

Analysis of international best practices for startup ecosystem development

Khachatryan Vilen V.

*Head of the Chair of Management of the Public Administration Academy of the RA
Ph.D., Associate Professor (Yerevan, RA)*

vilen.khachatryan@paara.am

Tumanyan Vahe L.

*Ph.D. student of
Chair of Management of the Public Administration Academy of the RA (Yerevan, RA)*

vahetumanyan@paara.am

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Մթաթթափ Էկոհամակարգի զարգացման միջազգային առաջավոր փորձի վերլուծություն

Խաչատրյան Վիլեն Վ.

*ՀՀ պետական կառավարման ակադեմիայի կառավարման ամբիոնի վարիչ,
տ.գ.թ., դոցենտ (Երևան, ՀՀ)*

vilen.khachatryan@paara.am

Թումանյան Վահե Լ.

ՀՀ պետական կառավարման ակադեմիայի կառավարման ամբիոնի ասպիրանտ (Երևան, ՀՀ)

vahetumanyan@paara.am

Ամփոփագիր. Տարբեր երկրներ տարբեր մոտեցումներ են որդեգրել իրենց մթաթթափ Էկոհամակարգը զարգացնելու համար՝ կախված, թե այն ինչ փուլում է գտնվել և ինչի կարիք է ունեցել: Իսրայելը 1990-ական թվականներին, երբ մթաթթափների թիվը և նրանց պահանջարկը վենչուրային կապիտալի նկատմամբ գնալով աճել է, վենչուրային կապիտալի պետական ֆոնդեր ստեղծելու միջոցով ավելացրել է վենչուրային կապիտալի առաջարկը: Ֆրանսիան իր հերթին ստեղծել է ֆոնդային բորսա, որտեղ կյանքի վաղ փուլում գտնվող մթաթթափները հնարավորություն են ստացել վաճառել իրենց բաժնետոմսերը ներդրումներ ներգրավելու համար: Էստոնիան շեշտը դրել է կրթության զարգացման վրա, որպեսզի իր Էկոհամակարգում ավելանան որակյալ մասնագետներն ու նորարար գաղափարներ ունեցող ձեռնարկատերերը: Բացի այդ, Էստոնիան ազատականացրել է ԵՄ անդամ չհանդիսացող երկրների քաղաքացիների մուտքը իր մթաթթափ Էկոհամակարգ՝ մթաթթափում աշխատանքի անցնելու կամ մթաթթափ հիմնելու համար: Էստոնիան ու Հնդկաստանը նաև իրականացնում են իրենց Էկոհամակարգերի առաջխաղացումը համացանցում կայքէջեր ու սոցիալական ցանցերում էջեր ստեղծելու միջոցով: Իսկ Բելառուսը արտոնյալ պայմաններ է տրամադրում մթաթթափներին հարկային ու մաքսային պարտավորությունների զծով:

Հիմնարարներ՝ մթաթթափ, մթաթթափ Էկոհամակարգ, վենչուրային կապիտալ, տեղեկատվական տեխնոլոգիաներ:

Анализ лучших мировых практик развития стартап-экосистемы

Хачатрян Вилен В.

*Заведующий кафедрой управления Академии государственного управления РА,
к.э.н., доцент (Ереван, РА)*

vilen.khachatryan@paara.am

Туманян Ваге Л.

Аспирант кафедры управления Академии государственного управления РА (Ереван, РА)

vahetumanyan@paara.am

Аннотация. Разные страны приняли разные подходы к развитию своей стартап-экосистемы в зависимости от того, на каком этапе она находилась и что ей было нужно. Израиль увеличил предложение венчурного капитала за счет создания государственных фондов венчурного капитала в 1990-х годах, когда увеличилось количество стартапов, пользующихся спросом на венчурный капитал. Франция, в свою очередь, создала фондовую биржу, где стартапы на ранних стадиях жизни имеют возможность продавать свои акции для привлечения инвестиций. Эстония сосредоточила внимание на развитии образования, чтобы увеличить количество квалифицированных специалистов и предпринимателей с инновационными идеями в своей экосистеме. Кроме того, Эстония либерализовала доступ граждан стран, не входящих в ЕС, к своей стартап-экосистеме для работы в стартапе или запуска стартапа. Эстония и Индия также продвигают свои экосистемы, создавая веб-страницы и страницы

в социальных сетях. А Беларусь предоставляет стартапам льготные условия по налоговым и таможенным обязательствам.

