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**SOLVING THE CROWDINVESTING PUZZLE:
BUSINESS ACTIVITY, FINANCIAL EQUITY FLOWS
AND THE ECONOMICS OF ATTENTION**

Abstract

In the contemporary era characterized by information overload, attention has evolved into a scarce yet influential resource, significantly shaping economic decisions and market dynamics. The advent of electronic cash transfer instruments, which partly utilize nonbank structures to identify recipients, has led to a rise in the utilization of collective payment transfers. The development of social networks, crucial for concentrating resources from an economic attention perspective, alongside the emergence of business models like crowdfunding platforms, has contributed to the transformation of crowdfunding into crowdinvesting. Upon examining the phenomenon of crowdinvesting, it becomes evident that it represents a multifaceted interplay of social and economic variables, akin to navigating a complex analytical framework. To acquire the financial capital needed by enterprises, they first need to attract the attention of potential, often scattered, investors. As crowdinvesting emerges as a profound institutional shift in enterprise financing, this article endeavors to undertake a thorough analysis of the process and discernible motives behind investing funds through crowdfunding platforms in projects proposed by companies. Crowdinvesting should be seen in the context of parallel processes of attracting investor's attention and capital. The primary focus of the paper is to delve into understanding and analyzing the dynamics of crowdinvesting, encompassing economics of attention, business activity, and the flow of financial equity. Based on the empirical research conducted and the literature on the subject, the possibility of crowdinvesting becoming structurally embedded in the macroeconomic system of creating cash flows that finance corporate investments was also analyzed.

Keywords: economics of attention, crowdfunding, crowdinvesting, enterprise financing, social media.

**ROZWIĄZANIE ZAGADKI CROWDINVESTINGU:
AKTYWNOŚĆ EKONOMICZNA PRZEDSIĘBIORSTW,
PRZEPŁYWY KAPITAŁU FINANSOWEGO I EKONOMIA UWAGI**

Streszczenie

We współczesnej erze naznaczonej nadmiarem informacji, uwaga stała się rzadkim, ale wpływowym zasobem, znacząco kształtującym decyzje gospodarcze i dynamikę rynków. Wraz z rozwojem elektronicznych instrumentów transferu gotówki, które



do identyfikacji odbiorców częściowo wykorzystują struktury pozabankowe, coraz częściej wykorzystywana jest możliwość zbiorowych transferów płatności. Rozwój sieci społecznościowych, które są kluczowym elementem koncentracji zasobów z punktu widzenia ekonomii uwagi, a także ukształtowanie się modelu biznesowego, jakim jest platforma crowdfundingowa, doprowadziły do częściowego przekształcenia crowdfundingu w crowdinvesting. Badając zjawisko crowdinvestingu, można zauważyć, że mamy do czynienia z wielopłaszczyznową interakcją zmieniających społecznych i ekonomicznych, co przypomina skomplikowaną strukturę analityczną. Aby pozyskać kapitał finansowy potrzebny przedsiębiorstwom, muszą one najpierw przyciągnąć uwagę potencjalnych, często rozproszonych inwestorów. Ponieważ crowdinvesting wyłania się jako głęboka zmiana instytucjonalna w finansowaniu przedsiębiorstw, niniejszy artykuł ma na celu przeprowadzenie dogłębnej analizy procesu i dostrzegalnych motywów stojących za inwestowaniem funduszy za pośrednictwem platform crowdfundingowych w projekty proponowane przez przedsiębiorstwa. Crowdinvesting powinien być postrzegany w kontekście równoległych procesów przyciągania uwagi i kapitału inwestorów. Głównym celem artykułu jest zrozumienie i analiza dynamiki crowdfundingu, obejmującej ekonomię uwagi, działalność rozwojową przedsiębiorstw i przepływ kapitału finansowego.

W oparciu o przeprowadzone badania empiryczne i literaturę przedmiotu przeanalizowano także możliwości strukturalnego zakorzenienia crowdinvestingu w makroekonomicznym systemie kreowania przepływów pieniężnych finansujących inwestycje przedsiębiorstw.

Słowa kluczowe: ekonomia uwagi, crowdfunding, crowdinvesting, finansowanie przedsiębiorstw, media społecznościowe.

