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ANALYZING THE RELATIONSHIP BETWEEN INDUSTRIAL POLICY AND ENTREPRENEURIAL ECOSYSTEM

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Abstract

This article discusses the importance and articulation of innovation policy from the point of view of the entrepreneurial ecosystem approach. The paper takes the form of a literature review. To this end, the authors describe the analysis of industrial policy based on the entrepreneurial ecosystem approach proposed by Stam (2018). The research finds that innovation policy plays a crucial role in a competitive entrepreneurial environment to achieve creative destruction. The

Policy tries to solve the problems that hinder the interaction of the factors that make up the entrepreneurial ecosystem. Different policy tools should be developed to formulate policies for the entrepreneurial ecosystem. Additionally, successful innovation policy tools in one ecosystem could be applied in another ecosystem.

Keywords

Innovation Policy, Entrepreneurship, Entrepreneurial Ecosystem, Azerbaijan

1. Introduction

In recent years, research on the entrepreneurial ecosystem has been published in the most prestigious social science journals (about 50% of which belong to Q1 and Q2 category journals) (Velt et. al., 2020). The successful industrial policies of developed countries such as Finland, Norway, Sweden, and the Netherlands serves as a road map for sustainable economic development. Some researchers (Alvedalen & Boschma, 2017; Isenberg, 2010) recommend that such successful regional policies (e.g., Silicon Valley) adapt these policies to local ecosystems rather than applying the same. Based on this thought, the authors analyzed the entrepreneurial ecosystem approach proposed by Eric Stam (2018) for successful industrial policy. The entrepreneurial ecosystem approach focuses on entrepreneurs who stimulate the process that Schumpeter (1942) called "creative destruction." This approach improves entrepreneurial ecosystem policy in three ways.

First, it encourages a shift in entrepreneurship from quantitative growth (e.g. new firms and self-employment) to qualitative growth (e.g. innovation-oriented entrepreneurship). Second, it requires rethinking the logic and judgments that formulate the relevant policy. Third, moving away from entrepreneurial politics prioritizes the development of policies that foster an entrepreneurial economy and entrepreneurial ecosystem to stimulate creative destruction.

This article briefly analyzes the relationship between industrial policy and the entrepreneurial ecosystem. The research methodology includes analysis and comparisons based on research databases such as ScienceDirect, Web of Science, Scopus, and Google Scholar. After an introduction, a brief analysis presents Stam's proposition on industrial policy from the perspective of the entrepreneurial ecosystem (Stam, 2018), and the last section concludes with a short discussion on the development of an innovative entrepreneurial ecosystem in Azerbaijan.

2. Entrepreneurial Ecosystem and Industrial Policy

Although there is no consensus in the literature on the definition of an entrepreneurial ecosystem, (Brown & Mason, 2017) we preferred the following most cited definition by Stam and Spigel: "Entrepreneurial ecosystem - A set of factors and actors that are coordinated and interdependent in a given area to enable productive entrepreneurship." (Stam & Spigel, 2018, p. 407). In the entrepreneurial ecosystem, economic and social resources are closely related to capital markets, customers, entrepreneurial culture, and leadership. At the same time, this system regulates cooperation between private companies and government agencies in the field of resource flow. Based on the listed reasons, the entrepreneurial ecosystem is considered as a set of state, private institutions, families, educational institutions, and other social groups and defines three directions of the entrepreneurial spirit (Brown & Mason, 2017, pp. 11-30):

