

# REPORT

## UKRAINIAN STARTUP ECOSYSTEM: Facing the challenges, seizing the opportunities



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POLISH – UKRAINIAN  
STARTUP BRIDGE

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# CONTENTS

<b>Introduction</b>	<b>4</b>
<b>Forewords</b>	<b>5</b>
<b>Key results</b>	<b>7</b>
<b>Socio-economic context</b>	<b>8</b>
<b>Ukrainian Startup Ecosystem</b>	<b>10</b>
<b>Founder</b>	<b>19</b>
<b>Development plans</b>	<b>20</b>
<b>Development barriers and challenges</b>	<b>21</b>
<b>External barriers</b>	<b>21</b>
<b>Internal barriers</b>	<b>23</b>
<b>Expected forms of support</b>	<b>27</b>
<b>Organization potential</b>	<b>30</b>
<b>Summary</b>	<b>32</b>
<b>Methodology</b>	<b>34</b>
<b>Study conducting and developing team</b>	<b>35</b>

# INTRODUCTION

The region of Central and Eastern Europe is an area located between the highly developed and wealthy countries of Western Europe and the western frontiers of the Russian Federation. This area is highly fragmented by almost 20 countries. Each of them uses a different language and a different legal system. The level of socio-economic development and the prevailing business cultures are also not the same. Only two countries — Poland and Ukraine — seem to be significant organisms that stand out from the picture of that mosaic.

In the last 30 years, Poland has made a gradual economic transformation, joined the European Union and achieved considerable economic successes. Moreover, the Polish economy is a strong magnet for foreign investments. It offers advantages in the form of a large internal market and attracting positively assessed infrastructure with a business environment and stable economic growth for years.

This year Ukraine celebrated the 30th anniversary of its independence and, as a relatively young country, has adopted a consistent course of integration with the rest of Europe for the last several years. It is making constant efforts to modernize, implement reforms and successfully resist external military aggression. Being one of the largest countries in Europe, it also has a large and educated population. Still, Ukraine's potential as a high-tech development centre (incl. the space or military industry) and the country of scalable startups remains underrated.

At Polish-Ukrainian Startup Bridge, we believe that the CEE region should strive for deeper integration and combine dispersed potentials to achieve stable growth. Poland and Ukraine have a key role to play in this process. Our mission is to connect the Ukrainian world of startups and new technologies with Polish investment and development potential. We are convinced that the best platform for successful cooperation for both countries is the business arena. The potential for exchanging experiences, implementing solutions and creating new capital ties is far from being exhausted.

Therefore, together with our partners — the Warsaw Stock Exchange and the Ukrainian Startup Fund, we decided to share with you a report dedicated to Ukrainian startups, their needs and strengths. We hope that this report will be a valuable source of knowledge for you when planning cooperation at the Polish-Ukrainian interface. Most of all, however, we hope that it will become the first step for the Polish and Ukrainian startup and new technology communities to discuss deeper cooperation. And the main question will not be whether to cooperate, but how to do it effectively.



**Łukasz  
Wawak**  
Manager,  
Polish-Ukrainian  
Startup Bridge

# A WORD FROM UKRAINIAN STARTUP FUND

For a very long time, Ukraine was depicted as a 'white spot', when it comes to innovations and entrepreneurship spirit. Only a few chips were tossed to the table: largest e-commerce platform Rozetka, software development company Ciklum or smart hardware manufacturer Ajax Systems. In a country considered one of the world leaders in tech human capital pool this problem had been strongly noticeable. Since Ukrainian Startup Fund had been created it tackled that problem by providing 360° support for people willing to try the shoes of entrepreneurship.

One of the ways we participate in the startup ecosystem is knowledge sharing and entrepreneurship skills development. That's why the research suggested by our partner – Polish-Ukrainian Startup Bridge, lies within the scope of our activities. We treat this review as a way of communicating with our target group – talented entrepreneurs and believe it will help us to better understand and anticipate their needs. After all, Ukrainian Startup Fund is not only a governmental agency but a bedrock of institutionalized support of innovative projects.

Ukrainian startups face multiple challenges, arising both from internal and external obstacles. A relatively short history of knowledge and a capital-based economy had deterred a much-needed transformation of Ukraine's outdated legal system. That has a continuous deteriorative effect on the lucrativeness and security of investments into Ukraine as a jurisdiction and raises hiring costs. A secondary effect of macroeconomic instability slows the emergence of the middle-income class in Ukraine, which has resources to consume new products and services and reinvest in education.

External challenges have a direct influence on education and versatile skills which are necessary for building a startup. Ukraine traditionally has strong technical education but at the same time considerably weaker programs in corporate finance, business management and communication. And we see that in many startups coming to us for early-stage financing.

The survey has provided us with a fresh overview of prospects and challenges in the development of innovative technology-based projects in Ukraine. As a single startup support institution on the market, we are working closely with all the parties involved and are proposing solutions that will reduce burdens on the startups and alleviate the development of high-quality human capital. We believe those to be core components of our mission.



**Svitlana  
Petrashko**  
Head of Partnership,  
Ukrainian Startup Fund

# A WORD FROM WARSAW STOCK EXCHANGE

Warsaw Stock Exchange supports enterprises in raising capital at every stage of development.

As of 2019, we are running a WSE incubator to support founders with the knowledge and experience of experts working within the WSE Capital Group. Bearing in mind how important it is to finance projects at an early stage of development, we have decided to cooperate with a company named Hugetech. Thanks to this cooperation startups joining our accelerator can count not only on substantive but also financial support.

In the first period we managed to conduct 6 acceleration processes and thanks to the cooperation with Hugetech these startups received a total of 1.2 million PLN, currently we are in the process of accelerating the 7th entity; this time it is a technology based on blockchain.

So far the acceleration processes carried out under the Scale Up program have concerned Polish projects. This year we are expanding our cooperation with the Poland Prize programme, which is addressed to foreign founders. WSE is a technology recipient under both programmes. Thanks to this cooperation we have the opportunity to carry out a pilot or test implementation together with a selected initiator.

The Poland Prize program is addressed to startups in which at least half of the owners are not Polish citizens and at least one board member is not a Polish citizen.

The Idea Global Poland Prize means:

- Up to PLN 250,000 grant,
- Up to 3 months of soft-landing phase,
- Up to 6 months of acceleration,
- Assistance in registering a company in Poland, workshops and dedicated support under the non-EU visa programme.

Our cooperation does not end at the accelerator. Within the Capital Group, we also made the first investment in a project which went through the acceleration process. The project in question is TransactionLink.

We are also working on a Crowdfunding platform and have established WSE Venture S.A. We are also constantly improving our offer for IPOs. At this stage they receive world-class service, access to a virtually unlimited number of global and local investors. Moreover, we are keeping IPO and listing costs at 25-35% of those incurred on the world's largest stock exchanges.



**Ignacy  
Bobruk**

Deputy director for  
communication and  
marketing, Warsaw  
Stock Exchange;  
Head of WSE  
Venture Network

# KEY RESULTS

- #01** Most of the surveyed startups have been **operating for no more than 3 years**, and more than half of the surveyed enterprises are **located in Kyiv**.
- #02** The majority of startups have a **legal form** of limited liability companies or sole proprietorships.
- #03** Almost every second startup is on the initial **stage of development**: pre-seed.
- #04** Among the surveyed enterprises, **more than half do not generate any income**.
- #05** For the vast majority of surveyed startups, their own funds are one of the **main sources of financing**, and for 39,2% — the only source. At the time of the study, one in three entities also benefited from the support of the **Ukrainian Startup Fund**, and another 18% — from other **public grants**.
- #06** Most **startups' clients** are small and medium-sized companies and individual clients.
- #07** Almost 2/3 of startups declare operating on the **global market**, and 12% **are not present on the Ukrainian market** at all.
- #08** The most frequently indicated external development barrier was a **problematic access to external financing**. More than half of startups also mentioned **difficulties in finding clients** and **struggles in finding business partners** for cooperation as a very or moderately significant barrier.
- #09** More than half of the surveyed startups experience **strains in recruiting new employees** with appropriate qualifications.
- #10** The most practical forms of development are rated as most useful: **case studies, coaching and development of particular skills**.

# SOCIO-ECONOMIC CONTEXT

On the threshold of socio-economic changes resulting from the collapse of the Union of Soviet Socialist Republics (USSR), Poland and Ukraine ended up at a similar development level. The beginning of the 1990s was a time when both nations faced the same challenges and burdens carrying a legacy of the post-socialist economy. After three decades of transformations, Poland's GDP amounted to USD 594 billion, while that of Ukraine is only USD 155 billion, which is nearly four times less.

After the difficult time of transformation, peaceful times still abandoned Ukraine. The 2004 Orange Revolution did not live up to all hopes placed on it. The outbreak of another wave of protests in 2013 was followed by a war with Russia in 2014. The conflict continues until this day, even though it is currently dormant.

Despite such difficult conditions, Ukrainian business is constantly developing, and the local startup ecosystem can be an inspiration for Western European countries. In the latest StartupBlink report of 1000 cities and 100 countries with the highest startup potential — Ukraine took 34th place. This is 5 positions lower than it was in 2020. Kyiv has the highest rank among Ukrainian metropolises and 48th position in a global rating. Compared to 2020 it decreased by 16 positions.

The main capital of Ukrainian startups is the talent of their founders, valued and sought after by many foreign companies. The outflow of talent is a serious challenge for Ukraine. The current political situation in the country leads to the fact that the Ukrainian public sector may not have enough resources to actively support the local startup ecosystem.

The development of the Ukrainian market is mainly driven by an increase of foreign investments. In 2019, USD 510 million was invested in Ukrainian startups and IT companies, which is almost 50% more than a year earlier. Over 80% of investments were made with a foreign capital.



## EXPERT'S OPINION

The Ukrainian startup ecosystem has been going through a stage of hyper development in recent years. It is confirmed by several facts at once: Ukrainian Startup Fund launch — state investment vehicle, development of independent startup studios and similar ones within large IT companies (like Sigma Software Labs incubator), the success of Ukrainian companies at the international arena, as well as the direct growth of the Ukrainian registered startups.

According to the PUSB survey, the largest number of startups appeared precisely in 2021 (27,2%), which is several percent more than in the prior year. In addition, 2021 can be defined as the year of decacorns, because 30 companies from all over the world were valued at USD 10 billions and more, which doubled last year's number and broke the records of all previous periods ([Crunchbase](#)).

Until 2018, there was not a single unicorn startup in Ukraine, and over the past three years there have been at least 6 companies with a billion-dollar valuation. This trend indicates the overall development of the startup ecosystem in the country and its potential unlimited prospects. In addition, in Ukraine there is an opportunity to create a full-fledged "venture builder" based on the synergy of product and service busi-

nesses. The strong expertise of Ukrainian developers and partnerships with large world companies allows them to find existing problems in customer projects and make solutions into a full-fledged product. This opens up unlimited opportunities for the implementation of such solutions and increases their planned valuations. So we strongly believe in a large number of Ukrainian unicorns in the nearest future.

At Sigma Software Labs we believe in the capabilities of the Ukrainian startup ecosystem and together with partners such as PUSB and the Ukrainian Startup Fund, we try to fully support the establishment of local projects and the development of the ecosystem as a whole.