Introduction

The development of information technology is reshaping the landscape of economic reality. Digitization and digitalization are actively transforming the organization and operation of entire segments dedicated to information generation, transfer, and reception. According to experts, digitization, in particular, not only changes but also redefines the rules of market competition. The technological leap in digitization compels companies to make decisions and adapt to new external conditions. The adaptation to these conditions necessitates a transformation of systems by economic entities. The extent to which this transformation contributes to better positioning a given entity in relation to competition depends on its economic security in the era of digitization and digitalization¹. A noticeable shift in businesses' approach is evident, particularly in their operational strategies. Nowadays, these strategies not only acknowledge the presence of digital technologies but also embrace them as the fundamental

¹ Bharadwaj A., El Sawy O., Pavlou P., Venkatraman N., *Digital Business Strategy: Toward a Next Generation of Insights*, "Management Information Systems Quarterly" 2013, vol. 37, pp. 473–475.

framework for implementing overall business strategy. In the evolving economic landscape, shaped by the widespread adoption of information technologies, enterprises are no longer solely focused on enhancing efficiency. It is increasingly apparent that value creation extends beyond the production of goods and the provision of services for their guarantee period. Technology is driving significant changes in the established models of cooperation and interaction with a company's environment². Businesses are adapting to new conditions, anticipating that exploring emerging opportunities in information generation will increase their chances of survival and economic development. Success in this endeavor hinges on the ability to capture focused attention from the environment regarding the activities undertaken by the interested party³.

At the same time, the development of information technologies has extended to the realm of money and credit trading. Non-cash transactions, instant payments, and electronic money transfers are now considered standard, with widely available services. Interestingly, these services can be provided to a large extent not only by entities traditionally associated with the financial intermediation industry. The analysis of financing business activities must consider these new conditions.

Economic sciences may have 'overlooked' attention as an economic resource, as Frank notes⁴. He emphasizes that impulses for further economic growth should be perceived at the interface of attention – directed toward recipients to mobilize them in managing the available financial resources⁵. This perspective aligns with Davenport and Beck's earlier observation⁶ that each market has its own measurement system and accepted currency.

In the past decade, crowdfunding has emerged as a novel, institutionally recognized method for securing funding for businesses⁷. Through crowdfunding platforms, stakeholders can gather funds from a diverse and extensive group of investors. According to Adamek and Janku, crowdfunding is increasingly competing with traditional players in corporate finance transactions⁸. Business

² Keen P., Williams R., *Value Architectures for Digital Business: Beyond the Business Model*, "Management Information Systems Quarterly" 2013, vol. 37, no. 2, p. 643.

³ Davenport T., Beck J., *The Attention Economy: Understanding the New Currency of Business*, Harvard 2001, p. 11.

⁴ Frank G., *Jenseits von Geld und Information – Zur Ökonomie der Aufmerksamkeit*, [in:] *Handbuch Unternehmenskommunikation*, scientific editors: Piwinger M., Zerfass A. Wiesbaden 2001, pp. 162–163.

⁵ Franck G., *Kapitalismus Zweipunktnull*, [in:] *Kapitalistischer Realismus*, scientific editor Neckel S., Frankfurt am Main 2010, pp. 228-229.

⁶ Davenport T., Beck J., op. cit., p. 10.

⁷ Spoz A., *Crowdfunding – nowinka czy nowy perspektywiczny model finansowania projektów biznesowych?*, „Roczniki Ekonomii i Zarządzania” 2016, vol. 8(44), no. 1., p. 189.

⁸ Adamek E., Janku J., *What Drives Small Business Crowdfunding? Impact of Macroeconomic and Financial Factors*, "Czech Journal of Economics and Finance" 2022, vol. 72(2), p. 173.

angels, venture capital funds, and even commercial banks can be replaced by virtually any entity with internet access. Low entry barriers are driving the expansion of crowdfunding, particularly for small and startup companies. Unlike regulated markets for classical financial investment, the regulatory landscape for crowdfunding platforms varies across countries, seemingly encouraging an increase in transaction volume. This rising popularity is influencing the behavior of previously established entities. Mason, Botelho, and Harrison observe notable changes in the activity of business angels, who are increasingly collaborating in groups rather than acting independently⁹.

As the landscape of business funding evolves, the question arises whether other well-established channels for providing business development finance also need to change and adapt due to the growing role of crowdfinancing. This question serves as the starting point for this article, which aims to conduct a comprehensive analysis of the process and motives for investing money through crowdfunding platforms in projects proposed by startup companies, viewed in the context of parallel attraction processes. It can be hypothesized that the willingness expressed by research participants to transfer financial resources to enterprises depends on the demonstrated ability of the enterprises to attract the attention of a dispersed audience with the narrative concerning the need to finance enterprise development and growth.

The article is organized as follows. The first section discusses the issue of companies (crowd)financing. The second section of the article deals with the necessity of simultaneously attracting both attention and capital from dispersed crowds. The third section characterizes crowdfunding transactions for enterprise financing. The fourth section answers the question: who attracts attention and capital, aimed at providing financing for business investment. Results are based on the survey conducted among master students from two Polish universities in May 2023. The required calculations were conducted utilizing the jamovi (version 2.3.28)¹⁰ and R software (version 4.1)¹¹. The fifth section concludes the article.

