

**K.K.Satybaldy***Al-Farabi Kazakh National University, Almaty, Kazakhstan***Innovative start-ups are the basis of economic development**

**Abstract.** The article discusses the impact of innovative startups in the world economy. The analysis of the manifestation of the origins of the startup and its development in different countries is given. The author gives an assessment of successful innovative projects that served as the start of many projects. The article also discusses the state policy of Kazakhstan in the field of innovative development, the importance of the adopted programs. The experience of European and Asian countries is offered in the development of innovative startups is offered.

**Keywords:** innovative start-ups, innovative projects, innovative ideas, entrepreneurship

**DOI:** <https://doi.org/10.32523/2079-620X-2020-1-99-107>

**Introduction.** Innovative start-ups today are one of the main forces of economic development. Innovative start-ups contribute not only to scientific and technological progress, but also introduce new products, services and technologies into our lives. The most successful and promising business ideas very quickly change to the vector of the world economy. By analyzing innovative start-ups, we can predict which market niches will become the most profitable in the near future. Start-ups today play a very important role in the growth of the economy in all developed countries. With the help of successful start-ups, many countries have made truly enormous strides in their economies.

**Main part.** The word «start-up» in application to business has been used since 1939 in California (USA), where at this time new companies in the field of advanced technologies began to appear en masse. And initially, it was used only in businesses related to innovative technologies. It was associated with the emergence of new businesses that sought to present to the market what others had not yet created. Subsequently, the concept of «start-up» migrated to other areas of small business and entrepreneurship. Start-ups are called not only innovative projects, but also any newly created businesses, which is not quite true. There must be innovation in a start-up – a new idea, a new product, a new service. The main features of start-ups: a start-up is a new business that has just been created, has just started its activity, a start-up has innovative ideas, start-ups often use innovations in management and organizational business processes, all processes in a start-up are at the stage of formation, constant search for investors, rapid introduction of new ideas, new developments into life. This is one of the main conditions for the viability of a start-up, and it is also one of its main advantages. Investors will not wait long for a profit from the project. And a start-up can't exist forever. It will either quickly turn into a profitable company or disappear. As in any small business, so in a start-up there are no uniform rules or recipes for success. In any field there are specific rules and errors. But some of the success factors of start-ups can be systematized and generalized. What are these factors:

1) the Start-up is supported by the enthusiasm of its creators, their innovative ideas. Many start-up creators show professionalism and high competence in the chosen direction and in business matters. If the creators of a start-up have only minimal ideas about the promoted product, the idea is doomed to failure.

2) High level of project preparation. Before launching a start-up, it is necessary to take into account potential pitfalls and work out the maximum number of details. All sorts of problems will still arise when promoting a start-up, but their number must be minimized.

3) The hard work of the entire team of the start-up, without which it is simply impossible to succeed. Even if you have a very interesting and relevant idea for a start-up, you need to

spend a lot of time and effort on its implementation. The presence of a cohesive team of like-minded people in the project is an indispensable component of success. Constant disagreements and conflicts within the team will lead to the imminent collapse of the start-up.

4) The presence of competent, complementary team members in the project. Development and planning of the project, promotion of a new product in the markets, search for investors—all this, as a rule, is not possible for one person. Therefore, as the creators of start-ups often act not one person, but several contributors, each of whom performs his own function. There shouldn't be many. And the entire start-up team should not be big. You should not get carried away with the number of partners. The more partners in a start-up, the more disputes and disagreements. 2-3 (maximum 4) people can solve any problems and difficulties.

Here's what Jeff Bezos, the founder of Amazon, said about it:

«If you can't feed a team two pizzas, you have too big a team.» [1]

5) A start-up should stand out from other companies by the innovation and attractiveness of its idea or product for the market. It is necessary to properly promote the idea, non-standard PR, powerful but inexpensive advertising. Without this, no one will know about the start-up, and it will be doomed to failure.

6) Attraction of investments and sufficient financing of the project. Without it it is impossible to achieve success today. Without proper financial support, the start-up will not be able to develop and will not be able to move to the market.

The strategy of development of a start-up provides for several stages that it must go through. Of course, not all start-ups go through their development stages in the same way. Like any business, every start-up develops in its own way. But there are several stages that each start-up must go through: 1) the emergence of the idea of a product or service; 2) the stage of checking the idea, preparing a sales plan, marketing strategy; 3) Confirmation of the utility and demand for the product or service; 4) the end of the start-up[2].