Ключевые слова: стартап, стартап-экосистема, венчурный капитал, информационные технологии.

Introduction. Startup ecosystem development policies vary across countries depending on what the ecosystem needs and requires. In order to understand how to develop one's startup ecosystem, it's important to analyze international practices that enabled other countries to develop their ecosystems. Based on that other countries may apply the best policies and ensure long-term sustainable development of their startup ecosystems.

Analyses. The first startup ecosystem we will analyze is Israel. From 1986 to 1992, there was a significant increase in the number of startups in Israel, which increased the demand of startups for venture capital [3, p. 2]. Accordingly, in 1993 the state initiated the implementation of a program to increase the supply of venture capital in its startup ecosystem, known as "Yozma". Within this program, a \$ 100 million state-owned venture capital fund was created to promote investment in early-stage Israeli startups. Out of the \$ 100 million, \$ 80 million went to 10 private venture capital funds, and the remaining \$ 20 million went to direct investments in high-tech companies. Moreover, each newly created private fund "Yozma" had to include representatives of a reputable foreign investment organization and an already established investment organization in Israel. When this newly established fund decided to invest in an Israeli startup, the government made an additional investment through the Yozma State Fund, which accounted for 40% of the startup's investment raised, but not more than \$ 8 million. Accordingly, \$ 100 million of state funds were able to attract additional investments of \$ 150 million from newly created private funds. In addition, in the case of this joint venture of the public-private sector, the participating private venture capital fund had the opportunity to purchase the shares acquired by the state from the moment of the joint venture until the next 5 years. Thus, when the startup that raised money was successful and its stock price was rising, the private venture capital fund was able to buy the state's shares not at the higher price at the time of purchase but at the lower price at the time of the joint venture. This fact stimulated the creation of new private venture capital funds and their establishment in Israel. [3, p. 7]. It is noteworthy that all but three of the newly created private funds took advantage of this opportunity, which indicates that the investments made were generally successful [4, p. 99]. As a result, these 10 private venture capital funds invested in 164 startups, 56% of which had a successful exit, which is the sale of the startup

to other large enterprises or the startup becoming public, ie passing the initial public offering. For comparison, from 1993 to 2000 the average exit rate of Israeli startups that raised money from venture capital funds was 27%, and that of all startups - 14% [3, p. 9]. After the launch of "Yozma" program, the number of private venture capital funds began to grow significantly, and the number of Yozma funds gradually decreased, reaching 0 in 1998. [3, p. 10].

"Yozma" program also encouraged the creation of a large number of new startups. In particular, if in the three years prior to the launch of the program, the number of startups newly created in Israel was 200, then from 1993 to 1995 that number became 440, in just two years. This was due to the fact that as the opportunity and volume of investment in the startup ecosystem increased, entrepreneurs became more interested in bringing their innovative ideas to life and creating startups, which speaks of an indirect impact of "Yozma" program. [3, p. 11-12].

The next analysis of international experience refers to France, which today has a fairly developed startup ecosystem. However, in the 1990s in France, the venture capital market was still young and could not supply the required amount of investment to the country's startup ecosystem. Until the second half of the 1990s, innovators complained that they could not find investors to finance their projects, while investors complained that they could not find promising innovative projects where it would be profitable to invest. The dissatisfaction of both parties was largely due to the fact that the supply of venture capital in the market was quite low compared to its demand, as well as the fact that innovative projects were not well presented to investors so that investors could study and conclude that the projects are really promising. To solve this problem, in 1996 the French government decided to create a separate stock exchange called "Nouveau Marche", which translates as "New Market". The purpose of this newly created stock exchange was to facilitate the access of newly created startups to the financial market, including the sales of shares of newly established startups that had the opportunity to grow rapidly but could not raise sufficient funds to ensure that growth. This "Nouveau Marche" stock exchange enabled startups to become more presentable to investors, increased the opportunity to attract investments from them. It is noteworthy that before the creation of this stock exchange there was also the "Second Marche" stock exchange in France since 1983, which was designed for the promotion of small and medium enterprises.