1. (Crowd)financing of companies

The economic development of businesses is not possible without investment. Increasing production capacity requires the provision of financing, the return of which would not be required at a time significantly earlier than that which

⁹ Mason C., Botelho T., Harrison R., *The transformation of the business angel market: empirical evidence and research implications*, "Venture Capital" 2016, vol. 18., No. 4, pp. p. 336.

¹⁰ The jamovi project (2022). jamovi. (Version 2.3) [Computer Software]. Retrieved from: <https://www.jamovi.org>.

¹¹ R Core Team (2021). R: A Language and environment for statistical computing. (Version 4.1) [Computer software]. Retrieved from: <https://cran.r-project.org>. (R packages retrieved from MRAN snapshot 2022-01-01).

would allow for the implementation of a pro-development solution. In the case of start-up companies, new solutions are usually generated. Their perception of them as innovations, especially in relations with potential customers, forces them to position the product (service) as hitherto unavailable and to present the solution offered as a result of the often large-scale process of generating innovations, or as a result of research and development work. The process of adopting (developing) innovations is based on existing and certified solutions, at least in terms of user safety. The adoption of an innovation means that the innovation is innovative from the point of view of the host organization and therefore more useful than solutions already available¹². At the same time, it means that the host organization intends to reap the expected benefits from the changes that the implementation of the innovation brings. Therefore, innovations should be seen not so much in terms of results, but rather in terms of processes, starting from the decision to start research on a known or potential problem, through the development of innovations, their commercialization, dissemination (diffusion), decision to adapt the innovations, to their implementation¹³. Thus, while the innovativeness of start-ups should be understood as the internal disposition and at the same time the ability to generate and/or accept innovation, in the case of an entity acquiring an innovative solution, the readiness to take risks associated with the implementation of any new ideas, concepts, ideas and inventions should also be considered¹⁴.

It should be presumed that from the first work to make the innovation available to the readiness to bear the expenditure associated with the implementation of an externally offered innovation (through a start-up), there is a time when the start-up is the main, if not the only one responsible for bearing the expenditure associated with the expenditure.

Clearly, the question arises about the liquidity of start-ups and the possibility of financing the various stages of developing these solutions. The implementation periods of individual partial stages of the projects may exceed conventional /contractual periods of cash benefits. In particular, this applies to labor benefits and the regulation of other current liabilities.

Start-up as a potential borrower has little chance of obtaining financing. In the initial stage of financing an already organized company, which does not have a break-even point in its existing business, it will be very difficult to convince a lender to place money at its disposal. Venture capital funds will be more

¹² Gostkowska-Drzewicka D., Majerowska E., *Enterprise research and development activity in Poland in comparison to Eurozone countries*, "Ekonomika" 2020, vol. 99, No. 2, p. 118.

¹³ Damandpour F., Wischnevsky J. D., *Research on Innovation in Organizations: Distinguishing Innovation-Generating from Innovation-Adopting Organizations*, "Journal of Engineering and Technology Management" 2006, vol. 23, no. 4. pp. 272–273.

¹⁴ Pichlak M., *Uwarunkowania innowacyjności organizacji. Studium teoretyczne i wyniki badań empirycznych*, Warszawa 2012, p. 36.

inclined to take risks, provided, however, that they see the potential for growth in value and the opportunity for a profitable exit. Bearing in mind the significant losses suffered by the financial sector as a whole as a result of the crisis we have seen over the last decade, the caution of those who have traditionally been involved in providing long-term financing seems more than understandable.

Crowdfunding, as a new way of obtaining financing for businesses, involves a significant number of entities providing capital via the Internet. At the same time, it is noted that crowdfunding, unlike existing funding channels, can be seen as easier and more transparent¹⁵ and even more democratic and largely enabling social interaction¹⁶.

2. Crowdfunding: both attention and funding are required

In the literature, information systems and technologies are often seen as the backbone of infrastructure and institutions. Crowdfunding platforms, especially those linked to social networks, offer transparency in transactions¹⁷. Participants can observe opinions and the outcomes of others in real-time¹⁸.

When a business wants to share news about a new product or innovation, effective communication should utilize all available communication channels, including modern ones. Providing new information creates a community of potentially interested parties, generating attention and forming what is called "participatory attention economics"¹⁹. This attention comes from tracking digitized information, making it unique and easily identifiable. Companies compete for the attention of their audiences, a resource as crucial as money for future endeavors. In crowdfunding, attention and money are organized through networks and social media, reshaping economic and social aspects of business management. Unlike traditional financing, this organization doesn't require credit money or traditional financial intermediaries, but it relies on the involvement of a dispersed community.

