier or harder to get funded if you have such business? Why?
53.	If you had such idea, would you crowdfund it? Why, why not?
54.	What do you think about crowdfunding as a concept validation tool?
55.	How do you see is it a good tool for estimating market potential, or are there better out there?
56.	When you are evaluating a product development project, do you evaluate its innovativeness?
57.	How? On what aspects?
58.	Do you see any risk in crowdfunding a project with high IP potential?
59.	What do you think the most important when estimating the success of a product/ tech start - up?
	a) Competent team (tech, business development? marketing? cooperation, teamwork?)
	b) Innovativeness of the product?
	c) Market potential of the idea (it might be not innovative, yet with a high potential.
	d) Previous success?
	REWARD, DONATION, OTHER?
60.	Do you know reward/donation and equity models of crowdfunding?
61.	Do you think there is any difference between the two regarding their role in start-up
62.	Which would you recommend for a tech start-up?

30. Table. Data groups available in the examined dataset. Compiled by the Author.

1.[30]	2.[31]	Data in the used sample of 200	Group	Group name	Variant type	Source of Information
X		**Amount Collected**	I.	Campaign Success	Result	CrowdBerkeley database
X		**Number of Backers**	I.	Campaign Success	Result	CrowdBerkeley database
	X	**Funding Percentage**	I.	Campaign Success	Result	Derived data
	X	**Campaign Success Indicator**	I.	Campaign Success	Result	Derived data
	X	**Amount/Backer (category)**	I.	Campaign Success	Result	Derived data
X		**Campaign Success (category)**	I.	Campaign Success	Result	CrowdBerkeley database
X		**Campaign Success (Y/N)**	II.	Kickstarter Project Success	Result	CrowdBerkeley database
	X	**Delivered (Y/N)**	II.	Kickstarter Project Success	Result	Website linked to the campaign- initiators updates, comments
	X	**Delivered in time (Y/N)**	II.	Kickstarter Project Success	Result	Website linked to the campaign- initiators updates, comments
	X	**Backer Satisfaction (category)**	II.	Kickstarter Project Success	Result	Website linked to the campaign, comments, Amazon reviews
	X	**Active after 2-years (Y/N)**	III.	Afterlife of Project/Business	Result	Website linked to the campaign, social media sites
X		**Campaign Success (Y/N)**	III.	Afterlife of Project/Business	Result	CrowdBerkeley database
	X	**Website active (Y/N)**	III.	Afterlife of Project/Business	Result	Website linked to the campaign, social media sites Google search
	X	**Product available (category)**	III.	Afterlife of Project/Business	Result	Website linked to the campaign, social media sites Google search
	X	**Available in retail networks (Y/N)**	III.	Afterlife of Project/Business	Result	Google search, Amazon search
X		**Required funding**	1.	Campaign Characteristics	Explanatory	CrowdBerkeley database
	X	**Launched on weekend (Y/N)**	1.	Campaign Characteristics	Explanatory	Derived data
	X	**Closed on weekend (Y/N)**	1.	Campaign Characteristics	Explanatory	Derived data
X		**Campaign Lenght**	1.	Campaign	Explanatory	CrowdBerkeley database

[30] Secondary data from CrowdBerkeley database.
[31] Data not originally available in CrowdBerkeley database – calculated or derived from the original database, generated as result of expert evaluation, or data collected by the experts.

			Characteristics		
X	**Campaign Lenght (category)**	1.	Campaign Characteristics	Explanatory	Derived data
X	**Region**	1.	Campaign Characteristics	Explanatory	Derived data
X	**Parallel campaign (Y/N)**	1.	Campaign Characteristics	Explanatory	Campaign website, Google search
X	**Non-profit goal (Y/N)**	1.	Campaign Characteristics	Explanatory	Expert analysis of campaign description and video
X	**Non-profit characteristic (Y/N)**	1.	Campaign Characteristics	Explanatory	Expert analysis of campaign description and video
X	**Easiness(Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Utility (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Comfort (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Risk Reduction (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Fun, image (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Environmental friendliness (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Compatibility (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Maintenance (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	**Innovativeness indicator**	2.	Campaign's Innovation Content (I)	Explanatory	Derived data
X	**Patent (Y/N)**	2.	Campaign's Innovation Content (I)	Explanatory	Expert analysis of campaign description and video
X	Personal Story **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
X	Team introduction **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
X	Timeplan **(Y/N)**	3.	Campaign's Trust	Explanatory	Expert analysis of