However, it was evident that the newly created startups are not able to use that stock exchange and they had difficulties attracting investments there. That is why it was decided to create a completely new stock exchange, which would be designed exclusively for newly created startups, which should facilitate the presentation of their projects to investors and attract investment from them. From the investors' point of view, "Nouveau Marche" facilitated the discovery of promising startups by them and reduced the time allocated for it. Since then investors who wanted to invest in startups that were growing rapidly could easily find those startups, conduct their analysis, and invest in promising startups by acquiring their shares directly from "Nouveau Marche". As a result, the number and size of venture capital investments increased significantly from 1998 to 2000 [5, p. 91].

The next analysis of international experience concerns Estonia, which, despite being a small country in terms of population and area, has a well-developed startup ecosystem. The secret of such success is based on several circumstances at once. First of all, this success comes from the fact that Estonia has a high level of education, as a result of which many talented professionals enter the country's labor market. In particular, according to a 2018 study by the Program for International Student Assessment (PISA), Estonian students are among the top students in European countries. Estonian students are in the lead in all three assessment criteria of PISA 2018: "Reading", "Science" and "Mathematics". Estonian students recorded these figures in 2018 among students from 38 countries of the Organization for Economic Cooperation and Development. At the global level, where all 79 countries participating in the study are present, Estonian students are ranked fifth in "Reading" criteria, fourth in "Science" criteria, and eighth in "Mathematics" criteria [6].

The second key factor in Estonia's success lies in its "Startup Visa" program, which allows non-EU citizens to set up their own startup in Estonia, as well as get a job easily in a startup there. There are two legal regimes for this part of the program. The first is for startup founders who are not yet doing business in Estonia but want to start their own startup there. In this case, there are two visa procedures: long-term (up to 12 months) and short-term (up to 3 months). And if the founders who are individual entrepreneurs are already doing business in Estonia and have their own startups, then in addition to applying for the above-mentioned long-term and short-term visas, they can also apply for a temporary residence permit for a start-up business, which can last up to 5 years [7]. This program also makes it easier to hire employees in Estonian startup

ecosystem who are not EU citizens [8]. "Startup Visa" program has been a great success for the development of the Estonian startup ecosystem. In particular, the founders of the startups, who took advantage of the preferential terms offered by the program, moved to Estonia to start or continue their business, paid 72% more labor taxes, but had 46% more turnover in 2020 compared to the previous year. There is also an increase in the number of applicants for the program. In particular, in 2020 Estonian Startup Committee received 88 applications from various non-EU countries. If an existing startup wants to relocate its founders or employees to Estonia to continue their operations, it must be granted "startup" status. This also applies to startups operating in Estonia, which must also apply for "startup" status in order to attract non-EU workforce to their startups. The number of applications for "startup" status in 2017 was 325, out of which 140 received the status, which is 43% of the applicants, in 2018 the number of applicants was 783, out of which 245 received the status, which is 31% of the applicants, in 2019 the number of applicants was 985, out of which 201 received the status, and in 2020 the number of applicants was 685, out of which 25.5%, ie 175 were granted the status [9]. As these figures show, the number of applicants has increased year by year, except for 2020, which is due to the spread of the "COVID-19" pandemic, which has imposed many restrictions on visits to Estonia. However, the number of applicants registered in 2020 has decreased by only 30% compared to 2019, which, given the conditions of the pandemic, is quite a good indicator. The percentage of "startup" status granted fell from 43% in 2017 to 25.5% in 2020, which indicates that the status is granted only when such a decision will be beneficial to both the applicants and Estonian startup ecosystem. Since the start of the program, Estonian Startup Committee has received 2778 applications, out of which 761 have received the status, which can be considered a success of the program.

And the last international experience study relates to Belarus. The Belarusian High Technologies Park, which was established on the basis of Decree N 12 of the President of Belarus on "High Technologies Park", adopted on September 22, 2005, which the greatest contribution to the development of the Belarusian startup ecosystem. It has a special legal regime for IT companies. In particular, the decree sets preferential terms for taxes and customs duties for IT enterprises [1].