The early psychology of the crowd as a spontaneous emerging community indicated an affective aspect, including a significant degree of aggressiveness and

¹⁵ Belleflamme P., Lambert T., Schwienbacher A., *Crowdfunding: Tapping the right crowd*, "Journal of Business Venturing" 2014, vol. 29, No. 5, pp. 586–587.

¹⁶ Preece J., *Sociability and usability in online communities: Determining and measuring success*, "Behaviour & Information Technology" 2001, Vol. 20, No. 5, pp. 347–356.

¹⁷ Colombo M., Franzoni C., Rossi-Lamastra C., *Internal social capital and the attraction of early contributions in crowdfunding*, "Entrepreneurship Theory and Practice" 2015, vol. 39, no. 1. pp. 76–78.

¹⁸ Moritz A., Block J., Lutz E., *Investor communication in equity-based crowdfunding: a qualitative-empirical study*, "Qualitative Research in Financial Markets", vol 7, no. 3, pp. 311–314.

¹⁹ Kessous E., *The Attention Economy Between Market Capturing and Commitment in the Polity*, "Economia" 2015, vol. 5, no. 1, pp. 78–79.

impunity in the dispersed and atomised and anonymous community. Therefore, companies had to master, on the one hand, the ability to attract this community and its attention, and on the other hand, the ability to limit the aggression of recipients of messages understood as undesirable actions²⁰. The community present on the Internet can be understood as a crowd, in this case the Internet crowd. Its presence must be taken into account by every company deciding on its own presence in social networks. The interaction that takes place can also be of benefit to the company. As a result, an enterprise may obtain valuable information of a nature accepting proposed solutions of an innovative nature. This is particularly important in the case of start-ups, who must particularly emphasize the uniqueness, specificity and all the positive aspects of their product/service and their entire activity in their information message.

As Surowiecki points out, the effective operation of the crowd and the use of this effective operation for the purposes of the initiator by attracting attention requires three conditions. First, the crowd should be differentiated in terms of knowledge and individual experience of individuals. Secondly, the crowd should be independent in the sense that it benefits from private information available to individual members of the community. Thirdly, finally, the crowd must not be (with one exception) centralized in any way. On the one hand, this guarantees a dispersion of opinions and some of the activities, while on the other hand, the participants of this community do not in any way suffer from the limitations of their creativity. The only acceptable aspect of centralization results directly from the aggregation of information, which in turn is a consequence of the way in which social media technologies communicate²¹.

It follows from the arguments presented that it is possible, and even highly probable, to obtain attention and funding for the company's activities. The key is transforming acquired attention into "participatory attention" achieved through participation in the financing of the undertaking's activities.

3. Characteristics of crowdfunding transactions for enterprise financing

Crowdfunding includes different forms of financing, which clearly differ in the nature and motives of the transaction. Majewski made a taxonomic division of the classification of transactions using the crowdfunding platform as an institutional solution. The classification criterion is the so-called remuneration element. The classification is bipolar in nature and includes a crowdfunding directly related to the benefit (equivalent) for the person supporting the financing of the originator. At the other end of the scale are transactions of a donation nature²². While transactions of a donation are nonrefundable, tran-

²⁰ Ilnicki R., *Public relations jako funkcja aktywności użytkowników internetu*, „Studia Medioznawcze” 2012, Vol. 49, no. 2, p. 155.

²¹ Surowiecki J., *Wisdom of the Crowds*, New York 2007, pp. 23–46.

²² Majewski P., *Crowdfunding – cechy i typologia*, „Gospodarka Narodowa” 2020, no. 1, pp. 139–152.

sactions of an equivalent nature require a form of benefit to the entity providing the cash. Remuneration arrangements may include benefits in kind in the form of early access, allowances or bonuses. In the case of crowdfunding of loans, the equivalent is cash in nature and results from the adopted formula for charging and handling interest. Equity crowdfunding is also possible. Funding bodies shall include shares or stocks of the undertaking obtaining funding by this means. At the same time, they become co-owners of the company being financed.

In the case of loan and equity crowdfunding, we can talk about crowd-investment. Apart from the question of the form of execution of the transaction, an important motive is profit, understood as a benefit expressed directly using the monetary unit. The increase in the value of shares and, above all, the value of the interest received, clearly define crowdinvesting transactions as being made in the interest of profit. It should be noted that, in some respects, crowdinvestment is possible without the use of a crowdfunding platform, social networks or even the Internet. The regulations on commercial companies and the Civil Code both provide loans by individuals to other individuals and even businesses. They also make it possible to take up shares in companies. The regulations on public and non-public trading in securities, in turn, make it possible to take up shares treated as a so-called private issue and introduce these shares to stock exchange trading. In both cases, the entity in need of financing needs to 'mobilize' entities willing to invest their money. At the same time, it should be noted that crowdinvesting is not in breach of banking regulations, as lending and the acquisition of shares and stocks are not part of the catalogue of banking activities.