Every developed country pays attention to the development of start-ups. After all, many start-ups in the future will promote the growth of the economy for any country. But there are still countries that pay more attention to start-ups. An example of support for start-ups is the United States. In the United States, business schools, universities, technology parks, various start-up support programs, various funds, and private capital support start-ups. Together, they create an «ecosystem» with excellent conditions for the creation and development of start-ups. For example, the Massachusetts Institute of Technology has developed an infrastructure of high-tech entrepreneurship. The center of technological innovations was established at the Institute. In this center, new ideas are selected on a competitive basis. Selected ideas are offered priority conditions for promotion, looking for sources of funding, investors. But the most successful example of a start-up ecosystem is Silicon Valley. The ecosystem is formed on the basis of Stanford University and large world-famous high-tech companies. And most of these companies started out as start-ups. It should be noted that students from the United States create the majority of start-ups. And before attracting investors, they receive support from universities[3].

A start-up ecosystem is an ecosystem that stimulates innovation and energizes the initial phase of a business. A start-up ecosystem, like any ecosystem, is a functional unity of living organisms and their habitat. A start-up ecosystem is both start-ups and existing businesses that support and interact with them. These are both investors and carriers of ideas. This is the environment created by the state and the business community. Recently, the joint use of the economic terms «innovation», «entrepreneurship», «business» and the biological category «ecosystem» has become widespread throughout the world. James Moore was the first to introduce these terms in 1993. Today, the terms «entrepreneurial ecosystem» and «innovation ecosystem» are firmly in the business lexicon. Moore defined a business ecosystem as follows: «business ecosystems are dynamic and co-developing communities consisting of diverse entities that create and receive new

content in the process of both interaction and competition»[4]. Many economists emphasize that the entrepreneurial ecosystem is effective, where there are no high barriers between businesses and individuals, where, despite competition, there is cooperation in different areas and sectors, where there is a high entrepreneurial culture.

For Kazakhstan, a country with a commodity economy, the development of innovation can help to avoid an economic crisis in the future, if oil prices begin to fall. Therefore, the state lays the Foundation for the innovation ecosystem: it is opening techno parks and innovation hubs, allocating billions of investments to support innovative projects, and making amendments to the legislation on venture financing.

How to develop innovations in Kazakhstan: By 2050 the state has a goal to take the 30th place in the international ranking of competitive countries. Kazakhstan aspires to become the center of innovative development in Central Asia. To achieve these ambitious goals, the government has developed two state programs: industrial and innovative development of Kazakhstan for 2015-2019 and «Digital Kazakhstan».

The first is to diversify the manufacturing industry and increase its competitiveness. The program is designed to modernize traditional sectors of the economy and create new areas with high innovation and export potential. To do this, it is necessary to improve the innovation ecosystem: new industrial technology centers have opened in different regions of the country, and promising IT developers have the opportunity to study, participate and receive grants. The government has allocated 878.3 billion tenge for the implementation of the program. «Digital Kazakhstan» complements the first program in the issues of digitalization of the economy and improving the quality of life of the population thanks to modern technologies. The program «Digital Kazakhstan» will provide the economy with growth of 30%. The government will spend 141,048,387 thousand tenge for its implementation until 2022. The program has five key areas:

- \* digitalization of basic sectors of the economy;
- \* digital state;
- \* human capital development;
- \* formation of high-speed and secure infrastructure for data transmission, storage and processing;
- \* creation of new infrastructure for digital transformation of the country[5].

The Park of innovative technologies «Alatau», Tech Garden and Astana Hub were opened in Almaty and Astana. Projects should provide IT start-ups with working spaces, financial and non-financial opportunities for training and investment search.

In addition to the «Digital Kazakhstan» program, the state program of industrial and innovative development for 2015-2019 participates in the creation of a favorable innovation ecosystem.

Thus, in Kazakhstan, one of the main sources of financial and non-financial assistance to innovators remains the state. From 2011 to July 31, 2018, represented by the National Agency for technological development (NATR), it invested in 340 innovative projects totaling 14,230.2 million tenge. The largest number of innovative grants were received by entrepreneurs and developers from Almaty, Astana and Karaganda regions. In the first half of 2018, the Agency signed three contracts totaling 347.9 million tenge[6].