The first phase of the High Technology Park lasted until 2016 and is called HTP 1.0. During this time, the main focus of Belarus' IT industry has been on outsourcing, which is the development of

software, the ownership of which, when the work is completed, passes to the customer. The Decree N 8 of the President of Belarus on “Development of the Digital Economy”, adopted on December 21, 2017, which amended the Decree N 12 of the President of Belarus on “High Technologies Park”, was crucial in the development of the Belarusian IT sector, especially the startup ecosystem and started HTP 2.0 phase. It was this decree that extended the legal regime in the High Technologies Park until January 1, 2049. Prior to that, the legal regime in the Park lasted for 15 years after the entry into force of Decree N 12 on “High Technologies Park”. This new decree, in addition to the Presidential Decree N 12, added a number of provisions clarifying the criteria for becoming a resident of the Park and areas of activity [2].

As a result, in 2017 the annual growth rate of exports of IT services of High Technologies Park was 25%, and total exports exceeded \$ 1 billion, and in 2018, the annual growth rate of exports was 38%, in 2019 - 55%, and in 2020 - 25%, making the total export volume almost \$ 3 billion. The number of Park's resident companies and startups began to grow at a much faster rate, making a record 712% growth in 2018 compared to the previous year, 19% growth in 2019 and 5% growth in 2020. At present, the total number of resident companies and startups in the High Technologies Park exceeds 1,000, amounting to 1065. Prior to the ratification of Decree N 8 of the President of Belarus on “Development of the digital economy” on December 21, 2017, the number of startups in the Park was 192, and after ratification, the number of startups registered in 2021 was 1,004, five times the existing 192 figure, bringing it to 1065 [10].

Startups and Startup ecosystems in general need to be promoted so that they become more presentable and visible to entrepreneurs, investors, other members stakeholders of the startup community. To this end, governments in many countries collect information about their startup ecosystems, make it available on the Internet by creating websites and social media pages that present important news about their startup ecosystem, the startups operating there, the regulatory framework, and other information. An example of such an initiative is the initiative of the Government of Estonia, Startup Estonia, which provides access to a rich database through its website on the startups operating in their startup ecosystem and the key indicators recorded by them. In addition, the website presents the legal framework governing the sector and the opportunities it offers for both entrepreneurs and employees, as well as investors. In separate sections, the website presents the main programs

implemented by them, such as “Startup Visa”. The website also contains the main news of the Estonian startup ecosystem [11]. The “Startup Estonia” initiative also promotes its startup ecosystem on the world's most popular social media networks, such as Facebook [12], Twitter [13], Instagram [14] and «LinkedIn [15], that mainly present the important news of the ecosystem and the events to be held. Users of these social media networks, in turn, can follow these pages and get acquainted with the developments taking place in Estonian startup ecosystem.

The Government of India also has an initiative to promote its startup ecosystem called “Startup India”. In addition to information on startups in Indian startup ecosystem, the website provides information on startup ecosystem accelerators and incubators, investors, government agencies and provides opportunities for interested parties and organizations to contact them. The website also presents the programs and events held by the Indian government and various organizations and the opportunities to participate in them. As in the case of Estonia, the website also contains information on the legal framework governing the sector [16]. This initiative has its presence on Facebook [17] and Twitter [18] social media networks, where the main news, programs and events of the Indian startup ecosystem are presented.

Conclusion. Countries use different methods to develop their startup ecosystems. Israel increased the supply of venture capital through public venture capital funds when the number of startups and their demand for venture capital increased significantly. France created a new stock exchange dedicated solely for early-stage startups. Estonia, on the other hand, develops its educational sector to provide qualified specialist and entrepreneurs having innovative ideas to their startup ecosystem. They also implement facilitate the entry of non-EU citizens to their ecosystem through “Startup Visa” program. Along with India, Estonia also promotes their startup ecosystem through websites and social media networks. And Belarus applies preferential tax and custom duties conditions for IT companies to promote their development in the country.

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