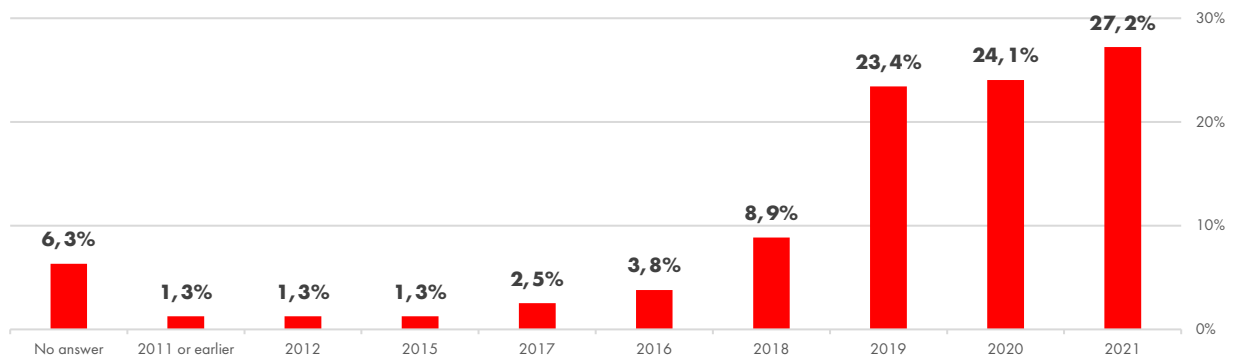
**Veronica Korzh**

General Manager  
at Sigma Software Labs

# UKRAINIAN STARTUP ECOSYSTEM

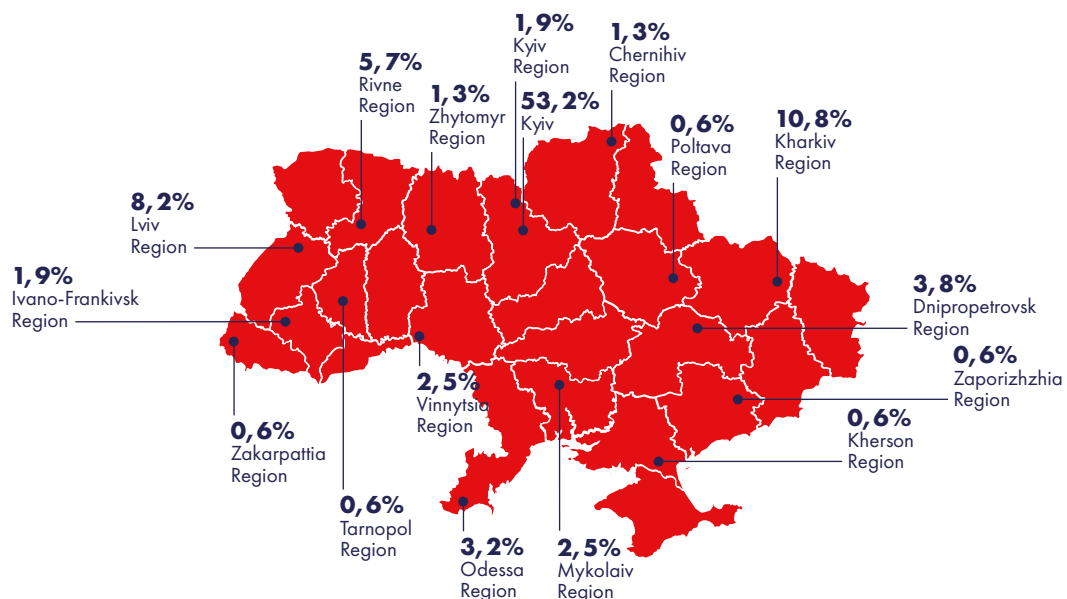
The definition of a startup must consider the short-term aspect. After startups implement their basic goal of finding an optimal business model, they transform into other types of enterprises usually within 5 years after their inception. This definitional regularity is reflected in the obtained empirical data. Among 158 surveyed enterprises, 3/4 operated for no more than 3 years and 87,3% of them operated on the market for less than 5 years.

## Year of establishing a startup



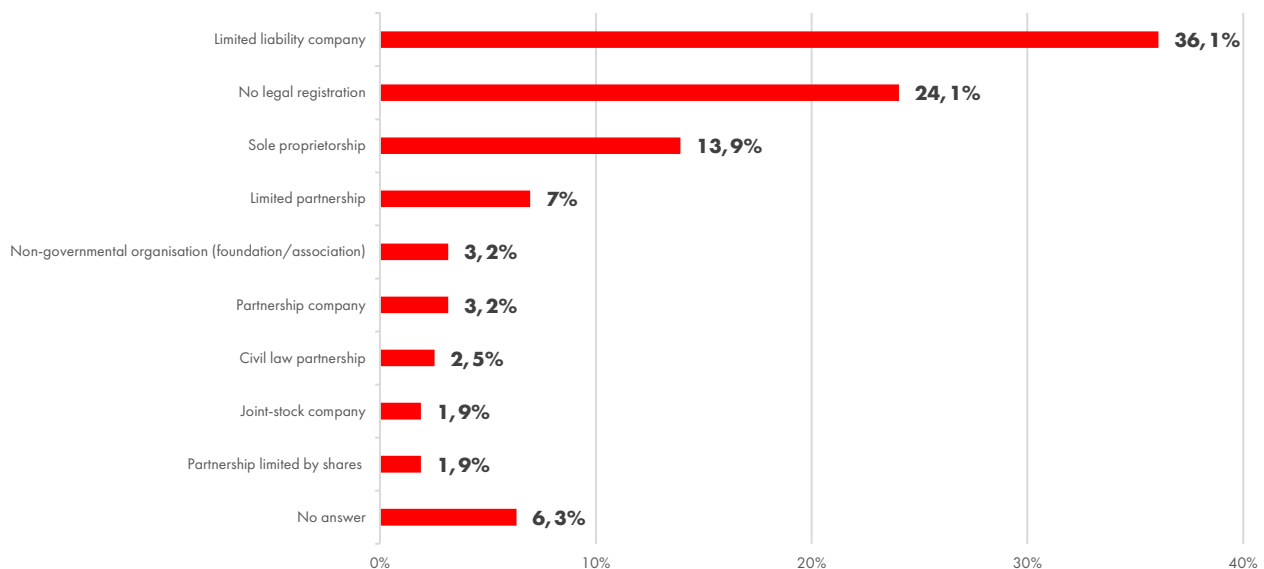
The startups that took part in the survey have their headquarters in 16 Ukrainian regions, 55,1% of them are located in the Kyiv region. Every second surveyed enterprise was located in the capital city. This makes Kyiv not only the largest industrial, cultural and research center of the country, but also the central place of the Ukrainian startup ecosystem.

## Number of startups in particular regions



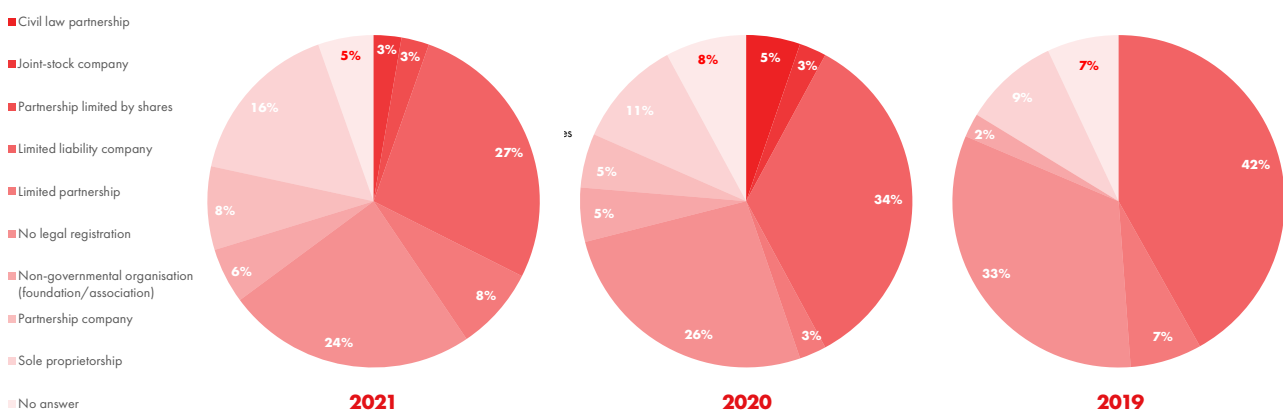
Kharkiv and Lviv regions are also important points on the startup map of Ukraine. 10,8% and 8,2% of enterprises participating in the survey have their headquarters there. On average two out of three startups are located in the largest Ukrainian cities with more than 1 million inhabitants — Kyiv, Kharkiv and Odessa. Less than 4,5% of the surveyed enterprises have their headquarters in cities with a population equal to or less than 100,000 people. 29,1% of startups are located in cities with a population of 101,000 to 1 million (14,6% in cities with up to 500 000 inhabitants and the same amount in cities from 500 000 to 1 million people).

## Legal form of startups



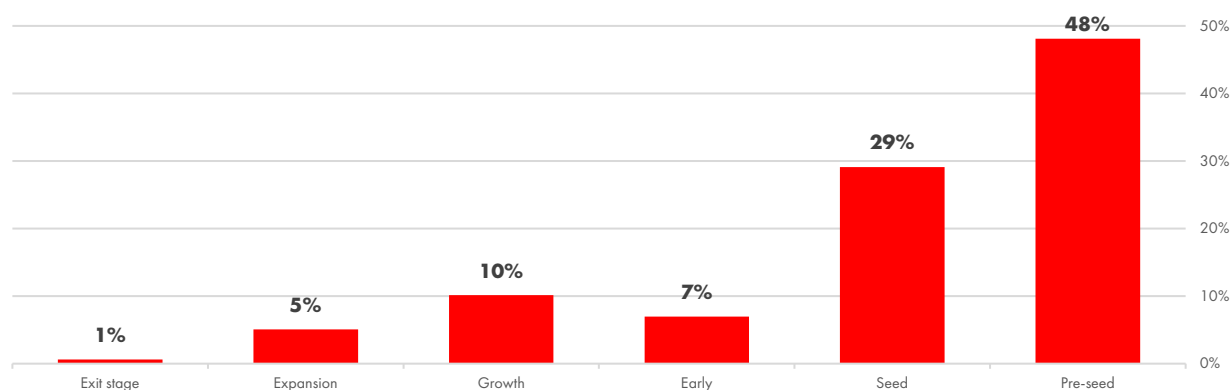
The largest number of startups choose the form of a limited liability company or operate legally as a sole proprietorship. Another analytically important category is enterprises organized in the form of limited partnerships. The rest of legal forms (non-governmental organizations, partnerships, civil partnerships, joint-stock partnerships and limited joint-stock partnerships) account for a small percentage of the amount of surveyed startups. Almost a quarter of all enterprises that participated in the survey (and nearly 1/3 of those were founded in 2021) do not have an established legal form at the moment of participating in the survey. Among companies with an unspecified legal form, 36,8% were established in 2021, and as much as 50% in 2020 or 2019. This shows that their development direction is not very dynamic and specific. Some startups that took part in a survey operating without a specific legal form since 2012.

## Legal forms of startups established in 2021, 2020 and 2019



An analysis of the legal forms of startups established in the last 3 years shows the correlation between the age of enterprise and its legal form. The percentage of sole proprietorships is higher in older startups while the percentage of limited liability companies and entities with an undetermined legal form among them decreases.