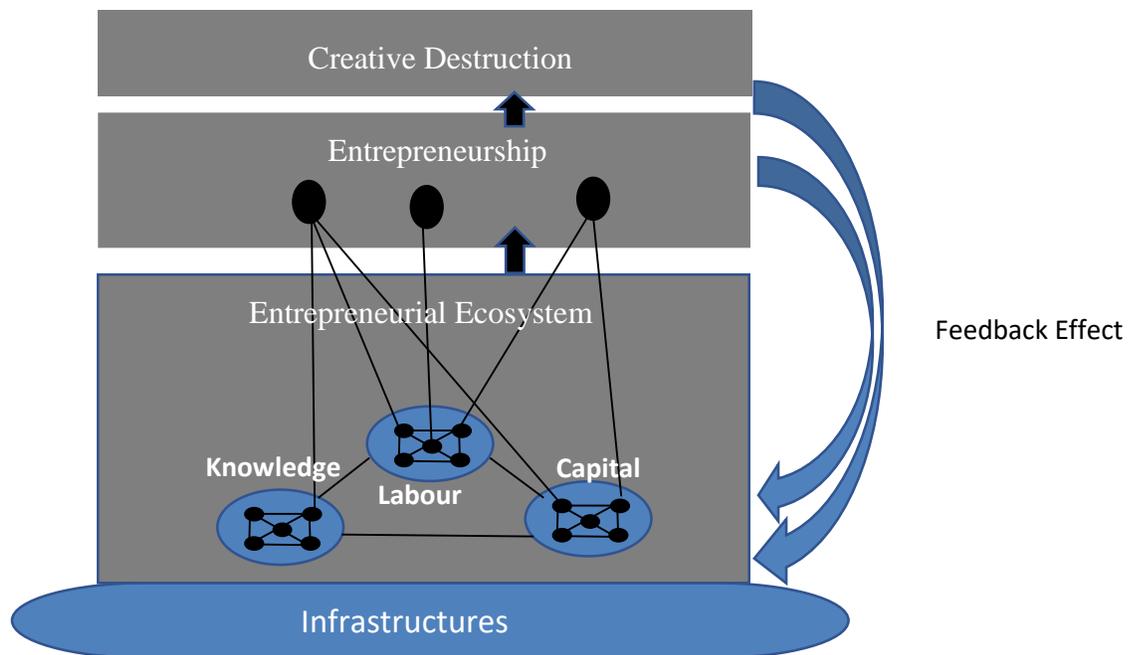
1. Entrepreneurial activity that ensures rapid development of the company
2. Local business environments that support entrepreneurship
3. Improved relationships among all stakeholders

The development of an entrepreneurial ecosystem is a complex process that depends not only on the growth of companies but also on the growth and development of other actors in the economy. For this reason, in order for the process to be successful, Isenberg (2010) suggests that public institutions work in a coordinated manner with the private sector and support the development of the system. In this way, the participation of stakeholders will shape the entrepreneurial ecosystem culture among them based on values, norms, and information base.

Entrepreneurial ecosystems are not particularly planned structures. For this reason, it is the formations that influence or remain influenced, sometimes develop, and sometimes disappear by themselves. Because it is a process that occurs in the natural environment, the ecosystem cannot be created and controlled by the government or other institutions. Because control or ownership contradicts the concept of an ecosystem. The government, in turn, can ensure the creation of fertile conditions for the creation and formation of the ecosystem. Organizations can be engaged in entrepreneurial activities in this system, but the ecosystem itself is formed naturally with the participation of all parties. At the same time, the ecosystem can spread beyond the borders of a country to regional and international levels. Ecosystem management refers to steps taken to increase the benefits of this system. State-business projects, banks, universities,

foundations, and public organizations can operate in the direction of increasing the benefits of the ecosystem.

An entrepreneurial ecosystem is a network of relationships built on the basis of interactions among multidisciplinary institutions and individual stakeholders that promote entrepreneurship, innovation, and regional economic growth. For entrepreneurial activity to be successful, access to the human capital, financial, and knowledge resources needed by entrepreneurs, and public policies that provide an institutionalized environment that supports and protects entrepreneurs is essential. These relationships are described in the model proposed by Stam as follows:



- Economic Agents (individuals, organizations)
- Interactions / Interdependencies

Figure 1: *Entrepreneurial Ecosystems and Creative Destruction: A Conceptual Model*

(Source: Stam, 2018, p. 4)

In the above conceptual model, Stam (2018) proposes that the government should create a competitive entrepreneurial environment to achieve creative destruction and try to solve the problems that hinder the interaction of the factors that make up the entrepreneurial ecosystem. The factors of production that enable entrepreneurial activity and the emergence of industry are knowledge, capital, and labor. Infrastructures, on the other hand, provide and constrain the

factors involved in ecosystems and their interactions, as well as the social and physical conditions of economic activity, to create, adapt, distribute, and coordinate knowledge, capital, and labor.