A donation as a type of transaction where the donor does not expect a return of the money, also does not require the use of a crowdfunding platform. Information about fundraising for a worthy social purpose or to help people in need can be made available through neighborhood communication, through announcements in public places or in the media. To this day, it is still possible to see a situation where so-called bricks are distributed. Interestingly, in many countries, donors can include documented (certified) donations up to a certain amount in their annual tax returns, which reduces the value of the tax due annually. Altruism should be clearly indicated as a transactional motive for donors.

Belleflamme, Lambert and Schwienbacher indicate two opposite poles of crowdfunding transactions. One of these poles is the desire for profit indicated above. The second pole is the desire for prior access to the goods/services on offer after the condition of supplying the provider with the relevant amount²³. Indication of this regularity leads to another possibility of perception of crowdfunding transactions. If we compare this type of communication and the reac-

²³ Belleflamme P., Lambert T., Schwienbacher A., op. cit. pp. 598–599.

tion of the recipient through much earlier payment of money with situations known before the advent of the digital age, we can indicate almost the same transaction as prepayment. Prepayment was used as a regulatory and also partly planning element in the event of a (possible) shortage of socially desirable goods, such as cars.

A slightly similar mechanism using prepayments was observed in the case of luxury goods and the broadly defined premium class, where the number of copies of a given good produced was by definition limited. This observation allows us to additionally point to hedonism as a motive for crowdfunding transactions in the current technological conditions.

In return for providing support for a project or a project positioned in relation to others as an innovative or creative entity, the supporter receives the product/service in question in an earlier order than the other recipients. It is worth noting that, in relation to crowd funding transactions, the relationship between the motivation of the participants in the transaction and their perception has been demonstrated. Initiators of crowd funding actions often take action to control the perception of those interested in supporting the initiator. Baron, Zhao, and Miao observed an interesting aspect of dynamic asymmetry of information in this case: the initiator of the project emphasizes primarily this information which strengthens the motivation of the decision-maker²⁴.

4. Who is attracting the attention and capital? Findings from empirical research

The development of crowdfunding and crowdinvestment in quantitative terms is of interest to economic experts as well as representatives of various scientific fields²⁵. From the point of view of economic sciences, the issue of crowdfunding becomes interesting mainly due to the source of obtaining business financing for small and medium-sized enterprises and initiatives referred to as start-ups²⁶.

Experts participating in a research project conducted by the University of St. Gallen in Switzerland²⁷ pointed out a clear division in the preferences of participants in social networks (crowdfunding platforms) regarding their willingness to transfer funds to finance entrepreneurial initiatives. The trends indi-

²⁴ Baron R., Zhao H., Miao Q., *Personal Motives, Moral Disengagement, and Unethical Decisions by Entrepreneurs: Cognitive Mechanisms on the "Slippery Slope"*, "Journal of Business Ethics" 2015, vol. 128, pp. 110–116.

²⁵ Mollick E., *The dynamics of crowdfunding: An exploratory study*, "Journal of Business Venturing" 2014, Vol. 29, pp. 1–16.

²⁶ Cichy J., Gradoń W., *Crowdfunding as a mechanism for financing small and medium-sized enterprises*, "Financial Internet Quarterly" 2016, Vol. 12, no. 3, pp. 38–48.

²⁷ Blohm I., Sieber E., Schulz M., Haas P., Leimeister J.M., Wenzlaff K., Gebert M., *Delphi-Studie Crowdfunding 2020 – Komplement oder Substitut für die Finanzindustrie?*, St. Gallen 2015.

cated in the referenced study are confirmed by the 2nd Global Alternative Finance Market Benchmarking Report²⁸. Both of the aforementioned publications indicated that participants in social networks and crowdfunding platforms paid more attention to small businesses.

In consideration of seemingly well-established preferences, an effort was made to update and verify them. A survey was conducted with a group of 213 master students in May 2023. Of them, 127 were women, accounting for 59.62% of the participant group. Additionally, 86 men comprised 40.38 % of the participants. The descriptive characteristics of participants are presented in Table 1 and Table 2.

Table 1. Participant's descriptives.

Descriptives	Gender	Age
maximum of age	M	24
	F	26
minimum of age	M	21
	F	21
mean	M	22.523
	F	22.669
median	M	23
	F	23
standard deviation	M	0.778
	F	0.935
variance	M	0.605
	F	0.874

Source: own elaboration.