### Startups' actual stages of development



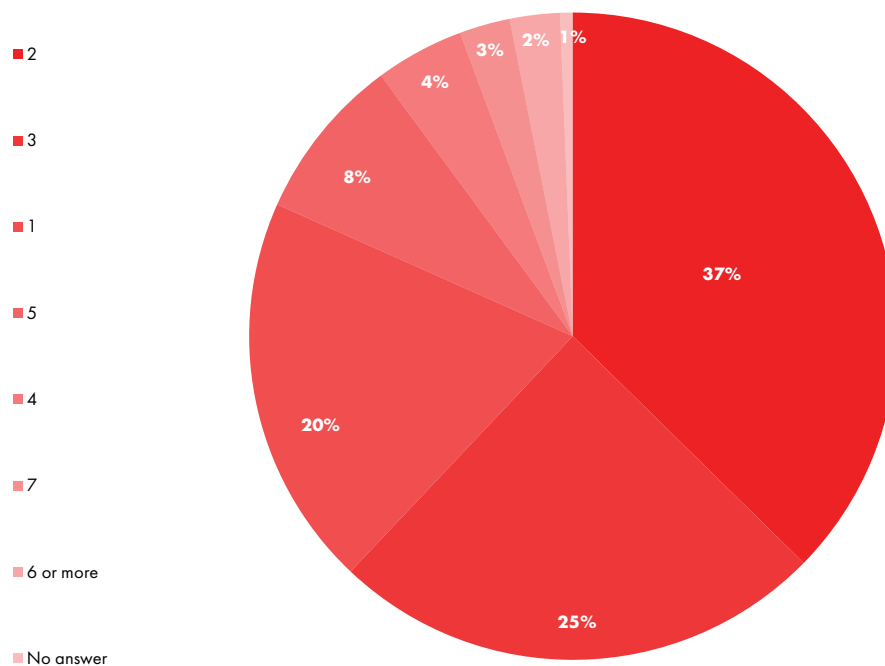
Almost every second startup was at the initial stage of development (pre-seed) at the time of the surveying. There were significantly fewer enterprises that made it to the next stages.

The development and achievement of the discussed type of business goals may be characterized by different dynamics. Some startups manage to reach the expansion stage already in the year of their foundation, others – only after 10 years. Among the 8 startups in the expansion phase that took part in the study, 2 were established in 2021 and 3 – in 2020

### Correlation between the development stage of startup and year of its establishment

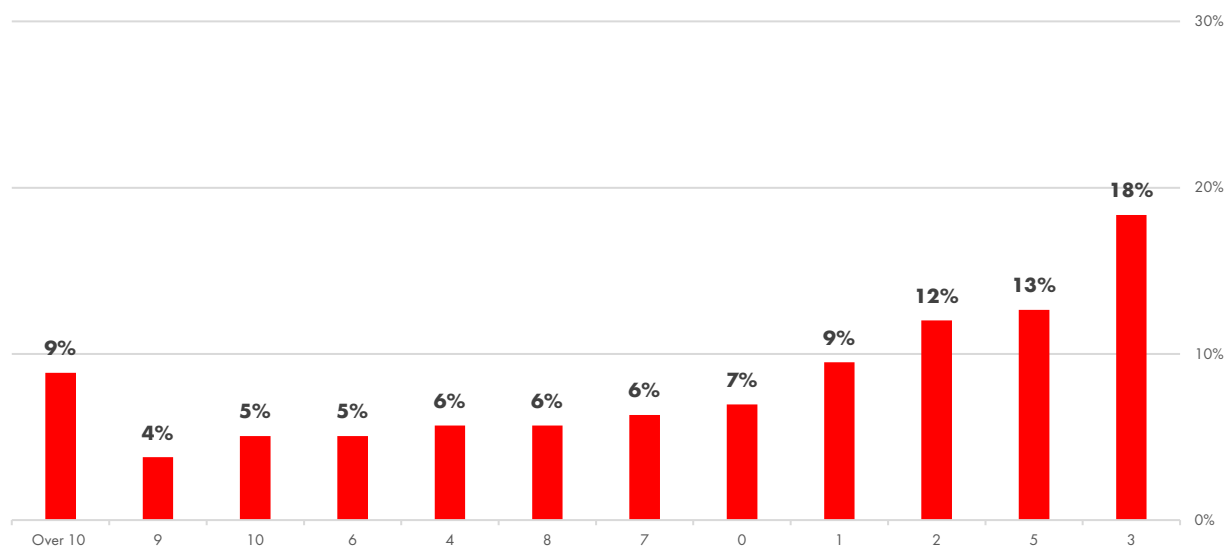
Year of establishment	Pre-seed	Seed	Early	Growth	Expansion	Exit stage
No answer	20%	30%	20%	30%	0%	0%
2011 or before	0%	0%	0%	50%	50%	0%
2012	0%	0%	100%	0%	0%	0%
2015	0%	50%	0%	50%	0%	0%
2016	0%	50%	0%	50%	0%	0%
2017	25%	25%	0%	25%	0%	25%
2018	50%	21,4%	14,3%	7,1%	7,1%	0%
2019	48,6%	35,1%	2,7%	10,8%	2,7%	0%
2020	52,6%	34,2%	2,6%	2,6%	7,9%	0%
2021	65,1%	20,9%	7%	2,3%	4,7%	0%

## Number of founders/co-founders in startups



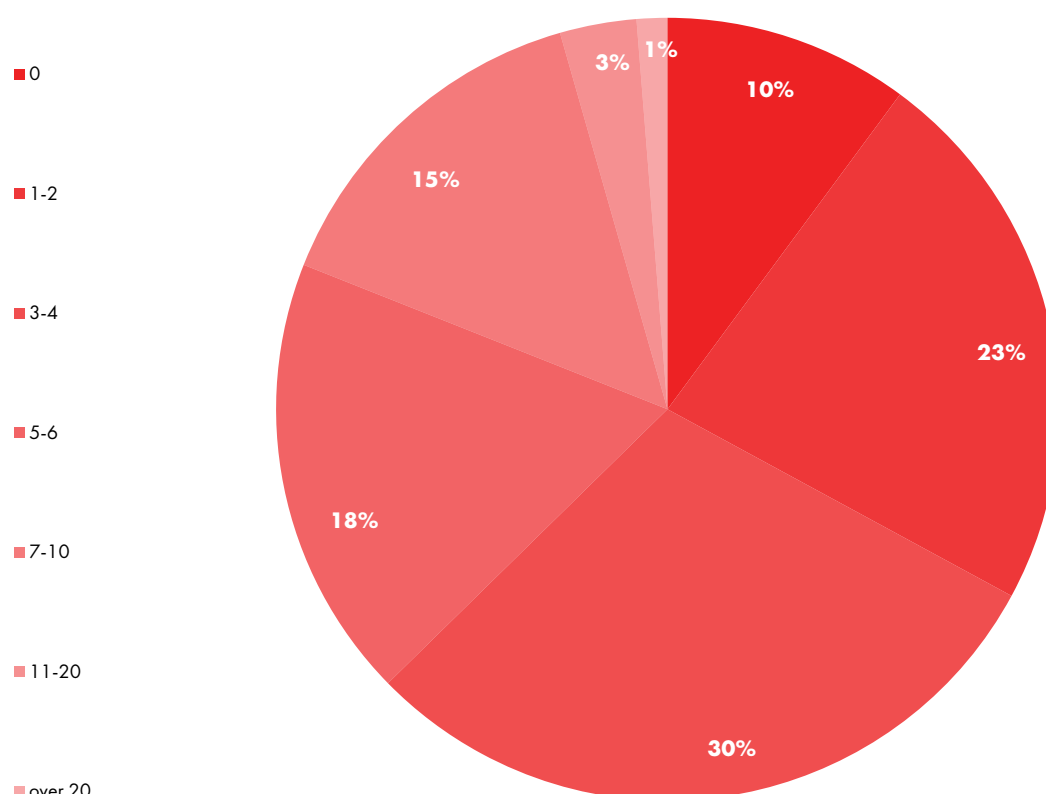
19,6% of startups were created with an initiative of one founder, 24,7% are the result of cooperation between three co-founders. But the largest part – 37,3% of projects were initiated by two founders. However, there are also companies where the number of founders is much higher. The one with the largest group of founders had as many as eight. The average Ukrainian startup has three founders.

## Number of full-time employees in startups



Startups are very diverse in terms of size measured by the number of people working permanently in the project. In 7% of the surveyed enterprises, not a single person is employed on a permanent basis. Almost every fifth startup has 3 people permanently employed. The largest projects among the surveyed employ as many as 46 people. The average Ukrainian startup employs 6 people on a permanent basis.

## Number of startups' contractors

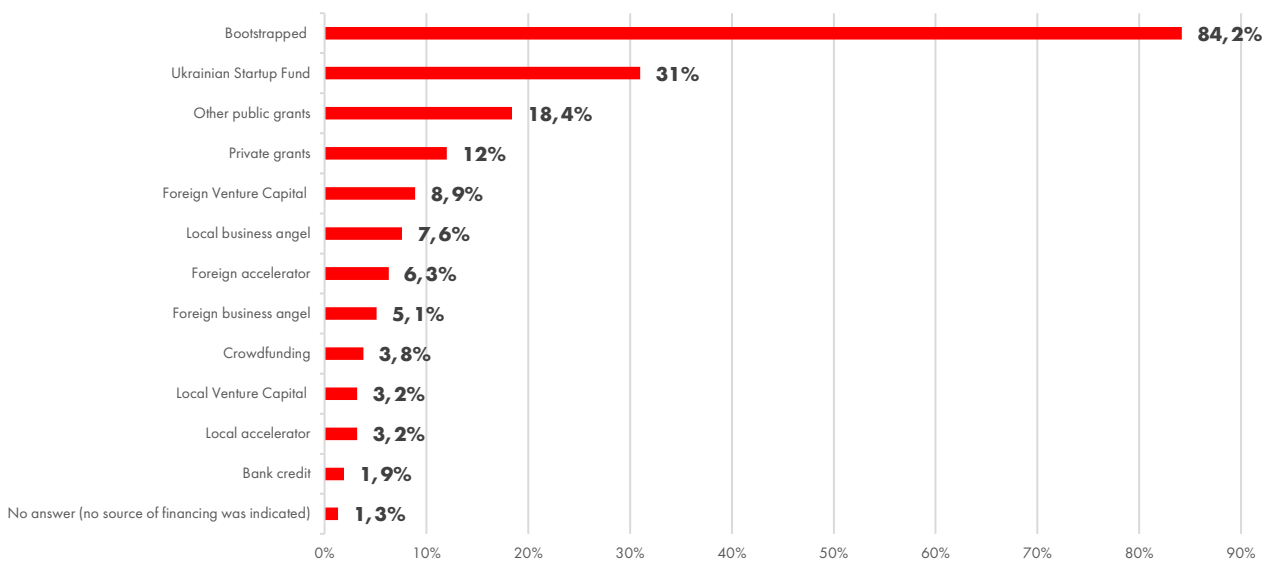


On average, a Ukrainian startup uses the services of 5 external suppliers. The record belongs to one who has as many as 50. 29,7% of them order services from 3-4 suppliers, and 22,8% from 1 or 2. One in 10 startups does not use the services offered by internal suppliers at all, relying only on the human resources of their own organization.

The analysis of the r-Pearson correlation coefficient showed a weak connection between the number of people permanently employed in the project and the number of external service providers, and no correlation between the above-mentioned and the number of founders. That means that with an increase of the number of people employed in startups, an increase of the number of external service providers can be found. The number of co-founders, in turn, is not related to the number of employees or the number of external service providers.