Support for innovation in Kazakhstan is sponsored by JSC «Kazakhstan Institute of industry development», which is responsible for the development of territorial clusters from different sectors of the economy, and JSC «Science Foundation». It issues grants for the commercialization of scientific and technical activities on a competitive basis. To measure the effect of these investments on the economy is still difficult, and early. On the website of the National Agency, in the section of statistical data, the following figures are given: 3,158 jobs created and 9 billion tenge of taxes paid[7].

Existing state programs have already provided the necessary infrastructure to strengthen the innovation ecosystem. Clusters, start-up accelerators, business incubators and techno parks in different regions of the country offer opportunities for the development of innovative projects in Kazakhstan. The largest and most famous start-up sites-Almaty Tech Garden and Astana Hub-are supported by the state. There are also private business incubators, for example, MOST or Factorial. In the latter, mobile application developers are trained. In three years, 300 people from 14 countries have graduated, creating more than 200 mobile applications. Tech Garden cluster is called «Kazakhstan's Silicon Valley», which is located in the foothills of the Trans-Ili Alatau[7].

Technological directions of the cluster:

- \* smart industry and new materials;
- \* «smart» environment;
- \* new energy and clean technologies;
- \* FINTECH;
- \* e-commerce;
- \* new media.

Another Kazakhstani Silicon Valley is emerging in the capital and is called the International Technopark of IT start-ups Astana Hub. Successful projects have already appeared in connection with the Technopark, and there is a list of investors in the «Investors» section of the website. In some cases, it is even indicated how much they are willing to invest. Technopark forms community innovators who could gain knowledge not only from organizers and experts within the framework of acceleration programs, but also from each other. Graduates of the first acceleration program launched 10 start-ups and attracted investments totaling 28 million tenge in their projects during the three months of training. The second stream of acceleration involves 11 projects from Kazakhstan and one each from Tajikistan, Russia and Uzbekistan[8].

Foreign experts believe that the introduction of Industry 4.0 technologies, such as cyber-physical and robotic systems and large data analysis, will help to increase the efficiency of enterprises by 10-20%. To solve these problems, the Ministry will create seven «reference digital factories» on the basis of existing enterprises and adopt a new concept of industrialization for 2019-2024. The concept will prescribe measures to stimulate enterprises: concessional lending and subsidizing industries that introduce innovative technologies.

«Internet of things» is an important technology for digitalization of Kazakhstan's economy. «Smart» devices connected to a network help to monitor the operation of equipment, manage it remotely and significantly increase efficiency. «Internet of things» is used both in large enterprises and strategic facilities, as well as in «smart home» and «smart city» systems. But not every tech start-up can become a contractor for a public sector company to deliver Internet of things solutions.

[9] The cost of a universal platform for a smart device does not exceed \$70, and ready-made devices begin at \$200. For the organization of production you need a clear idea of the market. In PIT «Alatau», for example, production of electronic devices of special purpose is adjusted: TV-consoles, household network devices, means of communication for military. According to our information, all products are sold in Kazakhstan, there are no international customers.

Not always promising, at first glance, state projects meet expectations. This happened with the Park of innovative technologies «Alatau», built in 2003. The Technopark was to become a center of innovation with favorable preferential conditions for tenants and attract at least 250-350 million dollars of foreign investment to the country. The project was developed on the principle of a high-tech park in Belarus, where in 2017 192 companies provided exports of products and IT services worth \$ 1 billion and attracted more than \$ 100 million in foreign investment. Domestic technoparks cannot boast of such indicators yet. According to Sputnik.kz, in May 2017, 154 companies were registered in PIT «Alatau» [10].

Future developers, scientists and programmers launch innovative projects and learn to

find funding within the walls of alma mater. As students, they start collaborating with venture investors and launch projects to the market. In the US, the income of universities is not limited to educational services. Under the universities act of the Board of Trustees of the funds funded by the alumni. For example, the endowment Fund of Harvard University is equal to 37.1 billion dollars, Yale-27.2 billion dollars, Stanford-24.8 billion dollars. This money is invested by universities, and the profits are spent on infrastructure development, grants and the creation of venture funds. As a result, it is not so difficult for start-ups in the United States to find funding, but only really worthwhile ideas withstand high competition.