				Indicators (Q)		campaign description and video
	X	Risk management plan **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
	X	Financial plan **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
	X	Social proof **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
	X	Video **(Y/N)**	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
	X	**Campaign's Trust Indicators**	3.	Campaign's Trust Indicators (Q)	Explanatory	Derived data
	X	Social proof (nr)	3.	Campaign's Trust Indicators (Q)	Explanatory	Expert analysis of campaign description and video
	X	Social media presence **(Y/N)**	4.	Communication (C)	Explanatory	Campaign text and initiators profile
	X	Social media accounts (nr)	4.	Communication (C)	Explanatory	Campaign text and initiators profile
X		FAQ (nr)	4.	Communication (C)	Explanatory	CrowdBerkeley database
X		Notifications (nr)	4.	Communication (C)	Explanatory	CrowdBerkeley database
X		Backer Comments (nr)	4.	Communication (C)	Explanatory	CrowdBerkeley database
	X	Initiators Type (cég)	5.	Characteristics of Initiator (Ind_Jell)	Explanatory	Campaign text and initiators profile, Linkedin, Bloomberg search
	X	Partnerships (Y/N)	5.	Characteristics of Initiator (Ind_Jell)	Explanatory	Expert analysis of campaign description and video
	X	Partners (nr)	5.	Characteristics of Initiator (Ind_Jell)	Explanatory	Expert analysis of campaign description and video
	X	Previous campaign on Kickstarter	5.	Characteristics of Initiator (Ind_Jell)	Explanatory	Initiators Kickstarter profile

31. Table: Questions in the Entrepreneurial Questionnaire. Edited by the author.

QUESTIONS
Email address
Do you consider yourself an Entrepreneur?
Have you heard about crowdfunding?
Have you ever launched a crowdfunding campaign?
Do you plan to launch a business? (or have you already launched?)
Was it/will it be a product/technology development project? (or was a tech/product development one amongst them)
If it was not, what type of project it was?
What is your age?
What is your gender?
What is your nationality? (all small letters please)
What is your country of residence? (Alpha 3 code - eg. USA, GBR, CAN, POL, HUN)
Have you already launched a business?
How many product development/ technology projects have you lead as Entrepreneur? (If none, write 0.)
How many of the product development/ technology projects you have led (or participated in their management) were successful? (If none, write 0.)
How successful they became? (if you had more than one successful project, you may check more)
What is your HIGHEST DEGREE?
Do you speak English as a first language?
How easy do you use English for business? (0 - struggling - 5 excellently)
Have you learned any of the listed subjects during your school years or in adult education/ courses?
Have you learned Entrepreneurship during your education?
Did you have any additional studies on Entrepreneurship?
What was the form of your additional studies?
Do you run your business alone or teamed up with partners? (when you used crowdfunding, or when you applied for it)
How would you summarize your status as an Entrepreneur (or future Entrepreneur)? (If you have used crowdfunding, please choose that answer that best describes your status at that time.)
How would best describe your entrepreneurial role and tasks in your business (if you had more, the technology/product development business, if you had more of them, the one you used crowdfunding, or considered using it)? (Check all that suits - you might have more than one role)
Is it your actually existing business, or a plan?
In what country is your business registered? (use 3 letter Alpha 3 code please - eg. USA, GBR, CAN, POL, HUN) - if not yet, where will it be registered?
If your business is registered in more countries, what are the other locations? (use 3 letter Alpha 3 code please, eg. Write SVN,ISR - if in Slovenia and Israel)
How would you describe what is your business doing (if pre-launch, what it plans to do) where you considered the use of, or used crowdfunding?
What is the size of your team? (Those guys you work with on a daily basis.)
Which funding opportunities do you think would your business be eligible for, which could you access at the time when you considered crowdfunding? (0 - if not eligible, 1 if eligible) [Love money (Friends, Family, Fools money)]
Summarize your product/ service in a few words - What have you developed? (eg. smart heart rate monitor for dogs with epilepsy)
Please select the subcategory best describing your idea!
Would you consider your business idea innovative?
Is it so unique that has never existed before?
What do you think, how does (will) your product perform compared to competing alternatives on the market? [Fit to purpose]… … … … …[Maintenance (cost, lifecycle)]
Did you highlight any of the above in your marketing messages in your pitch or crowdfunding campaign? (If pre-launch, which do you plan to highlight?)
Check those dimensions in which you have highlighted your products benefits in your marketing. (Or that you plan to highlight.)
Do you have a colleague/advisor who is skilled in marketing?
How much do you know about the following financial sources? [Love Money / FFF (Friends, Family, Fools)] … … … … … … … [Business Angel]
What do you think about these funding opportunities (when it comes to fund your product/tech project idea)? Check all you think is true for a funding type. (We are curious of your first thoughts, even if you are not sure it is true.) [Love money / FFF (Family, Friends, Fools)] [Corporate grants, awards]
Do you use one funding source or multiple sources to fund your business?
Which financial sources have you used TOGETHER (or do you plan to use) to fund your product/tech development