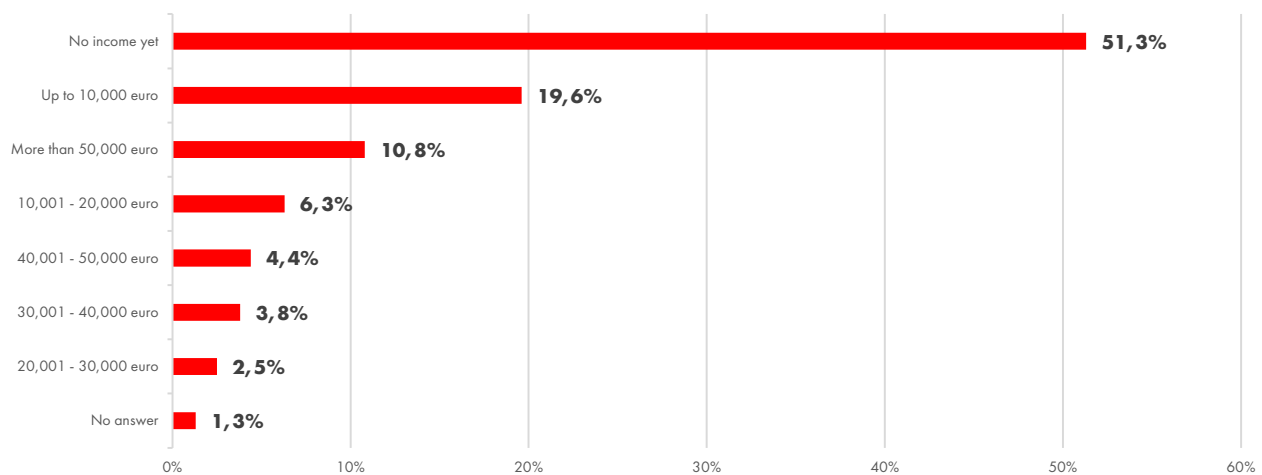
Startups can be financed from a variety of sources. Creation of the project without a usage of any personal funds of the founders is rather rare, but not unusual. For 84,2% of the surveyed enterprises, personal savings are one of the sources of financing, and for 39,2% – the only source. At the time of the survey, one out of three entities benefited from the support of the Ukrainian Startup Fund and another 18% – from other public grants. 6 out of 158 startups covered by the study were financed exclusively from public grants (including USF). Taking into account the risk-related failure on the market, it is not surprising that the share of bank loans among the sources of financing for startups is very low.

## Current sources of financing



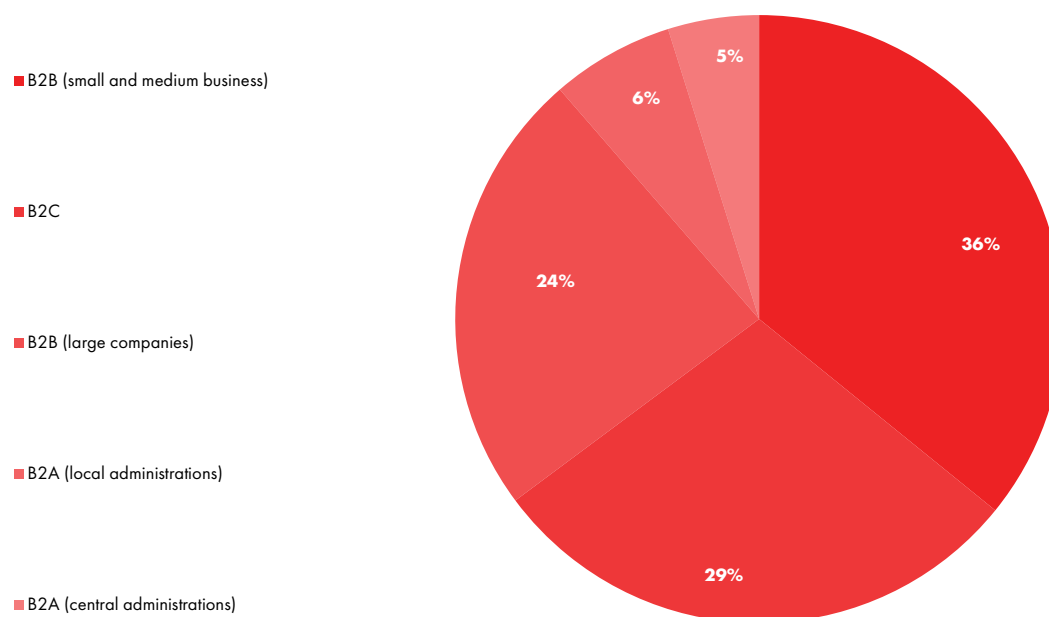
An important factor of the Ukrainian startup market development is investment support and the involvement of private and institutional investors. In 2019, USD 510 million was invested in this sector in Ukraine (over 50% more than the year before). In over 80% of cases, the investors were represented by foreign investment funds. Among the startups participating in the survey, three entities were financed entirely by business angels (2 – foreign, 1 – local), two had private grants only, and one received funding from foreign venture capital.

## Startups according to the annual income



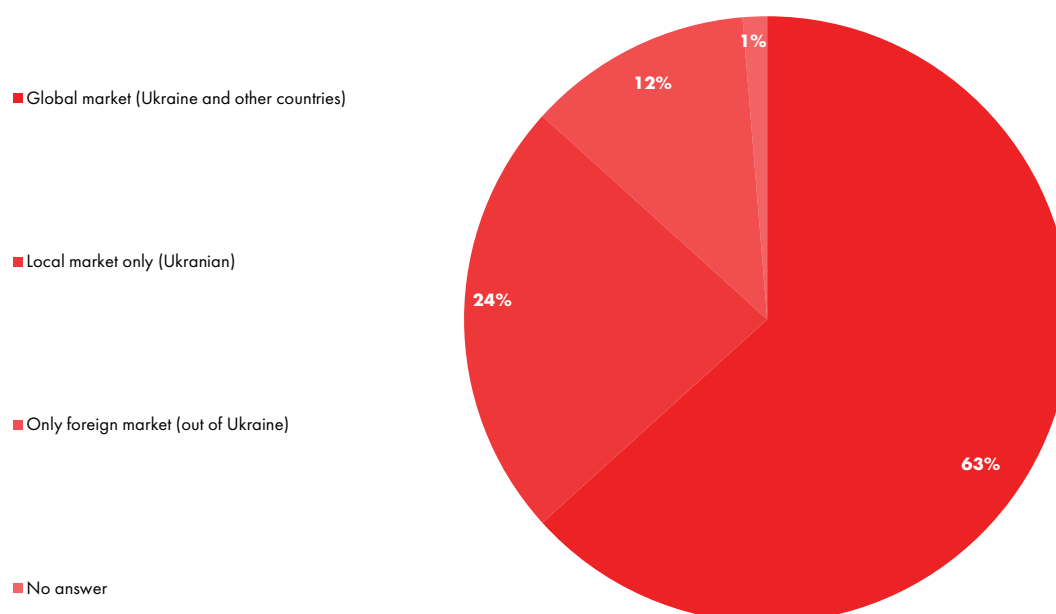
Due to the need of bootstrapping the founders have limited resources in the development of a startup. That's why the procuring of the income from business activities is very important for them. It makes it possible to survive on the market long enough until the optimal business model is found. However, more than half of the surveyed enterprises do not generate any income yet. Which makes them completely dependent on external financing sources and exceptionally susceptible to development barriers described in the following sub-chapters of this report. Another 19,6% of enterprises generate some small income (up to EUR 10,000), which obviously cannot cover the costs of activities related to the development of products and services. Only one in 10 startups generates an annual income of over EUR 50,000.

## Startups' clients



The clients of most startups are small and medium-sized companies, as well as individuals. Only 12% of enterprises offer B2A services for local administration, and 8,9% – for central administration. It is important to mention that 5,1% of startups did not want to narrow down the target group of recipients of their services and declared that they would provide services to all of the above-mentioned types of clients. Few companies also want to limit their area to the local Ukrainian market only.

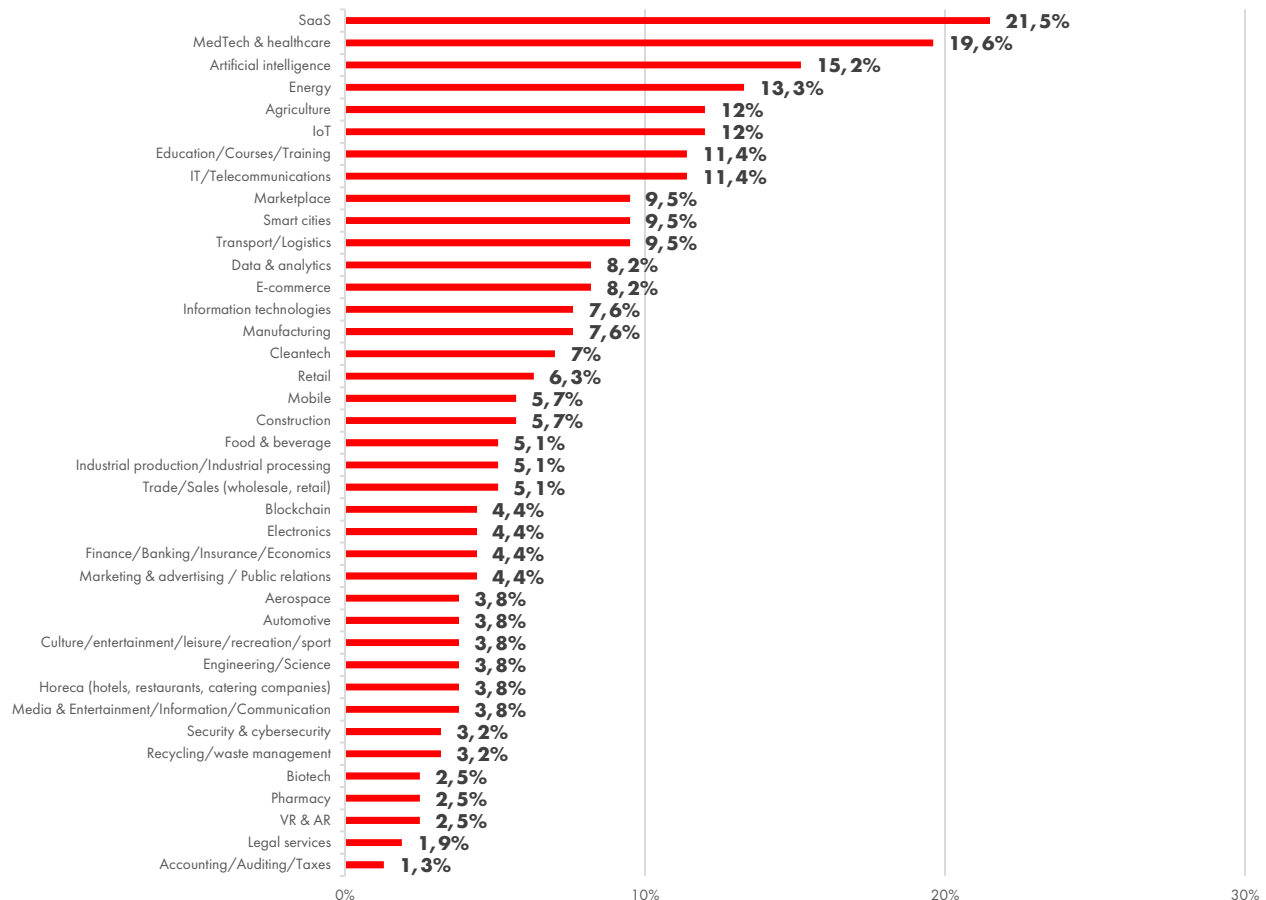
## Startups by market areas



The number of distinguished industries and their mutual semantic redundancy somewhat obscure the picture of the whole. Thus, it can be concluded that most startups operate in industries related to the development of new technologies and computer software in accordance with the defining rules.