By forming the industrial policy, the states try to ensure the differentiation of production structures in order to achieve long-term economic development, increase economic productivity, expand business opportunities, and attract investment in new areas where competition and comparative benefits will be achieved (Isenberg, 2010). Among industrial policies, the most successful (Stam, 2018) are policies that encourage the creation of innovative start-ups that cause creative disruption, identify and eliminate problems that hinder their development, and shape the competitive environment. Creative destruction (Schumpeter, 1934) is the diversion of economic resources from less productive activities to more productive activities. Because creative destruction is the main process that ensures the productivity of the economy, it affects not only the micro level, but also the regional and macro levels. Schumpeter calls creative destruction the fact that companies that provide economic development by introducing innovations or bringing previous products to the economy with a new design and that provide new and better quality products, destroy the companies that are not able to adapt to these conditions and that are left behind and that new technology dominates the production processes. The promotion of economic balance and economic changes by these entrepreneurs through innovations is considered as the main element of creative destruction (Ferreira et. al., 2017). Schumpeter (1942) claims that the process of creative destruction continuously renews the economic structure, destroys the old, constantly creates the new, and thus is a revolutionary process. But an important feature here is the presence of entrepreneurs with a creative spirit, which is not achieved through technology. At the same time, it is the state's policy formulation that promotes and protects such entrepreneurship. One of the best examples to illustrate the impact of Schumpeter's innovation model on economic development is railroads. The discovery of railways in itself boosted economic development and raised the level of people's well-being. Later, the state policy in the field of privatization of railways, the expansion of railways did not create new technology, but more productive use of existing technology, created a competitive environment and new opportunities in this field. As this example shows, politicians, entrepreneurs, local entrepreneurial elements, public associations, etc., take part in the development of the economy as a whole (Juma, 2014).

In this regard, Stam (2018) proposes a conceptual model of creative destruction (Figure 1) and a step-by-step assessment of the entrepreneurial ecosystem political process (Table 1) for designing optimal industrial policies.

The main difference between Stam's model and other models is that it focuses on the interrelationships between fields and cause-and-effect relationships. Providing the conditions specified in the model and connecting the factors affecting the system with each other stimulates the achievement of the desired result. That is, in order to achieve creative destruction, the formation of entrepreneurial activity in the environment of the entrepreneurial ecosystem and the provision of infrastructure suitable for this environment is necessary, and the mechanism of mutual influence of creative destruction and entrepreneurial activity on the ecosystem environment and infrastructure is reflected in this model. Here, the factors affecting infrastructure are formal and informal (such as culture) institutions, business networks, leadership, demand, physical infrastructure, support services, and capabilities.

The key to defining industrial policy in an entrepreneurial ecosystem is that problem identification precedes policy development and supports policy prioritization. At the same time, policy implementation is not a one-time process but is based on continuous monitoring and learning. The stages and monitoring of the political process that will ensure the entrepreneurial ecosystem are given in Table 1. Considering that the economy is constantly developing, this process is not a one-time process but a continuous process that ensures the measurement of policy effects, the study of ecosystem changes, and the simultaneous and sequential implementation of policies.

Table1. *Phases in the entrepreneurial ecosystem policy process*

Phase			Monitoring
I	Diagnosis of the entrepreneurial ecosystem	Objective data of the ecosystem elements, its overall strength, output, and outcomes	T0
II	Debate on the diagnosis	Conversation with stakeholders about the strength of the ecosystem and its elements	
III	Selection of policy target(s)	Focus policy attention on leverage points, weakest links	
IV	Selection of policy instrument(s)	Consult policy catalogue of available policy instruments to achieve policy target	T1
V	Implementation of policy instrument	Stakeholder engagement for implementation	T2
VI	Impact evaluation		T3

(Source: Stam, 2018 p. 6)