²⁸ Ziegler T., Shneor R., Wenzlaff K., Suresh K., de Camargo Paes F., Mammadova L., Wanga C., Kekre N., Mutinda S., Wang B., Lopex Closs C., Shang B., Forbes H., Soki E., Alam N., Knaup C., *The 2nd Global Alternative Finance Market Benchmarking Report*, Cambridge 2021.

Table 2. Participant's age frequencies.

Age	Gender	Counts	% of Total	Cumulative %
21	M	11	5.2%	5.2%
	F	15	7.0%	12.12%
22	M	23	10.8%	23.0%
	F	32	15.0%	38.0%
23	M	48	22.5%	60.6%
	F	65	30.5%	91.1%
24	M	4	1.9%	93.0%
	F	11	5.2%	98.1%
25	M	0	0.0%	98.1%
	F	3	1.4%	99.5%
26	M	0	0.0%	99.5%
	F	1	0.5%	100.0%

Source: own elaboration.

The participants of the study were students of economic disciplines (economics, finance, and accounting) from two Polish universities. It was assumed that all study programs implement a similar educational curriculum. The participation in the study was voluntary. All participants declared, from the outset, that they were familiar with crowdfunding platforms and, in principle, did not reject the possibility of transferring their own money to companies. The research was conducted in the form of an online survey. Each participant provided answers to four questions regarding their willingness to allocate their own financial resources to four groups of businesses with different characteristics: startups (SU), young companies in their growth phase (YC), small and medium-sized enterprises (SME), and large companies and international groups (LG). Each time they were asked about their readiness to transfer financial resources to one of the mentioned types of enterprises, participants could choose from four alternative answers: "very likely" (VL), "likely" (L) "unlikely" (U), and "very unlikely" (VU). The response "I don't know" was not allowed, and participants were not permitted to refuse to provide an answer.

First, we examined whether responses regarding the willingness to transfer funds differ depending on the gender of the participants. To do this, we conducted the Kruskal-Wallis test. This is a non-parametric test. In the next step, we also performed the Dwass-Steel-Critchlow-Fligner pairwise comparison. For the sake of order, we adopted the null hypothesis, according to which the obtained responses do not differ to a statistically significant degree based on the gender of the respondents. A significance level of 0.05 was chosen. The results are presented in table 3 and table 4, respectively.

Table 3. Kruskal-Wallis test results.

Crowdinvesting beneficiaries	Chi-square	df	p	effect size
SU	0.057	1	0.811	0.000
YC	0.339	1	0.560	0.002
SME	0.446	1	0.504	0.002
LG	0.582	1	0.446	0.003

Source: own elaboration.

Table 4. Dwass-Steel-Critchlow-Fligner pairwise comparison test results.

Crowdinvesting beneficiaries	comparison	W	p
SU	M-F	0.339	0.811
YC	M-F	0.824	0.560
SME	M-F	0.945	0.504
LG	M-F	1.079	0.446

Source: own elaboration.

The obtained results do not allow for the rejection of the null hypothesis. Therefore, it should be noted that the gender of the participants does not influence their willingness to allocate their own financial resources.

The second stage of the conducted research aimed to provide an answer to the working question of whether the affiliation of companies understood as potential beneficiaries of crowdinvesting into one of the four mentioned groups above affects participants' willingness to transfer their funds to these companies. The null hypothesis assumed that any differences are not statistically significant. It should be noted that a total of 852 responses were obtained, directly resulting from the fact that 213 study participants responded to the 4 aforementioned questions. To verify the adopted null hypothesis, the chi-square test of association for independent samples was conducted. A significance level of 0.05 was chosen.

The results obtained allow for a probable segmentation of the interest of social network participants due to their willingness to transfer funds to businesses via crowdinvesting (Table 5).

Table 5. Willingness to transfer funds.

Crowdinvesting beneficiaries	willingness to transfer funds (within the row)			
	VL	L	U	VU
SU	149 (70%)	49 (23%)	15 (7%)	0 (0%)
YC	27 (12.7%)	172 (80.7%)	14 (6.6%)	0 (0%)
SME	19 (8.9%)	85 (39.9%)	109 (51.2%)	0 (0%)
LG	0 (0%)	0 (0%)	(39.9%)	128 (60.1%)
TOTAL	195 (22.89%)	306 (35.92%)	223 (26.17%)	128 (15.02%)

Source: own elaboration.

The results of the chi-square test of association for independent samples are presented in table 6.

Table 6. The chi-square test of association for independent samples results.

test	value	df	P
chi-square	1000.573	9	1.30e-209
Cramer's V	0.626	-	-

Source: own elaboration.