project?
How much do you know about crowdfunding?
Where have you met with this funding concept?
Which types of crowdfunding have you heard about?
How much do you know the following Crowdfunding platforms? [Kickstarter] … … … … … [CrowdSupply]
Do you think crowdfunding has benefits compared to traditional funding opportunities?
How do you see, can crowdfunding be used as a substitute of other funding sources (eg. venture capital) when launching a business?
How much do you agree with the following statements on crowdfunding's benefits and risks compared to other funding sources (eg. bank loan, or venture capital)?
[You can get money faster than by using traditional funding sources.]
[You face less administrative burdens.]
[You need to spend a lot of time with marketing.]
[You can get more money.]
[You can get money easier than any other funding form.]
[You take more risk, because your idea is made public and can be copied.]
[You can get direct feedback from your potential customers]
Would you have to finance your idea right now, would you choose crowdfunding to finance it?
When it comes to product/technology development campaign, which crowdfunding opportunity would you choose/ have you chosen to fund it?
Would you be afraid of your product idea being copied/ stolen if you share?
How much do you agree with the following statements on how your campaign's success or failure would influence your actions?
[Crowdfunding would be the first funding tool I would try to use to finance a product development.]
If my campaign is successful, I would set up the business.]
[If my campaign failed, I forget about the idea.]
[If my campaign failed, I would try crowdfunding again.]
Have you EVER launched a crowdfunding campaign?
If not a secret, please share the link of your campaign!
Please select the category of your project (for which you have launched a campaign, if you had a technology project, choose that one).
Was it NON-profit?
What was (will be) YOUR PURPOSE by launching the campaign?
Which type of crowdfunding have you used by this project?
Which crowdfunding platform have you used?
Why have you chosen to crowdfund your business?
How much funding have you requested? (in USD)
Was your campaign successful?
How much funding have you collected? (in USD)
Which payment scheme have you chosen?
How important were the following when choosing to use crowdfunding (compared to other funding opportunities)?
[It did not require personal investment]
[It was low risk]
[It seemed to be cool]
[We can get feedbacks from the market]
[The process is fast compared to other sources]
[We could keep 100% control of our business]
How many days did it take to prepare for the campaign? (from when you have started to deal with the preparations of the campaign) (We are ok with a rough estimate number.)
How many days did it take to actually get the funding? (from the day when you have registered your project on the platform)
How much money did you have to invest to the preparation of the campaign? (in USD)
What do you think, how much has the following aspects contributed to the success of your project?
[Actual innovativeness of your product] [Well phrased benefits, customer messages] [Good visual materials] [Good communication with customers] [Optimal length of delivery] [Presenting a realistic plan] [Your personal story]
Have you used crowdfunding exclusively to launch your business?
Was it necessary step (to use additional funding sources beside crowdfunding)?
Check those sources that you have used (or plan to use) in addition to crowdfunding.
Have you applied for other type of funding (eg. venture capital) after your campaign?
Have you experienced any of the following positive impact of crowdfunding after your campaign?
[Easier access to funding (VC, angel, loan)]
Have you experienced any of the following positive impact of crowdfunding after your campaign? [Larger customer

basis] [It was a good proof of concept of our idea] [We understood better the needs of our customer] [Better conditions when applying for funding.]
Would you advise the use of crowdfunding a product/ technology development idea? Why?
Would you advise against the use of crowdfunding a product/technology development idea? Why?
Do you have a surprisingly good experience to share regarding reward/ donation based crowdfunding? What is it?
Do you have a bad experience to share regarding reward/ donation-based crowdfunding? What is it?
Is there anything we haven't asked, but you would like to tell? Write here.