In Kazakhstan, there are also technoparks at universities, for example, at KazNU. al-Farabi Kazakh National University, the IT University, and Nazarbayev University AUPET. There are also competitions among start-ups and training programs for young entrepreneurs in technoparks.

While Kazakhstan's universities cannot show large-scale success of University technology parks, there are striking single examples: the first Kazakh company manufacturing bionic upper limb prostheses – MBionics. Its founder Maulen Bekturganov collected the first prototypes of prostheses when he studied at the IT University. Maulen has applied for product licensing and is preparing to launch the first production model on the market. It will be cheaper than many foreign analogues due to its own developments and 3D printing technology.

Competitions for start-up projects have become more frequent in Kazakhstan. Both private companies and government agencies are taking the initiative. For example, NATR selects applications for the national innovation competition, which is designed for schoolchildren and students.

Kazakhstan is ranked 74th in the Global innovation index. We are noted by the compilers as the leaders of the Central and South Asia region, along with India and Iran. We are praised for the high volume of foreign direct investment in the country, which is usually used to transfer technologies. Investors, as practice shows, are starting to build new high-tech enterprises in our country. Also, the number of students and teachers related to applied and fundamental science is growing in Kazakhstan. The most relevant technologies for today, where there are wide opportunities, are artificial intelligence, augmented and virtual reality, the «Internet of things» (IoT) and, of course, blockchain. Do not forget about changes in the ways of communicating with customers through chatbots and other marketing tools. The global market for virtual chatbots is expected to reach \$ 1.25 billion by 2025, and the virtual and augmented reality market is expected to reach \$ 215 billion by 2021.

The Kazakhstan manufacturer of POS terminals-Smart Pay company – can be called the largest success noted by competitors. Their «smart» terminal replaces expensive equipment, gives access to cloud technologies, and allows small and medium-sized businesses to transparently sell and accept any type of non-cash payments.

Startup is the world's engine of change, especially in terms of business growth. Over the past two years, the global startup economy generated \$2.8 trillion in economic value. This estimate comes from the 2019 Global Startup Ecosystem Report (GSER), out today from Startup Genome and the Global Entrepreneurship Network (GEN). The report includes, among other things, a ranking of the top 30 startup ecosystems and an analysis of Life Sciences ecosystems. Astonishingly, there are now nearly 50 regions worldwide creating at least \$4 billion each in ecosystem value. We continue to see rapid ecosystem growth in places like Jakarta, Seoul, and the Greater Helsinki region. Startups are necessary for an expansion in which an economy is needed to accommodate new jobseekers who just enter the labor force. It also helps in improving the future of technology development and growth of global economy. Not only that, startups also help in building good and effective environment for research and development which keeps the economy healthy. There are several examples of successful startups over the world: Grover, Biopack Packaging, BitLumens, Civic Eagle, FenSense, Lynq, Mitte, Waycare.

Leading countries have been developing the innovation ecosystem for decades, investing heavily in it and attracting the best specialists from different countries. The world intellectual property organization publishes a Global ranking of the most innovative countries in the world. They assess countries on 80 parameters, including the volume of high-tech production, the cost of supporting innovation and the level of education[11].

The leaders of the rating for several years in a row are Switzerland, the Netherlands, Sweden, the United Kingdom, Singapore and the United States. Switzerland, for example, has the most patents and inventions registered per capita. The state, business and educational institutions unite to create technology parks and research centers. Industrial giants are investing in the opening of research centers and innovative developments. Switzerland is also a leader in «green» energy: at the EXPO in Astana, the Swiss presented a manned aircraft on solar panels and the world's first non-volatile house – a three-story mansion that generates electricity from the energy of the sun. Behind Switzerland in the Global ranking are Sweden and the Netherlands-leaders in spending on science and technology development. Swedish inventions, ranging from the Celsius thermometer to Skype, are used by the whole world. Back in the 90s, the Swedish government introduced benefits for the purchase of PCs. Later, the state opened a business incubator with 16 branches in different cities to support local and foreign IT entrepreneurs. Innovation Agency Vinnova annually invests 2.7 billion SEK in promising projects. The national Association includes 43 Swedish incubators and 33 research parks[12].