In the case of small and medium-sized enterprises, study participants' expectations are somewhat ambivalent, with some indications suggesting it is unlikely that they will secure funding for their future activities. However, when considering young operators in the growth phase, as many as 80.7% of survey participants believe that obtaining financing through crowdfunding is probable. Approximately one eighth (12.7%) even indicate that it is very likely, while only 6.6% think it is unlikely to obtain funding through crowdinvesting. In the case of startups, the response rate leans more clearly towards 'very likely' (70%). However, startups should take into account that funding may not be possible, as 7% indicate it is 'unlikely.' According to survey participants, large corporations and international groups have either no chance or only a limited chance of obtaining funding through crowdfunding.

In the case of small and medium-sized enterprises, study participants' expectations are somewhat ambivalent, with some indications suggesting it is unlikely that they will secure funding for their future activities. However, when considering young operators in the growth phase, as many as 80.7% of survey participants believe that obtaining financing through crowdfunding is probable. Approximately one eighth (12.7%) even indicate that it is very likely, while only

6.6% think it is unlikely to obtain funding through crowdfinancing. In the case of startups, the response rate leans more clearly towards 'very likely' (70%). However, startups should take into account that funding may not be possible, as 7% indicate it is 'unlikely.' According to survey participants, large corporations and international groups have either no chance or only a limited chance of obtaining funding through crowdfunding.

The statistic from the conducted Chi-square test of association for independent samples yields a result of 1000.573. A significance level of 0.05 was chosen. With 9 degrees of freedom, the p-value is 1.30e-209. Cramer's V parameter is 0.626. The results from the independence test confirm that preferences related to the inclination of social network participants to finance corporate activities are clearly defined, anchored, and segmented. Based on this segmentation, it can be concluded that crowdfunding, particularly crowdfinancing, is notably accessible and targeted towards entities for which financing from the commercial banking sector was practically unavailable. The activities of business angels and venture capital funds do not seem to be at risk. However, it seems that these entities prefer to collaborate with companies in the growth phase or at its threshold²⁹.

Unlike traditional financial intermediaries and investors in corporate finance, the crowdfunding platform, as an entity involved in transactions, has several important constraints which at the same time determine its position in the financial system. The crowd funding platform does not raise or accumulate money on its own behalf. Neither does it make money available to the originator of financing in the form of operations on its own account. The operators of crowdfunding platforms focus on associating initiated projects requiring funding with those willing to support the project. Platforms may seek to reduce the risk of funding failure by providing their own or external risk assessment of the originator. They shall also provide information on the degree of fundraising, the implementation of the funding threshold and the minimum and sometimes maximum amounts of commitment per participant. None of these functions are carried out voluntarily and transparently by business angels, venture capital funds or commercial banks.

The task of crowdfunding platforms is therefore to be able to use new areas of communication with the environment. The initiator as a potential provider of an innovative and highly creative product (service) may use new information and communication technologies to convey information and activate the community, which may become a collective source (crowd source) of demand or only funding (money streams), but at the same time may primarily amplify the reception signals of the communicated product/innovation.

²⁹ Maus C., Greven A., Kurth N., Brettel M., *How do investor characteristics of business angels and venture capitalists predict the occurrence of co-investments?*, "Journal of Business Economics" 2023, 51(7).

It is important to identify the entity responsible for achieving the previously communicated funding objectives through the crowdfunding platform in practice. First of all, the originator of the funding has this responsibility itself and it is a matter of reputation³⁰. However, it is possible that potentially supporting entities will refrain from making a declaration or withdraw their earlier declaration of funds and thus fail to respond³¹ to the initiative of the entity applying for funding. Their behavior can be considered in many ways similar to the participants in an open-ended investment fund, who do not want to engage their resources in the project proposed to them³². It must therefore be recognized that the crowdfunding platform is probably only one of the last institutional elements, with a highly specialized instrument in the chain of communication with the environment. Its task remains to attract attention in social networks, combined with raising money for the projects or scopes of action identified in wider projects.

Conclusions and Discussion

Notwithstanding the fact that the diverse mechanisms and processes for financing small businesses in particular using crowdfunding platforms touch on issues that go beyond the limits of regulation as yet known. New problems arise, above all, with regard to the issue of cash settlement and the broadly understood problem of creating investment flows³³. At the same time, crowdfunding transactions are by definition global in nature, and for this reason, for example, financial market regulators want to provide a legal framework for systemic security.

The study presented here attempts to analyze the essence of these transactions from the point of view of the possibility of carrying out similar transactions without the instruments provided by crowdfunding platforms. The presented analysis is of a contrasting nature, as each type of transaction with the crowdfunding platform used has been attempted to present a possible mechanism or transaction which omits the use of this aspect of modern technology.