## Startups' industries



## EXPERT'S OPINION

When it comes to the Ukrainian startup ecosystem it should be kept in mind that the ecosystem itself is still in a crib. According to the research in 2019, the technology-based ideas (it would be incorrect to call them startups at that time by Western or Asian standards) had received support mainly in a form of small-ticket and in-kind services, making mentorship to be the most popular form of support. Besides, there was a slim Ukraine-focused community of tech-related entrepreneurs and support institutions, as well as regional players in Central and Eastern Europe (a.e. Startup Wise Guys, Startup Hub Poland) evincing their interest in a form of cherry-picking of the projects and hosting non-recurring events.

The tables are turning now – since 2019 an interest in Ukraine is shifting from a resource-based approach (ex. commoditization of human capital, talented software engineers) to a value-added approach. The word “startup” became a sign of ambitious people with ideas they do not fear to test out. At the moment when Ukrainian Startup Fund (USF) began to operate in early 2020, those ambitious founders had gained an invaluable source of pre-seed financing – allowing them to grow to the level when they will be noticed by regional (and in some cases global) venture capital funds. Still, 4 of 5 early-stage projects use traditional out-of-pocket funding. Pre-existing grant programs (both public, and private) are

responsible for 30% of current early-stage startup funding in Ukraine.

The numbers relate to the transformation that has been happening for the last 5 years. Similarly to other post-Soviet country businesses, Ukrainian projects have targeted mainly international customers, both in B2B and B2C segments. The reason behind that is fairly straightforward: the purchasing power in both segments is significantly higher in developed economies.

As a bonus, a large amount of legacy business models and technological infrastructure are ready to be revised. The supply of local startups is steadily growing. The commoditization of human capital within the largest cities has enabled the emergence of clusters for the middle-income, educated segment of the population (Kyiv still dominates by the emergence of startups, followed by Kharkiv and Lviv).

Finally, the secondary effects of readily-available early-stage financing, should not be underestimated. If a founder had begun his startup journey in early 2010', it would either have been a team that is able to self-finance the project for a considerable period of time, or the project would have become 'dead'. The availability of funding opened a 'breathing room' which led to the fact that the volume of early-stage projects on the market increased while at the same time the gap between pre-revenue and 'first revenue' startups decreased more than twice. Bearing

that in mind, there is still a visible lack of early growth funding available via local investments, nevertheless successfully filled by foreign venture capital.

Summarizing previously mentioned facts, we have a unique opportunity to observe the Ukrainian economy developing with a knowledge-based approach. The combination of local qualified support from Ukrainian Startup Fund and an interest from venture capital from Central and Eastern Europe provides an ideal ground for breeding innovations. Will there ever be Ukrainian 'unicorns'? Perhaps. Will there appear knowledge-based enterprises, serving both local and global clients? Most definitely.



**Mykhailo Khaletskyi**

External Expert and Jury Member,  
Ukrainian Startup Fund

# FOUNDER

In order to create a typology of startups, a series of hierarchical cluster analysis was carried out using Ward's method with an application of the square of the Euclidean distance as a measure of distance. The analyzes took into account many sets of variables from the following range: age (year of establishment) of the startup, development stage, annual project revenues, sources of financing, number of founders, number of permanent employees and the number of external service providers used by an enterprise, area of operation, type of clients of the project and legal form of the enterprise. However, the cluster analysis did not bring satisfactory results. It did not lead to the distinction of several groups of startups and reached clearly different values on the analyzed variables. The startup space eludes attempts to put into distinctive categories based on variables that can be used in the analysis. Probably a larger number of quantitative variables in the research would improve its quality (e.g. a request to indicate an approximate income instead of an income range), the number of clients, the number of pivots (or another indicator to measure startup development).

The largest part of the respondents is occupied by entities at early stages of development, generating no income or generating little income, operating mainly on the global market and looking for B2B clients of both categories. They operate by using their own funds and public grants as sources of financing. That group includes both startups that employ a lot and that don't employ people at all.

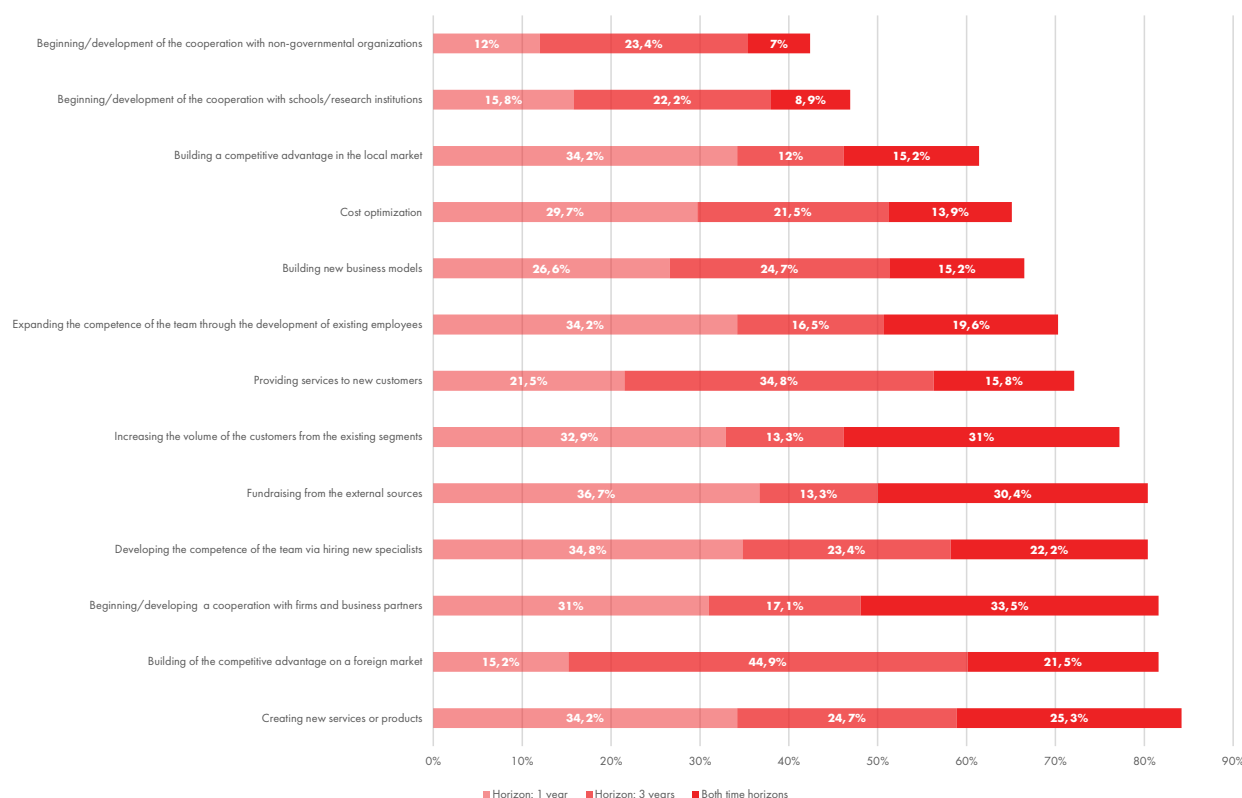
An enterprise in a mature or final stage of development (growth, expansion or exit stage), financed from various sources, including own funds, employing many people and generating profits exceeding EUR 50,000 annually create a separate, few and represented by only 4 entities in the obtained data.

Among the startup community, there are also cases characterized by a unique set of features that form separate clusters when trying to classify a spectrum of entities. An enterprise established in 2021 and describing itself as being at the final stage of development, located in a city with less than 50,000 inhabitants, registered as a limited liability company, employing 10 people and buying services from as many external suppliers, operating in the financial/banking industry — such an entity is creating a separate ideal type regarding the collected data.

# DEVELOPMENT PLANS

Looking broadly – without making a distinction at more or less distant time horizons – one could say, that over 4/5 of startups plans to develop in the following directions: creating new goods and services (84,2%), building a competitive advantage on the foreign market and collaborating with business partners (81,6%), widening the competences of the team through hiring new employees and seeking external financing of projects (80,4%). At least 3/4 of companies also contemplate increasing the volume of customers in the categories currently served. Comparing the popularity of particular categories of development plans shows us that in terms of the desired direction of expansion companies value foreign markets relatively more than domestic ones. Those representatives of business are considered to be more attractive collaborators than those of science or the third sector. Furthermore, it is preferred to broaden the competence of the existing team by hiring new employees rather than investing in the existing ones.

## Activities planned in short- and mid-term period



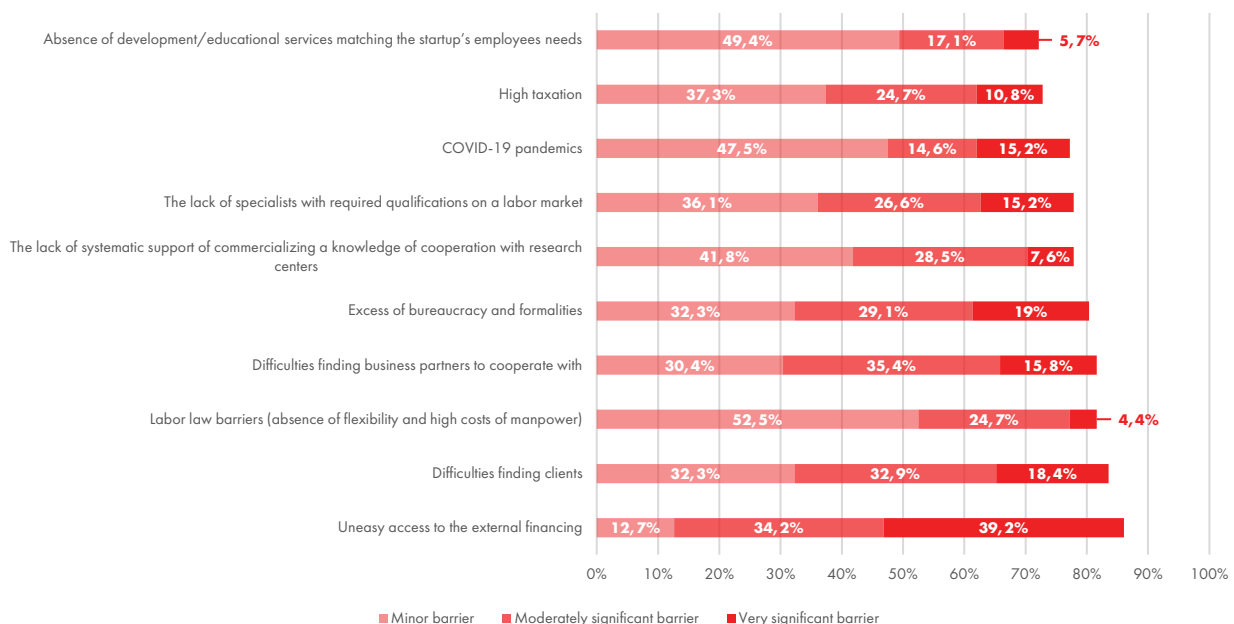
However, if we only take into account the plans made by startups for the nearest future (regardless of whether the plan is to remain valid also in the long-term perspective), acquiring external project financing comes first (for 67,1% of entities). The most important plan in the mid-term perspective, on the other hand, is definitely to build an advantage on foreign markets.

# DEVELOPMENT BARRIERS AND CHALLENGES: EXTERNAL BARRIERS

Startups, as well as organizations of other types, are subject to numerous influences of external and internal factors supporting or inhibiting their development. The external context of the activities of enterprises is determined by the legal regulations, as well as activities of other market players and global events penetrating the immediate institutional environment of startups. Depending on the quality of the factors and the type of organization, the mentioned types of factors with different impact potential may be perceived as opportunities that favor development or as hindering barriers.