3. Entrepreneurial Development in Azerbaijan

After gaining independence, Azerbaijan entered the stage of radical economic changes, but at that time, the tension of the internal and external situation in our country brought economic recession. Since 1993, measures have been taken to achieve macroeconomic stability and economic reforms have been initiated. During this period, certain measures were implemented in the direction of the organization and development of entrepreneurship, especially since 1996, fundamental qualitative changes took place in the country's economy, macroeconomic stability was achieved after emerging from a deep economic crisis, and it was possible to ensure dynamic economic development. The Constitution of the Republic of Azerbaijan contains provisions related to the creation of conditions for the development of the economy based on market relations, the provision of entrepreneurship, the formation and development of the competition mechanism, as well as the protection of competition. The laws and other legislative acts of the Republic of Azerbaijan adopted in the direction of forming the necessary legal environment for the development of entrepreneurship formed the legal basis of entrepreneurship as a system. During this period, as a result of the successful oil strategy of the head of the country, the development of the oil sector and the development of auxiliary fields related to it were stimulated, and the positions of local entrepreneurs in those fields were strengthened. The reforms that have been carried out have stimulated the development of the entrepreneurship sector, and the legal basis of entrepreneurship has been improved in accordance with world experience. The adopted state programs in the field of entrepreneurship development had a special role in the development of this field and made the state measures for the development of small and medium entrepreneurship one of the priority directions of the economic policy of the state of Azerbaijan. Within the framework of these state programs, important measures have been taken in the field of regulation of economy and entrepreneurship, a system of state financial assistance to entrepreneurs has been formed, and structures providing necessary technical assistance (advice, information, etc. services) to entrepreneurs have been formed.

Serious reforms have been carried out, especially since 2015, in the direction of entrepreneurship development. For example, the types of businesses that require a license (special consent) have been reduced from 59 to 37, and the area of permits granted to types of business activity has been clarified and reduced to 86 (which is four times less than in the

previous period). The process of issuing licenses for entrepreneurial activities has been simplified and this process was started at the ASAN service agency. The time limit for licenses has been abolished, and the fees charged for issuing them have been reduced. While the fees were reduced twice in Baku, they were reduced four times in order to encourage entrepreneurial activity in the regions. At the same time, with the aim of supporting entrepreneurial activity, activities aimed at providing legal advice to the entrepreneur and facilitating legal procedures through mechanisms such as "one window" were implemented.

In 2016, a strategic plan was prepared with the aim of diversifying the economy, increasing competitiveness, and regulating small and medium-scale business activities in Azerbaijan. According to this plan, measures to be taken to achieve the goals of promoting the activities of SMEs, improving the business environment, providing profitable and efficient access to financial resources, internationalizing them, and increasing access to foreign markets have been determined. At the same time, especially in the direction of the development of the non-oil sector, work was carried out in the direction of stopping inspections, creating industrial technology parks and industrial districts, promoting and supporting export and investment, supporting local production through subsidies, and making social projects more prominent. In order to ensure accessibility, transparency, and flexibility of utility services needed by SMEs in this area, the Energy Regulatory Agency was established, and bureaucratic obstacles in this area were reduced.

"Mortgage and Credit Guarantee Fund of the Republic of Azerbaijan" was established as a non-commercial legal entity with the aim of providing profitable and efficient access to financial resources and increasing the level of services provided in this field. This institution performs functions such as facilitating mortgage mechanisms and attracting local and foreign financial resources to mortgage lending.

Based on the assessment of the current situation in 2016, improving the business environment and regulatory framework for SME activity, ensuring profitable and efficient access to financial resources of SMEs, increasing their internationalization and access to foreign markets, increasing the knowledge and skills of SMEs, accelerating the application of advanced practices A strategic road map of actions to be implemented until 2025 was prepared in order to achieve the goals.

Innovation center, operating under the State Agency for Service to Citizens and Social Innovations under the President of the Republic of Azerbaijan, application of information technologies and provision of technical support in the field of industry, finance, science, education, and other services in the private and public sector, creation and improvement of information systems and information resources is an institution that is active in the direction of.

The "Innoland" Incubation and Acceleration Center started operating on November 12, 2018 under the State Agency for Citizen Service and Social Innovation under the President of the Republic of Azerbaijan. "INNOLAND" is an innovation center created with the aim of supporting the creation of a startup ecosystem, as well as promoting innovation and development of the private sector in Azerbaijan and the international arena. It consists of an Acceleration center, Coworking, and an IT Training Center. The mission of the center is to develop an innovative entrepreneurial spirit and startup ecosystem, create an environment that encourages people to think differently and support entrepreneurs in developing their innovative businesses. In addition to offering startups services such as incubation by applying the best practices for the formation and development of the project at the initial stage, acceleration that helps the startup grow in Azerbaijan and the international market, and teaching programming and information technology knowledge, coding skills, in the field of startups, programmers, innovations offers an affordable and multi-functional coworking center for individuals working alone or with a small team, with 24/7 access, high-speed Internet, a single information kiosk, and mentor support.