Parameter estimates

32. Table: H2: Multinomial Logistic Regression Analysis - Success of a Campaign (Uninteresting, Unsuccessful, Successful, Very Successful, Extremely Successful) and the Consumer Utility Dimensions. - Parameter estimation of significant variables

Parameter Estimates

I. SIKERESSEG INDIKÁTOR (kategoria)2[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
teljesen érdektelen	Intercept	-1.893	.565	11.231	1	.001			
	[I_KENYELEM_Comfort_BIN=.0]	20.562	.819	630.520	1	.000	850961944	170958005	4.236E+9
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	3.648	1.169	9.734	1	.002	38.389	3.881	379.703
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	2.060	1.178	3.056	1	.080	7.845	.779	78.988
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.
nem, vagy éppen csak sikeres	Intercept	.446	.306	2.128	1	.145			
	[I_KENYELEM_Comfort_BIN=.0]	18.518	.782	560.551	1	.000	110209022	23793565.4	510475343
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	1.616	1.102	2.150	1	.143	5.031	.580	43.600
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	.344	1.167	.087	1	.768	1.410	.143	13.896
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.
sikeres	Intercept	.964	.282	11.680	1	.001			
	[I_KENYELEM_Comfort_BIN=.0]	17.727	.813	475.608	1	.000	49980597.3	10160062.9	245870536
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	1.066	1.096	.946	1	.331	2.905	.339	24.890
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	.671	1.112	.364	1	.546	1.955	.221	17.284
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.
nagyon sikeres	Intercept	.577	.300	3.705	1	.054			
	[I_KENYELEM_Comfort_BIN=.0]	18.080	.000	.	1	.	71128627.2	71128627.2	71128627.2
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	1.643	1.100	2.231	1	.135	5.173	.599	44.683
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	-.599	1.286	.217	1	.641	.549	.044	6.832
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.

Source: Results compiled by the author.

33. Table: H2 - Multinomial multivariable regression analysis - Campaign success (unsupported, unsuccessful, successful, extremely successful) and the representation of the individual consumer utility dimensions in the campaign. - Parameter estimation of significant variables.

Parameter Estimates

I. Kampány sikeressége típus (csoportok)[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Sikertelen	Intercept	18.624	.854	475.016	1	.000			
	[I_KENYELEM_Comfort_BIN=.0]	-.791	.714	1.228	1	.268	.454	.112	1.837
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	-.997	.663	2.261	1	.133	.369	.101	1.353
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KORNYEZETB_eco_friendly_BIN=.0]	-17.579	.739	566.052	1	.000	2.320E-008	5.453E-009	9.874E-008
	[I_KORNYEZETB_eco_friendly_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	-.958	.712	1.811	1	.178	.384	.095	1.548
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.
Sikeres	Intercept	18.707	.870	461.889	1	.000			
	[I_KENYELEM_Comfort_BIN=.0]	-2.201	.656	11.256	1	.001	.111	.031	.401
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	-2.058	.590	12.177	1	.000	.128	.040	.406
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KORNYEZETB_eco_friendly_BIN=.0]	-15.227	.700	473.516	1	.000	2.439E-007	6.188E-008	9.612E-007
	[I_KORNYEZETB_eco_friendly_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	-1.685	.605	7.760	1	.005	.185	.057	.607
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.
Extrém sikeres	Intercept	18.541	.556	1110.489	1	.000			
	[I_KENYELEM_Comfort_BIN=.0]	-1.938	.851	5.190	1	.023	.144	.027	.763
	[I_KENYELEM_Comfort_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_IMAZS_image_BIN=.0]	-2.388	.730	10.707	1	.001	.092	.022	.384
	[I_IMAZS_image_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KORNYEZETB_eco_friendly_BIN=.0]	-15.922	.000	.	1	.	1.217E-007	1.217E-007	1.217E-007
	[I_KORNYEZETB_eco_friendly_BIN=1.0]	0[b]	.	.	0	.	.	.	.
	[I_KOMPATIBILITAS_compatibility_BIN=.0]	-3.370	1.148	8.616	1	.003	.034	.004	.326
	[I_KOMPATIBILITAS_compatibility_BIN=1.0]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Nem támogatott.

b. This parameter is set to zero because it is redundant.