The external development barriers mentioned by the examined startups show that they are relatively different in terms of the number of indications. All external barriers assessed by the respondents were shared by over 70% of enterprises, which may be the result of the mood prevailing among startups and the way the question was constructed. However, not all of the perceived development barriers are assessed as equally important.

## External development barriers of startup projects



The most frequently indicated external development barrier (indicated by 86,1% of startups) was the difficulty to access external financing, perceived as a very or moderately significant barrier by 73,4% of entities. More than half of startups (51,3%) also marked difficulties in finding clients and difficulties in acquiring business partners for cooperation as very or moderately significant barriers. 81,6% of enterprises indicated the inflexibility of labor law and the amount of non-wage labor costs as an external barrier hindering their development, though for the majority of evaluators (52,5%) this barrier was insignificant. Nearly half of the enterprises also recorded the lack of development services responding to the needs of employees and the COVID pandemic as a minor impact on their operations.

# EXPERT'S OPINION

The startup ecosystem in Ukraine is a relatively new phenomenon. In the global economy the best practices in this area that we can find in the United States, European Union and Israel. In all these countries key development factors are related to the institutional framework and private and governmental funds.

In the case of Ukraine – Kyiv, Kharkiv and Lviv clusters are the best developed in terms of number and startups quality (72,2% of startups activity). The main external barriers related to the development of new startups are related to the lack of external financial resources. 84,2% of startups start their development with their own financial resources, and 49,4% have receive public grants. For the future development of the startups ecosystem in Ukraine creation of a high quality institutional framework is recommended. The best practices in this area could be based on the Israel and California experience.

Startups in Ukraine are concentrated in similar activities compared to the global market. Currently Ukrainian projects serve: SaaS (21,5%), medtech and health care (19,6%), AI (15,2%), energy (13,3%), agriculture (12%), IoT (12%), education

(11,4%), Telecom (11,4%). A large majority (75,3%) of Ukrainian startups offer their services in the global markets. Due to this fact Ukrainian startups must compete with local and global IT firms in terms of salary level. This is one of the most important limitations for the future development of the Ukrainian startup ecosystem.



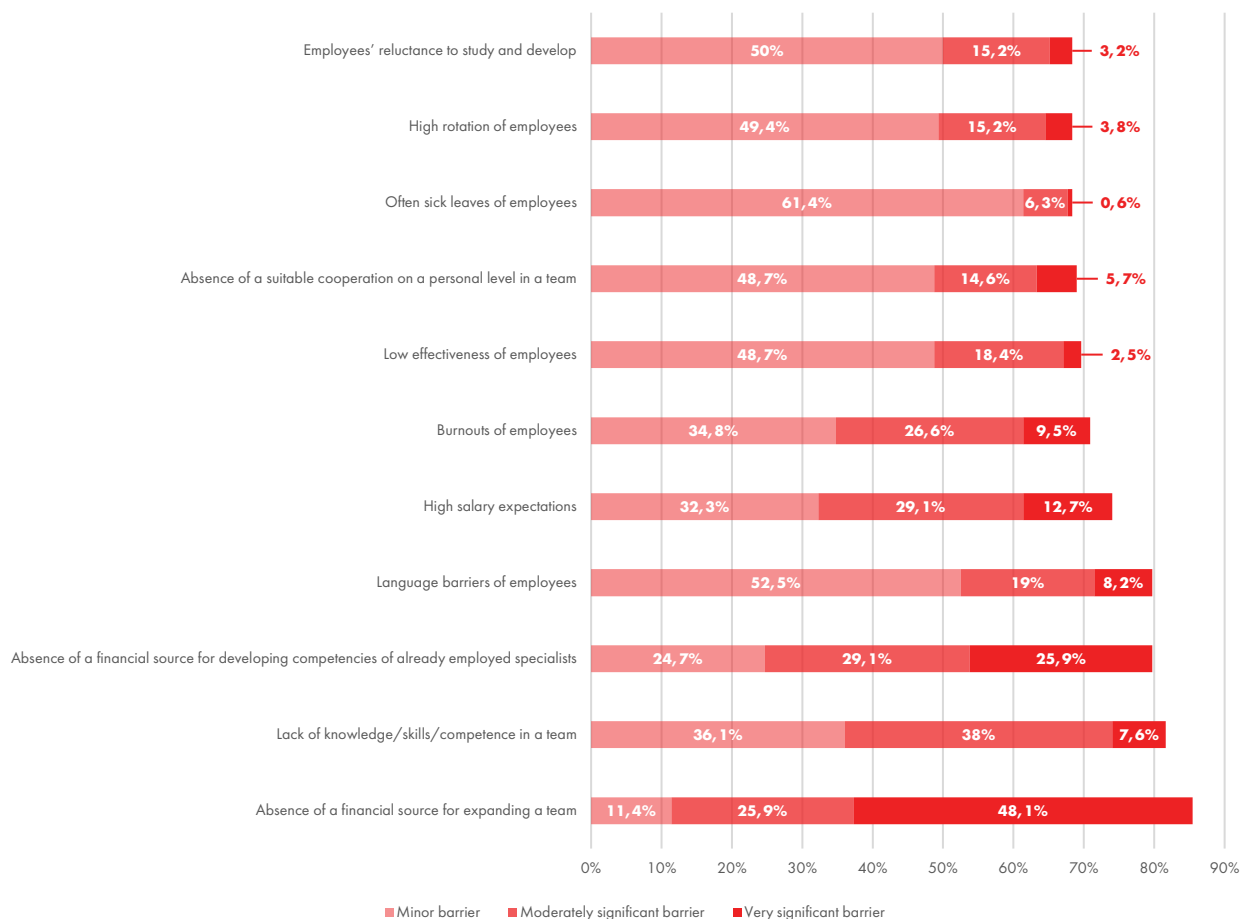
**Witold Wiliński**

CEO  
at GPW Tech S.A.

# DEVELOPMENT BARRIERS AND CHALLENGES: INTERNAL BARRIERS

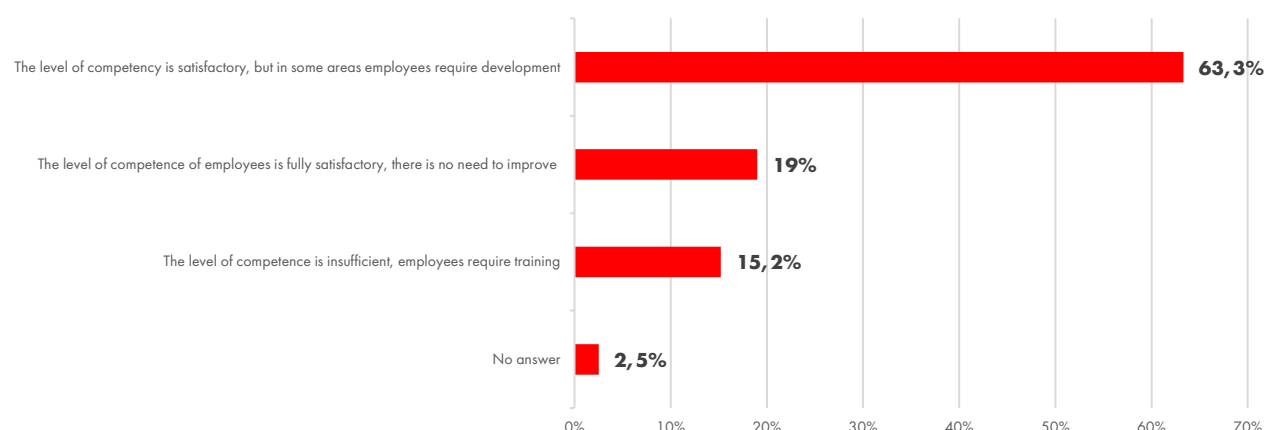
For many companies it seems to be easier to exchange independent external development barriers than to analyze internal constraints that can be manipulated through appropriate organizational management. Nevertheless very often the right addressing of activities helps to overcome internal barriers that determine the market success of a startup. In this context, attention is drawn to the fact that 10 enterprises omitted the question about internal barriers (i.e. 5 times more than in the case of the question about external barriers).

## Internal development barriers of startup projects



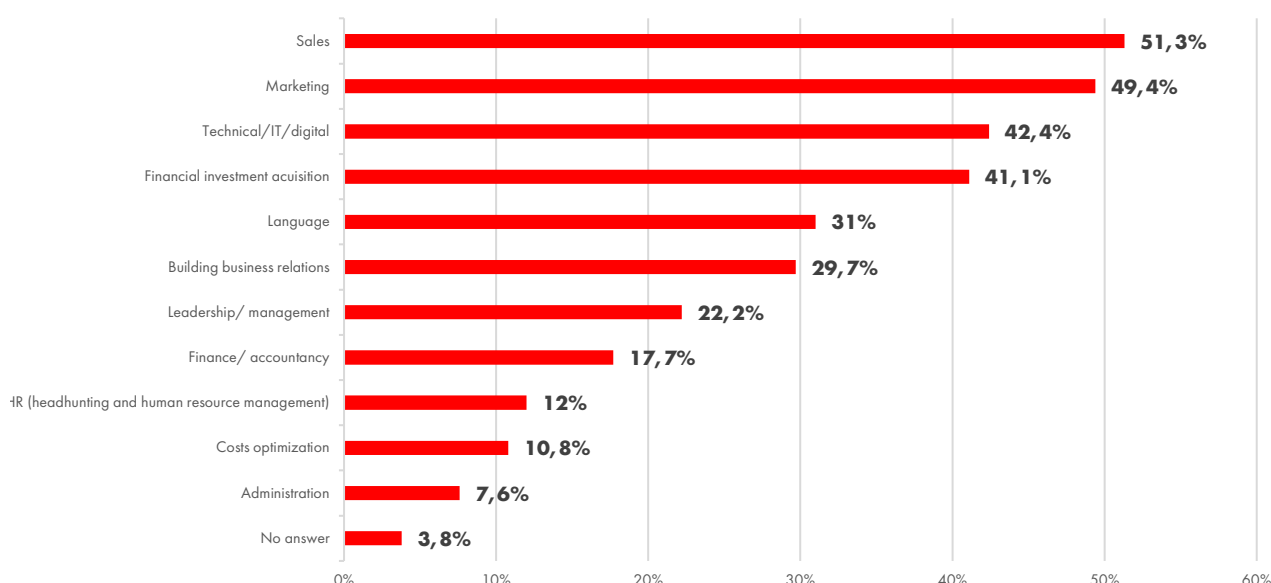
Comparing the structure of responses in the context of the significance of individual types of internal and external barriers we see that internal barriers are perceived as relatively less important than external barriers. The exception here is the lack of funds for expanding the team, which is not only the most common internal development barrier (indicated by 85,4% of startups), but also a barrier that nearly 3/4 companies considered very or moderately important. The barriers related to the lack of appropriate skills employees have and the inability to finance employee development regarding the achievement of desired competencies also seem to play an important role.

## Assessment of the level of employees' competences



The lack of funds for expanding the team is the leading indicator among the internal development barriers mentioned in terms of the number of responses. At the same time, the lack of appropriate team competences and the lack of financial resources for their development are indicated as very and moderately significant barriers by 45,5% and 55,1% of startups. Nevertheless, only 15,2% of the analyzed enterprises indicated that the level of competences of their employees is insufficient. Almost 1/5 of the surveyed startups see no need to improve the skills of their employees.