In the UK, the digital economy accounts for 12% of national GDP. Innovators and IT entrepreneurs are supported by the organization Tech Nation, created as a result of the merger of two technology clusters-London Tech City and Tech North. The organization supports 4,000 start-ups in 12 cities. The United Kingdom attracts IT specialists on a regular basis, so it announced a simplified visa issuance for foreign founders of start-ups in the spring of 2019[13].

Tel Aviv competes with Silicon Valley, but unlike the United States, Israel often dispenses with the forces of local specialists, skillfully attracting foreign investment. At the same time, Israel remains the world leader in spending on scientific research in relation to GDP. The secret of the Israeli economic miracle lies in a competent state policy in the field of innovation. The locomotive of the entire industry in 1993 was the state venture Fund Yozma with a budget of \$100 million. He took under his wing a dozen other venture funds with different specializations and within seven years invested \$200 million through them, creating 4,000 technology companies that attracted \$ 7billion in foreign investment. The participation of the state fund in the companies that received investments was minimal, and when the budget money for development ran out, the government attracted foreign investment. It was decided to finance as many promising projects as possible with small funds. Already in 1997, the state fund officially passed into private hands, leaving behind a developed ecosystem. Later, the flow of foreign investment doubled. The investment climate in Israel to this day remains one of the most favorable in the world[14].

For the first time in the top 20 was China, where by the end of 2018 the number of specialists engaged in science and innovation will exceed 6 million. Such a large army of scientists and innovators can be found nowhere else. In China, technological development is mainly sponsored by government agencies. In many regions there are departments of science and technology, which are subject to technology parks, business incubators and higher education institutions. For example, in Harbin province with a population of just under 40 million people, there are 190 business incubators. The national Eastern Center for Technology Transfer (NETC) participates in the formation of the state innovation policy, one of its tasks is to integrate technical and scientific achievements into the economy[15]. Kazakhstan occupies the 74th position in the world ranking and holds the 3rd place in the region of Central and South Asia, competing with India and Iran.

Conclusion. As you can see, innovative start-ups have a significant impact on the development of the world economy, and over time, their influence only increases. Additionally,

those countries that contribute to the creation and promotion of start-ups occupy leading positions in the world economy.

Thus, the acceleration of the processes of creation in Kazakhstan of a full-fledged market of technology entrepreneurship as an important element of the national innovation system and the economy necessitates an organizational specification of the basic rules and to develop unified recommendations for the establishment and management of start-up businesses, and complex problem-solving institutional, investment, information and other nature. The implementation of a well-thought-out innovation policy by the state, as well as the intensification of efforts of all participants in business processes aimed at creating a complete innovation infrastructure will contribute to the successful functioning of innovative enterprises and create favorable conditions for venture investment. This, in turn, will contribute to the implementation of an innovative model of a competitive and sustainable economic system of Kazakhstan's regions.