Therefore, the hypothesis presented in the introduction, that the willingness expressed by research participants to transfer financial resources to enterprises depends on the demonstrated ability of the enterprises to attract the attention of a dispersed audience with the narrative concerning the need to

³⁰ Ahlers G., Cumming D., Günther C., Schweizer D., *Signaling in Equity Crowdfunding*, "Entrepreneurship Theory and Practice" 2015, Vol. 39, no. 4, pp. 955–980.

³¹ Moritz A., Block J., Lutz E. op. cit., pp. 337–339.

³² Bednarz J., *Preferencje, alokacja ryzyka i bezpieczeństwo realizacji deterministycznego kontraktu o charakterze adhezyjnym na przykładzie otwartego funduszu inwestycyjnego*, „Annales UMCS” 2001, Sectio H, vol. XXXV, pp. 155–170.

³³ Spindler G., *Crowdfunding und Crowdinvesting – Sach- und kollisionsrechtliche Einordnung sowie Überlagerung durch die E-Commerce-Richtlinie*, „Zeitschrift für Bankrecht und Bankwirtschaft” 2017, No. 3, pp. 129–130.

finance enterprise development and growth, was confirmed based on the results obtained from the survey study.

The creation of money, especially credit money, is seen as one of the banking privileges. Commercial banks are particularly affected by this issue. Banking privileges are protected by the legislation of individual states. At the same time, it should be noted that the desire of commercial banks as enterprises to maximize their own financial results may mean that their activities were carried out with the abuse of privileges³⁴. Thus, it may pose a systemic threat, even if for every single loan it seems socially useful and economically acceptable, and bankers behave professionally³⁵. In the face of disputes about the ambiguity of the role of commercial banks in creating money over the years, both in theory and practice, it should be unequivocally stated that the creation of credit money, following the example of the banking system, using a crowdfunding platform is not possible³⁶. Thus, crowdfunding, and crowdinvesting in particular, does not directly affect the stability of the financial system and does not constitute a new technology for creating systemic money, which is credit money.

The rationale behind this proposal is, interestingly enough, more than a century old. Wicksell points out that in a situation where all payments are made by changing the entries in the books kept by the banks that are, after all, part of the banking system, the bank would be able to generate any amount of credit at any time at any conditions (even minimum)³⁷. In times of digitized cash settlements using digital information technologies, does Wicksell's vision stand a chance of becoming a reality? The answer is negative. In the event of a possible loan default and the need to make financial write-downs, which would mean posting a loss on the active position, the bank's liabilities – even if they were obtained to finance this particular loan – cannot be cancelled. Such a situation is precisely a source of systemic risk and plays a significant role in terms of macro-economic security. In the case of crowdfunding, the provider of the funds is known. Even if this entity suffers a loss, this loss is not the result of a newly created stream of bank credit and therefore does not affect the security of the banking system in the slightest. To sum up, it can be said that crowdfunding platforms in their essence constitute a social innovation (communication, information). Transactions and cash settlements carried out by them do not ignore the system of cash accounts kept by commercial banks. At the same time,

³⁴ Owsiak S., *Finanse*, Warszawa 2015, p. 353.

³⁵ Turner A., *Between debt and devil: money, credit and fixing global finance*, Princeton 2016, p. 166.

³⁶ Werner R., *Can banks individually create money out of nothing? — The theories and the empirical evidence*, "International Review of Financial Analysis" 2014, vol. 36, pp. 16–18.

³⁷ Wicksell K., *The influence of the rate of interest on prices*, "Economic Journal" 1907, vol. 17, pp. 214.

however, they must not contribute in any way to destabilizing the settlement system.

Located 'at the front' of innovation and seen as institutional forms of support for entrepreneurship, crowdfunding platforms are a tool to increase the efficiency of available resources. They are a form of social organization for assets that are converted into other assets and thus represent the opposite end of the axis of the financial system of the economy, at the other end of which there is a state capable of organizing its own – significant in both quantitative and qualitative terms – liability market.

The hierarchical perception of credit risk in the economy is preserved, because the best money and credit remains state credit³⁸. Money raised through crowdfunding platforms can be seen as a vibrating horizon line consisting of the most active and glowing particles. This is how innovations may harden, which – as a result of their implementation – change the management system in start-ups and young enterprises and change (to a more comfortable, easier) way of functioning of societies. From the point of view of macroeconomic security, the flow of money issued as bank credit between one end and the other of the axis of the economy's financial system remains risky.

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³⁸ Bednarz J. *Państwo jako pośrednik na rynku finansowym*. [in:] *Nowe zjawiska na rynku finansowym* scientific editors Gruszecki T., Bednarz J., Lublin 2012, p. 237.

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