Source: Results compiled by the author.

34. Table: Analysis related to H3 Hypothesis - Multinomial multivariate regression – Post- campaign survival of enterprises 2-years after campaign launch – Activity of business and product availability - Parameter estimates.

Parameter Estimates

III. Projekt-Vállalkozás Sikeressége Indikátor[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Aktív de nem érhető el a termék	Intercept	-18.095	2.222	66.299	1	.000			
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=.00]	.131	3.076	.002	1	.966	1.140	.003	473.291
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=1.00]	-.180	2.376	.006	1	.940	.835	.008	87.975
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=2.00]	.114	1.941	.003	1	.953	1.120	.025	50.343
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=3.00]	-.198	1.619	.015	1	.903	.820	.034	19.581
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=4.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=1.00]	1.307	1.873	.487	1	.485	3.697	.094	145.337
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=2.00]	.610	1.750	.121	1	.728	1.840	.060	56.775
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=3.00]	-.105	1.714	.004	1	.951	.900	.031	25.904
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=4.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=.00]	16.181	1.997	65.668	1	.000	10650622.7	212671.203	533385637
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=1.00]	18.195	.991	337.346	1	.000	79824988.8	11452264.1	556399049
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=2.00]	18.821	.000	.	1	.	149194874	149194874	149194874
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=3.00]	0[b]	.	.	0	.	.	.	.
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=1.00]	-1.701	1.596	1.137	1	.286	.182	.008	4.162
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=2.00]	-1.434	1.217	1.387	1	.239	.238	.022	2.592
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=3.00]	-.693	1.049	.436	1	.509	.500	.064	3.909
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=4.00]	.184	1.107	.028	1	.868	1.202	.137	10.525
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=5.00]	0[b]	.	.	0	.	.	.	.
2 év után is aktív vállalkozás, elérhető termék	Intercept	2.703	1.307	4.277	1	.039			
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=.00]	-5.075	2.291	4.907	1	.027	.006	7.007E-005	.557
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=1.00]	-5.194	1.814	8.195	1	.004	.006	.000	.194
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=2.00]	-3.469	1.476	5.525	1	.019	.031	.002	.562
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=3.00]	-2.196	1.174	3.501	1	.061	.111	.011	1.110
	[I_K_Eredm_TAMOGATASI_OSSZEG_KATEGORIA=4.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=1.00]	.477	1.572	.092	1	.761	1.611	.074	35.084
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=2.00]	2.453	1.398	3.082	1	.079	11.627	.751	179.906
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=3.00]	2.052	1.294	2.515	1	.113	7.784	.616	98.330
	[I_K_Eredm_TAMOGATO_SZAM_KATEGORIA=4.00]	0[b]	.	.	0	.	.	.	.
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=.00]	.768	1.889	.165	1	.684	2.156	.053	87.332
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=1.00]	-.933	1.245	.561	1	.454	.393	.034	4.517
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=2.00]	-.356	1.120	.101	1	.750	.700	.078	6.283
	[I_K_Eredm_FIN_SZAZALEK_KATEGORIA_UJ=3.00]	0[b]	.	.	0	.	.	.	.
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=1.00]	1.151	1.219	.892	1	.345	3.162	.290	34.481
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=2.00]	.961	.955	1.011	1	.315	2.613	.402	16.993
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=3.00]	-.105	.977	.012	1	.914	.900	.133	6.107
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=4.00]	-1.479	1.186	1.557	1	.212	.228	.022	2.327
	[K_PAR_CELOSSZEG_KATEGORIA_UJ=5.00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: Nem aktív vállalkozás, nem elérhető termék.

b. This parameter is set to zero because it is redundant.

Source: Results compiled by the author.

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