### References

- 1 Стоун Б. Джефф Безос и эпоха Амазона. – Нью-Йорк.: Back Bay Books. – 2013.- 350 с.
- 2 Сан В., Лю С. С., Чжан, Л. Оптимальная стратегия запуска генератора для массового восстановления энергосистемы. // IEEE Transactions on Power Systems. -2010. №26(3). –С. 1357-1366.
- 3 Брей М. Дж., & Ли Дж. Н. Доходы университетов от передачи технологий: лицензионные сборы и долевые позиции. // Журнал делового предпринимательства. -2000. №15(5-6). - С. 385-392.
- 4 Мур Дж. Ф. Смерть конкуренции: лидерство и стратегия в эпоху бизнес-экосистем.- Нью-Йорк.: HarperBusiness. - 1996. – 297 с.
- 5 О Государственной программе по форсированному индустриально-инновационному развитию Республики Казахстан на 2010-2014 годы и признании утратившими силу некоторых указов Президента Республики Казахстан. Указ Президента Республики Казахстан от 19 марта 2010 года. № 958. – 2018 [Электронный ресурс]. - 2018. - URL: <http://adilet.zan.kz/rus/docs/U100000958> (Дата обращения: 1.11.2019).
- 6 Талимова, Л., Ахметова, З., Накипова, Г., Беспаетва, Р., Куттыбаева Н. (2018). Анализ маркетинговых аспектов инновационного предпринимательства в регионах. // Журнал передовых исследований в области права и экономики. – 2018. № 9(2 (32)). - С. 705-713.
- 7 Государственная программа индустриально-инновационного развития Республики Казахстан на 2015 – 2019 годы. Указ Президента Республики Казахстан от 1 августа 2014 года №874. – 2018 [Электронный ресурс]. - 2018. - URL: [http://www.akorda.kz/ru/official\\_documents/strategies\\_and\\_programs](http://www.akorda.kz/ru/official_documents/strategies_and_programs) (Дата обращения: 1.11.2019).
- 8 Майорова Б., Жетписбаева М. Экосистемные стартапы в Казахстане. //Вестник КазНУ Серия журналистики. – 2019. № 2 (52). – С. 85-88.
- 9 Помфрет Р., Товма Н., Акимбаева К., Кыжыбаева Б., Акторева Е. Модели развития и регулирования цифровой экономики в Республике Казахстан // Центрально-Азиатский журнал социальных и гуманитарных наук. – 2019. №1(1). – С. 13-19.
- 10 Сатпаева З. Т. Состояние и перспективы развития инновационной инфраструктуры Казахстана // Европейские Научные Исследования. – 2017. № 20(2). –С. 123.
- 11 Global Innovation Index. - [Electron resource]. - URL: <https://www.globalinnovationindex.org/gii-2019-report> (Accessed: 1.11.2019)
- 12 Innovation is born out of interaction. - [Electron resource]. - URL: <https://www.vinnova.se/en/> (Accessed: 1.11.2019)
- 13 Бринолфссон Э., Диверт В. Э., Эггерс Ф., Фокс К. J., & Gannamaneni, A. (2018, Но-

ябрь). Цифровая экономика, ВВП и благосостояние потребителей: теория и факты. // В конференции Эско по экономическим измерениям, Банк Англии. – 2018. - С.16-17.

14 Пелед Д. Оборонные НИОКР и экономический рост в Израиле: программа исследований. Институт перспективных исследований в области науки и техники. Лондон. – 2016. – 256 с.

15 Чжан Г., Дуан, Х., & Чжоу, Джи. Исследование детерминант межрегиональной передачи технологий в Китае: сетевой анализ с использованием провинциальных патентных данных // Обзор управленческой науки. -2016. №10 (2). - С.345-364.

**Қ.Қ.Сатыбалды**

*Әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан*

### **Инновациялық стартаптар - экономикалық дамудың негізі**

**Андатпа.** Мақалада инновациялық стартаптардың әлемдік экономикаға әсері қарастырылған. Стартап пайда болу көрінісі мен оның әртүрлі елдерде дамуына талдау жасалынған. Автор көптеген идеялардың бастамасы болған сәтті инновациялық жобаларға баға береді. Сондай-ақ, мақалада Қазақстанның инновациялық даму саласындағы мемлекеттік саясаты, қабылданған бағдарламалардың мәні қарастырылады. Инновациялық стартаптарды дамыту саласындағы Еуропа, Азия елдерінің тәжірибесі ұсынылды.

**Түйін сөздер:** инновациялық стартаптар, инновациялық жобалар, инновациялық идеялар, кәсіпкерлік.

**К.К.Сатыбалды**

*Казахский национальный университет им. аль-Фараби, Алматы, Казахстан*

### **Инновационные стартапы – это основа экономического развития**

**Аннотация.** В статье рассмотрено влияние инновационных стартапов на мировую экономику. Дается анализ проявления истоков стартапа и развития ее в разных странах. Автор дает оценку успешным инновационным проектам, которые послужили стартом многих идей. Также в статье рассматриваются государственная политика Казахстана в сфере инновационного развития, значение принятых программ. Предложен опыт стран Европы, Азии в области развития инновационных стартапов.