## Areas of lack of competence of employees in a team

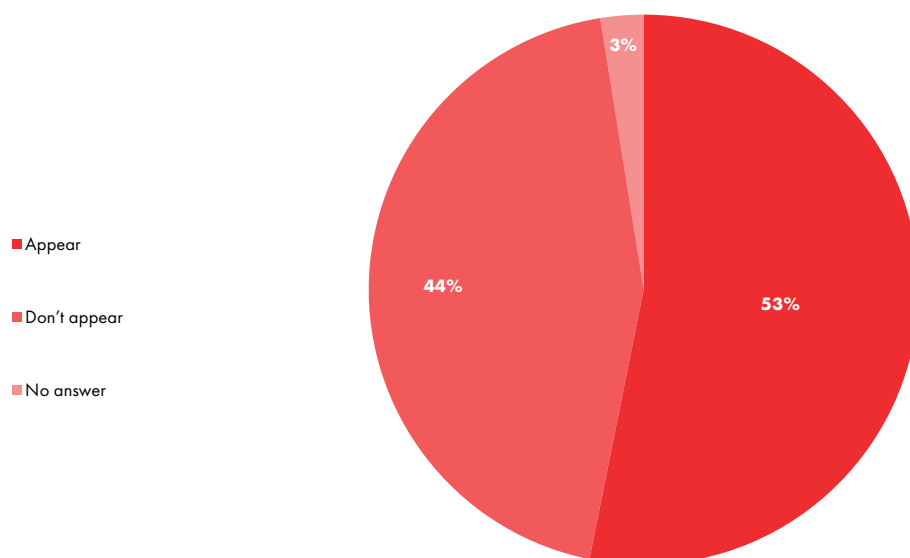


Regardless of the assessment of the level of employees' competences. The areas of lack of competences were also indicated by representatives of startups who assessed the level of their employees' own competencies as fully satisfactory in the previous question. Nearly every second surveyed enterprise stated the lack of appropriate sales and marketing competences among its employees. The lack of technical, IT or digital skills among the team members was diagnosed by 42,4% of enterprises. In turn, the skills related to obtaining financing for investments – by 41,1%. Almost every third startup lacks crew members with the appropriate linguistic background and skills in building business relationships.

More than half of the surveyed startups (53,2%) experience difficulties related to recruiting new employees with appropriate qualifications.

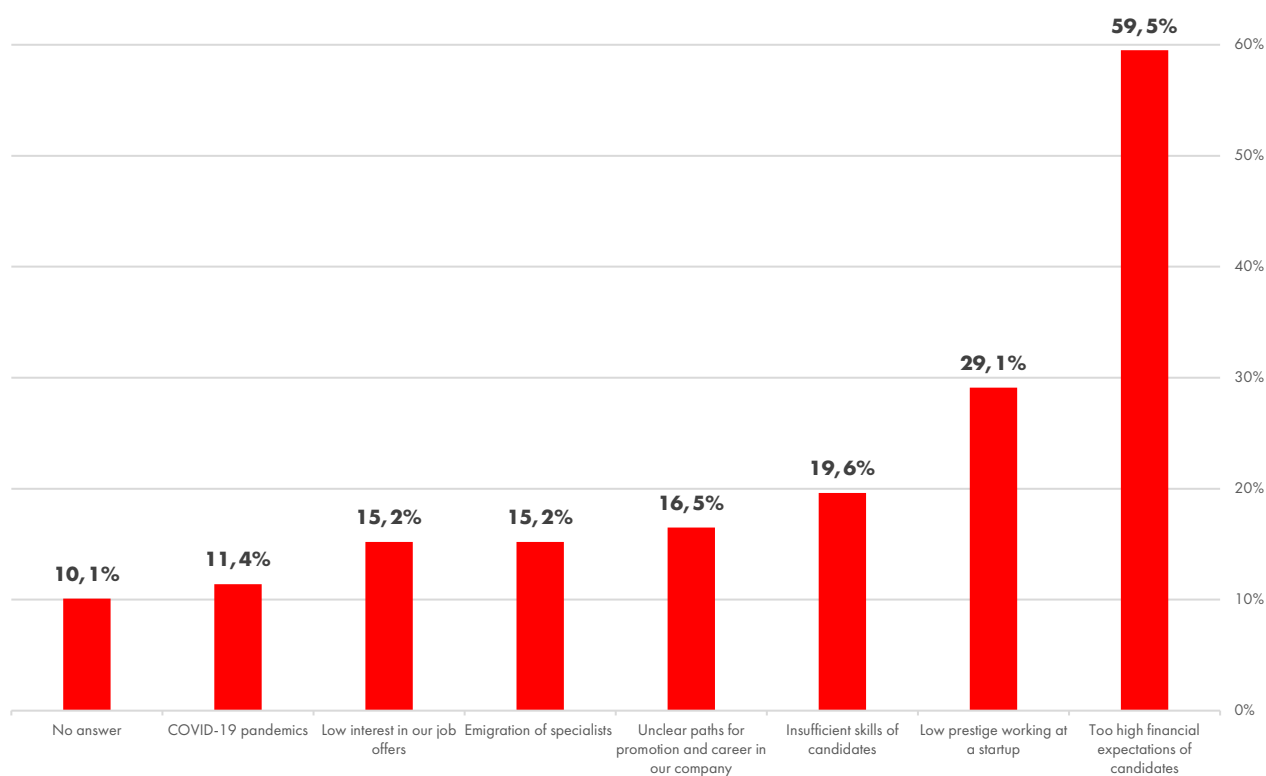


## Difficulties in recruitment of employees with suitable qualifications



The most frequently indicated reason for recruitment difficulties is financial expectations of candidates for employees. This factor was indicated on average by almost 4 out of 5 entities. It should be noted that the reason for those difficulties was also mentioned by representatives of entities who did not find problems in recruiting employees with appropriate qualifications in their own case. The second reason is the low prestige of working in a startup (indicated in every third survey). Almost 1/5 of enterprises find it difficult to recruit employees with appropriate qualifications due to their insufficient preparation for work.

## Reasons for difficulties in recruiting employees with appropriate qualifications



## EXPERT'S OPINION

Since 2020 until today many new players in the Ukrainian startup ecosystem have appeared, particularly incubators, accelerators, VC funds, and angel investors. The governmental fund – Ukrainian Startup Fund has been supporting early-stage startups with grant financing since the beginning of 2020 as well, providing much important access to first capital for them. The mentioned activities and players created a strong development and growth impact for the “first traction & PMF” and higher stage startups, bringing possibilities for scaling up and acquiring financial support.

However, we still have a significant gap on the very initial level of the entire pipeline, caused by the poor level of entrepreneurship education and culture. According to the Global Competitiveness Index 2019, only 7% of Ukrainians are ready to take a risk and launch their own business compared to 41% in the EU. And only 5% of Ukrainians know how to attract resources for developing the new business idea, when in the EU – 31%. Thus, with a low level of basic knowledge about entrepreneurship, tools and methodologies for developing startups, Ukraine has quite a big challenge in creating a stable “fresh blood” flow to make it to the “adult startup scene.”

Eventually, many founders face a lack of basic knowledge and, as a result, don't know how to start and structure their work on a startup and how to raise their first capital. According to the PUBS research, almost 50% of interviewed entrepreneurs lack appropriate knowledge/skills/competencies within the team, and 55% of them have problems with the resources for competence. Moreover, 74% of founders feel the pain of the lack of financial resources for expanding the team.

To ensure the sustainable flow of new young startups, we need to create more opportunities to support the idea-stage startups and first-time founders when they struggle with the validation phase, trying to design the business model and go-to-market strategy. That's because at this stage, startups typically do not match the criteria of most of the funds and accelerators, as they don't have the first traction and validated product-market fit and simply just can't count on receiving the support.



**Andrii Zaikin**

Founder and CEO  
at YEP startup incubator

# EXPECTED FORMS OF SUPPORT

The analysis of barriers indicated by startups, taking into account short- and medium-term development plans, leads to the conclusion that the central point of expectations as to the forms of support for these enterprises is to secure financial support. This is possible by facilitating direct cooperation with entities interested in investing in the development of the project, or by providing tools to increase the efficiency of raising capital through profits from the sale of own products and services.

The most important, most often indicated external barriers are related precisely to the necessity of securing a steady flow of capital, either in the form of funds from external investors (external barrier: difficult access to external financing) or profits from selling the companies own products and services to customers.

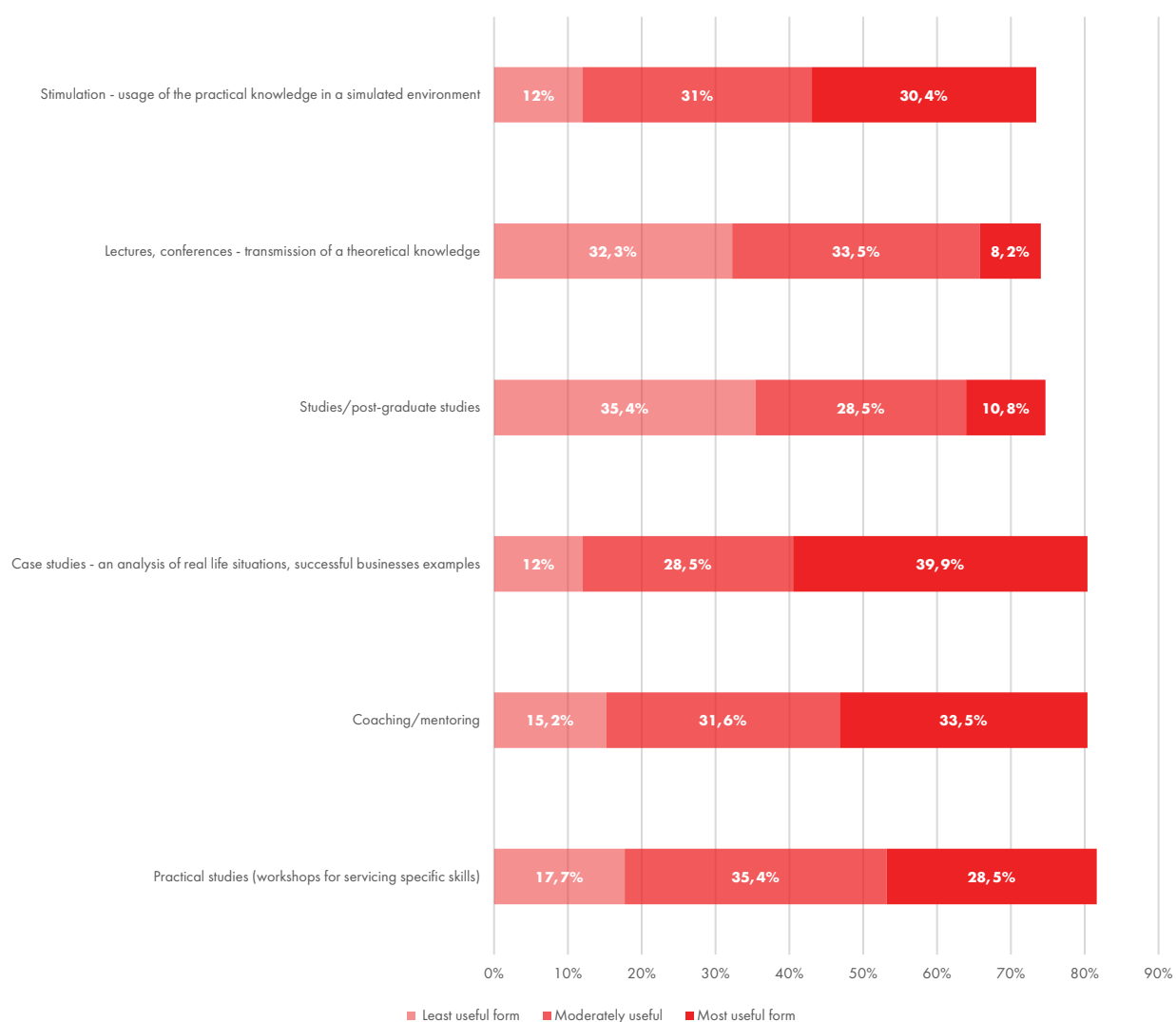
The second group of points of concern also oscillates around financing – i.e. lack of funds for development and for obtaining employees with appropriate competencies (due to the shortage of the latter) – internal barriers. As competence deficiencies concern mainly skills directly related to ensuring capital inflow to the enterprise (i.e. areas of sales, marketing, capital acquisition) and basic difficulties in gaining suitable employees result also from the inability to provide them with remuneration compliant with their expectations (which is a consequence of a lack of adequate financial means), a kind of vicious circle of insufficient financing appears here. One of the ways to escape from the grip of insufficient funding – and it seems – the most effective one is to provide startups with support on their way of developing their own staff in the sales and marketing direction.