Azerbaijan has taken some significant steps to improve its innovation system over the past decade (Alieva, 2021).

- The dynamic advancement of a national innovation system. Developing the national innovation strategy and setting up government agencies, such as the Innovation Agency in charge of innovation policy demonstrates that the government has a high level of commitment to innovation. There is a dynamic improvement in digital government platforms and public sector innovation.
- Existing public-private partnerships, building synergies for making a knowledge-based economy, developing public provisions for innovative startups, creating a broad arrange of logical research facilities by the Azerbaijan National Foundation of Sciences (ANAS), progress in the quality of Sciences, Technology, Engineering, and Mathematics (STEM) education demonstrate the effort of the government in the development of the innovation system.

- There is also a fitting legal framework with prerequisites for making policy. The Law on Public Participation ensures a legal basis for an innovative approach. Policy-makers have started to apply foresight exercises in preparing policies. Foresight exercises in designing policies have already been started to apply by policy-makers. The analyzed Grant Scheme was reasonable with the targets of the National Strategy for the Development of the Information Society and bolstered by a project guide and a systematic selection process.

There are some recommendations by the Innovation Policy Outlook (IPO) of the United Nations Economic Commission for Europe (UNECE) in order to develop the innovation system in Azerbaijan (Alieva, 2021).

- Development of innovation governance among sectors and enabling synergies across policies. Reinforcement of innovation governance among sectors and enabling synergies across policies. It should ensure that adequate reinforcement for R&D and innovation activities in the service sector and in industries with poor technological density, in parallel with high-tech industries, are provided by the government.
- Increasing the reinforcement for startup development and launching policy tools that ensure industry-science connections. The government should support such an ecosystem that improves a venture finance mechanism, in collaboration with international donors, to get better the initial-stage financing gap and ensure the expansion of innovative programs and technological activities. Science-industry collaboration, mutual R&D grant programs between innovative enterprises and public R&D agencies, and stimulating commercialization of innovative projects by a venture finance mechanism should be the main focuses of this ecosystem.
- Creating a more structured connection between monitoring and evaluation to policy planning, involving government agencies accountable for innovation policy. Innovation forethought practices and research activities for long-term strategic innovation development should be integrated into the policy processes to pursue future trends.

4. Conclusion

The purpose of the article is to encourage politicians to formulate policies for the entrepreneurial ecosystem, not just for entrepreneurial subjects. For this, Eric Stam's (2018) entrepreneurial ecosystem approach was analyzed. Based on this perspective and the results of

similar studies (Qasimov & Cəbiyev, 2017; Aslanlı, 2017), it is possible to mention some steps taken to develop the innovative entrepreneurial ecosystem in Azerbaijan in recent years.

As an example of the measures implemented by the state in order to form the entrepreneurial ecosystem, the electronization of services provided to entrepreneurs, production of competitive and added value products, radical reforms in the direction of the development of the non-oil sector for the purpose of regular evaluation of the implementation of reforms and for this purpose, suspension of inspections, industrial/ measures such as construction of technology parks, industrial districts, promotion and support of export and investment, support of local production at the expense of subsidies, placing social projects in the center of attention can be mentioned.

An example of the government's innovation-supporting policy is the creation of the Small and Medium Business Development Agency (SMB) and the decision "Criteria for defining a startup". According to the Tax Code of the Republic of Azerbaijan, business entities that have received a "Startup" certificate are exempted from profit and income tax for a period of 3 years from the date of receipt of the certificate.

Another important factor is that companies invest more in innovation as a result of the increased level of competition. Because the increase in the level of competition will lead to the improvement of demand, and this will lead to the development of a competitive environment in the domestic market (Porter, 1990; Abdurazzakov et. al., 2019). For this reason, the improvement of the competition legislation is of great importance.

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