**Ключевые слова:** инновационные стартапы, инновационные проекты, новаторские идеи, предпринимательство.

### **References**

- 1 Stone. B. The everything store: Jeff Bezos and the age of Amazon. Random House. (Back Bay Books, New York, 2013, 350 p).
- 2 Sun. W., Liu. C. C., & Zhang. L. Optimal generator start-up strategy for bulk power system restoration. [IEEE Transactions on Power Systems], (3)26, 1357-1366. (2010).
- 3 Bray. M. J., & Lee, J. N. University revenues from technology transfer: Licensing fees vs. equity positions. [Journal of Business venturing], (5-6)15, 385-392. (2000).
- 4 Moore, J. F. The death of competition: leadership and strategy in the age of business ecosystems. (HarperBusiness., New York, 1996, 297 p).



- 5 О Gosudarstvennoi programme po forsirovannomy industrial'nomy razvitiu Respubliki Kazakhstan na 2010-2014 gody i priznanii ustarevshimi nekotoryh ukazov Prezidenta Respubliki Kazakhstan ot 19 marta 2010 goda № 958 [On the State Program on Forced Industrial-Innovative Development of the Republic of Kazakhstan for 2010-2014 and recognition of some decrees of the President of the Republic of Kazakhstan invalid. Decree of the President of the Republic of Kazakhstan dated March 19, 2010 No. 958] [Electronic resource]. 2018. Available at: <http://adilet.zan.kz/rus/docs/U100000958> (Accessed: 1.11.2019). [in Russian].
- 6 Talimova. L., Akhmetova. Z., Nakipova. G., Bespayeva. R., & Kuttybaeva. N. Analysis of Marketing Aspects of Innovative Entrepreneurship in the Regions. [Journal of Advanced Research in Law and Economics], (2 (32)9, 705-713. (2018).
- 7 Gosudarstvennaya programma industrial'no-innovatsionnogo razvitiya Respubliki Kazakhstan na 2015-2019 gody [The state program of industrial-innovative development of the Republic of Kazakhstan for 2015-2019.]. Ukaz Prezidenta Respubliki Kazakhstan ot 1 avgusta 2014 goda №874. [Electronic resource]. 2018. Available at: [http://www.akorda.kz/ru/official\\_documents/strategies\\_and\\_programs](http://www.akorda.kz/ru/official_documents/strategies_and_programs) (Accessed: 1.11.2019). [in Russian].
- 8 Maiorova. B., Zhetpisbayeva. M. Ecosystem startups in Kazakhstan. [Bulletin of KazNUS Journalism series] (52)2, 85-88. (2019). [in Russian].
- 9 Pomfret. R., Tovma. N., Akimbaeva.K., Kishibayeva. B., & Aktureeva, E. Models of development and regulation of the digital economy in the Republic of Kazakhstan. [Central Asian Journal of Social Sciences and Humanities], (1)1, 13-19. (2019). [in Russian].
- 10 Satpayeva. Z. T. State and prospects of development of Kazakhstan innovative infrastructure. [European Research Studies], (2)20, 123. (2017). [in Russian].
- 11 Global Innovation Index. [Electron resource]. Available at: <https://www.globalinnovationindex.org/gii-2019-report> (Accessed: 1.11.2019)
- 12 Innovation is born out of interaction. [Electron resource]. Available at: <https://www.vinnova.se/en/> (Accessed: 1.11.2019)
- 13 Brynjolfsson. E., Diewert. W. E., Eggers. F., Fox, K. J., & Gannamaneni. A. The Digital Economy, GDP and Consumer Welfare: Theory and Evidence. [In ESCoE Conference on Economic Measurement, Bank of England], pp. 16-17. (2018, November).
- 14 Peled, D. Defense R&D and economic growth in Israel: a research agenda. (Samuel Neaman Institute for Advanced Studies in Science and Technology., London,2016, 256 p).
- 15 Zhang, G., Duan, H., & Zhou, J. Investigating determinants of inter-regional technology transfer in China: a network analysis with provincial patent data. [Review of Managerial Science], (2)10, 345-364. (2016).

**Information about author:**

**Satybaldy K.K.** – 2<sup>nd</sup> year Master's student of the specialty 6M051700 – «Innovation management», Al-Farabi Kazakh National University, Al-Farabi street, 71, Almaty, Kazakhstan.

**Сатыбалды Қ.Қ.** - «6M051700 – Инновациялық менеджмент» мамандығының 2 курс магистранты, Әл-Фараби атындағы Қазақ ұлттық университеті, әл-Фараби даңғылы, 71, Алматы, Қазақстан.