Supporting startups in attracting the most qualified employees could also consist in promotional activities around the creative role of startups in shaping the economy by creating technological trends. This could increase the prestige associated with working in a startup and thus slightly lower the financial expectations of candidates for the most qualified employees. Therefore the prestige associated with the position could be a partial compensation for the lower salary.

The expected form of support also seems to be activities that enable companies to realize their plans related to expansion into foreign markets by eliminating the external barrier related to difficulties in finding business partners for the implementation of their projects. Activities aimed at equipping startups' employees with skills related to building business relationships with local and foreign partners and overcoming the internal language barrier in the team of employees could bring good results.

However, not all forms of employee competency development would be equally expected in this context.

## Effectiveness of particular forms of competence development of employees



The forms of development that are seen as the most useful are the ones that are the most practical. Startups may relate to the specific situation of individual organizations (their own or others) or teach employees to use specific tools in workshops. Forms of a more 'academic' nature – lectures, studies, conferences – are assessed by startups as the least useful.

## EXPERT'S OPINION

The study clearly signals the founders' needs. In fact, they are consistent with the needs of Polish startups, although in Poland it is a bit easier to access capital. This comes not only from the lack of local venture capital players, but from a limited networking and partnership relations that are carried out by founders. It also turns out that in Ukraine there are problems with assembling teams, the shortage of highly qualified employees is particularly noticeable. This, combined with problems of accessing the capital, poses a significant risk to development of the industry.

The difficulty in talent acquisition in a startup can be changed by making strategic steps towards a raise of the attractiveness of the positions offered by startups, such as setting up a creative and open-minded working environment with ambitious roles in it, giving an opportunity to shape technological trends, building unique collaborations and business partnerships.

At the same time, it's seen in the responses to the survey that the most needed skills and knowledge for improvement of the competencies of the startups' employees are usually practical ones. In Ukraine, there is an urgent need to have a possibility to share first-hand knowledge, cooperate with experts and

mentors, and build an effective network of contacts that can enrich the mind capital of a project.

Through the activities of the PUSB project, we try to respond to these needs, provide the necessary specialist knowledge, increase team competences and connect with investors. We try to engage experts-practitioners from various industries who can relate to the specific needs of founders. The study confirms the legitimacy and correct direction of our support.



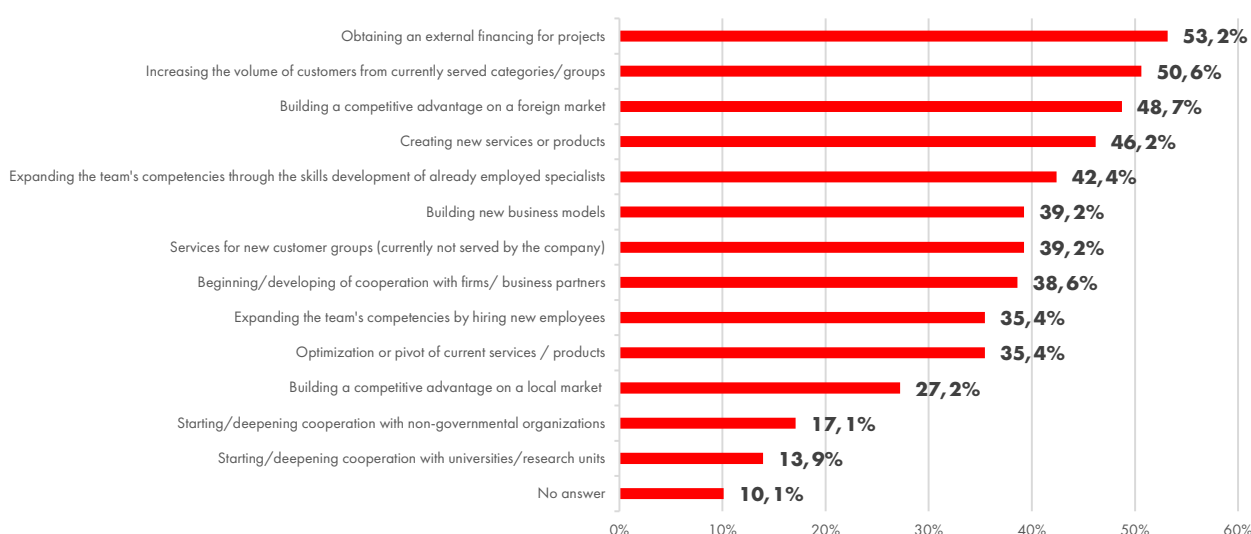
### Krzysztof Grochowski

Leading expert and initiator  
of the Polish-Ukrainian Startup Bridge  
project; CEO at Simpac VC

# ORGANIZATION POTENTIAL

Eliminating the barriers described above will positively influence the use of the startups' potential in terms of human resources and competencies. Participants of the survey indicated that the removal of identified barriers will enable effective acquisition of external funding (53,2%) and support the process of increasing the volume of customers from currently served categories/groups (50,6%). Removing barriers to growth is therefore an action that can unleash the mechanisms that allow the surveyed organizations to expand their scope of operations and expand into new markets.

## Actions indicated by startups that can be taken after eliminating previously indicated internal and external barriers



## EXPERT'S OPINION

One of the most interesting perspectives through which you can look at Ukrainian startups is the issue of barriers to development they indicate. This shows where the market is developing at the moment and how to model possible support for the entire ecosystem.

In this context, it is worth looking at the research carried out by the Startup Poland Foundation for several years ([www.startuppoland.org](http://www.startuppoland.org)) – and the barriers indicated by Polish startups. Interestingly, these are actually similar answers. Both Polish and Ukrainian young companies indicate, first of all, the lack of financing/access to capital. Moreover, in Poland this is the dominant answer, despite the huge amount of public funds transferred to this market, which is incomparable either with Ukraine or with earlier years in Poland.

Similarly, the next elements they indicate – whether there are problems with recruitment and wage pressure, or formal and legislative issues. It is interesting and at the same time shows how close these markets are in some respects – despite significant differences, for example in the legal environment or the development of the financial market.

It also seems to have contributed to the fact that we have similar problems and a similar perception of barriers. Thus, taking into account the variety of programs in Poland – from incubation, through acceleration, to financing by business angels or VC – Poland and Ukraine can support each other in the development of their ecosystems.

All the more, initiatives such as the Polish-Ukrainian Startup Bridge will be significantly valuable in the future. It is also worth noting that not only are we dealing with more and more frequent initiatives to attract Ukrainian startups to Poland, e.g. through Poland Prize programs, but also more and more funds pay attention and focus on the Ukrainian market and investments in this region. Also at Simpect VC not only we strictly cooperate with USB since the beginning, but develop partnerships and cooperation with our colleagues from the whole Ukraine to stipulate investments, knowledge and network sharing.



**Jacek Ostrowski**

Partner  
at Simpect VC

# SUMMARY

The results of the study indicate that for startups to emerge and develop in Ukraine, they need to be strengthened both in the initial and at a later stage of development. Such support should be implemented systematically, on the basis of reliable data, and not common opinions.

The analysis of the identified development barriers shows that the obstacles related to the lack of appropriate skills in the team and the inability to finance the development of employees' competences play an important role. This is a particularly important challenge in the conditions of the economy and knowledge-based businesses. In the case of entities whose innovation is important – as in the case of startups – knowledge and competences are the fundamental resources of the company. The key to the development of young enterprises is to create a space for acquiring competences at every stage.



The aim to expand the competences and skills of Ukrainian startups was one of the reasons for creating Polish-Ukrainian Startup Bridge project in 2018. The training offer conducted by experienced experts from Poland turned out to be extremely attractive for the Ukrainian founders. By participating in them the teams could improve their business models, strategy to reach the market, financial assumptions or intellectual property protection issues.

It was confirmed by the number of applications for participation in the project, which is constantly growing every year. In 2021, there were 100 of them, which is 40 teams more than in 2020. They work mainly for industries such as medicine, artificial intelligence, education or agriculture.

In addition to advisory support, startups can also gain measurable financial support for the development of an idea by participating in the annual Kyiv Tech Hub conference organized by PUSB. In the latest edition, three prizes of PLN 50,000 in total were awarded to those who took part in it. The first place (PLN 30,000) was taken by the Elai.io project. The second and third were awarded to Knopka and Atmosphere, respectively. Each of them received PLN 10,000 for further development of their business ideas.





The support provided to young companies under the PUBS project is an activity that brings benefits on both sides of the border. The business dimension of cooperation allows each party to achieve tangible results in reaching goals. A Ukrainian founder needs an access to development capital that goes together with relationships and know-how in scaling business ideas. Entry to the common European market is also a significant factor. In this respect, a Polish entrepreneur can be an important partner. In Poland, on the other hand, investors are looking for the best-developed projects with optimal scaling possibilities – regardless of the country of origin. The idea is that the capital should be invested effectively and profitably. An investment area as interesting as Ukraine is therefore an important prospect that cannot be ignored. Finally, the achieved synergy in such cooperation is also important – it gives Polish-Ukrainian relations a new impulse to become deeper.

Any support implemented on its own would not be able to achieve lasting results and possibility to scale. That is why, in the face of the challenges faced by Ukrainian startups, strategic cooperation between environments and institutions supporting the industry is so important. This Report is the best example of that – it is created in partnership with key participants in the startup (Ukrainian Startup Fund) and capital (Warsaw Stock Exchange) industries. These activities prove that it is possible to combine potentials and achieve common goals of supporting young entrepreneurs by creating various projects.

# METHODOLOGY

During the survey, which lasted from November 8 to December 7, 2021, opinions of 158 representatives of Ukrainian startups were obtained. Respondents were recruited through the multi-channel distribution of information about the study. Representatives of the target group received information about the study by e-mail, via electronic media, dealing with topics that were of interest to startup representatives. The selection of the sample was therefore deliberate (non-probable) and made it possible to explore the studied population. Given the undefined probability of representativeness, the results should not be generalized to the entire population of Ukrainian startups. At the same time, they are a reliable and valuable source of information about the surveyed population of startup leaders representing organizations. Those ones are from almost all regions of Ukraine, with a diversified profile and business experience.

The survey was carried out using the CAWI (Computer Assisted Web Interview) method. The method of data collection used made it possible to obtain the opinions of respondents through an online questionnaire. Thus, it quickly reaches a large and territorially dispersed group. The platform (TypeForm) used for the study allowed for fully control the data collection process, such as the access to the survey by specific respondents, time to answer individual questions, number of entries to the questionnaire by respondents and consistency of the answers provided. This made it possible to verify the information obtained and ensure high-quality results. During the study, no technical and organizational problems were identified that would affect the course of the study or the quality of the data obtained.

# STUDY CONDUCTING AND DEVELOPING TEAM



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# **BUILDING BRIDGES TOGETHER**