Higher School of Insurance and Finance (VUZF)

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Entrepreneurial Ecosystems and Creating an Environment for the Development of Entrepreneurship - Policies and Practices

Abstract

of a Dissertation for the Award of the Educational and Scientific Degree "Doctor"

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The dissertation has been discussed in an appointed committee and is directed for defense before a scientific jury.

The author is a doctoral student in independent preparation for the doctoral program "Finance, Insurance and Provision" at VUZF

The dissertation has a total volume of 175 printed pages and is structured by an introduction, main text in three chapters, conclusion and bibliography (which includes a total of 269 sources in Bulgarian and English). The dissertation contains 7 tables, 2 graphs and 15 figures.

The defense of the dissertation will take place on March 12, 2025 at 11:00 a.m.

I. General characteristics of the dissertation

1. Relevance of the topic

The study of the most effective forms of political intervention to promote economic growth and job creation are part of the agenda of Bulgarian society, and entrepreneurship is a major driver of innovation and economic development.

Ensuring an appropriate environment for the development of entrepreneurship is largely associated with institutions and government policies. The creation of entrepreneurial ecosystems and an environment for business development are also in the focus of policies at the European level. The European Commission implements a number of initiatives to stimulate economic growth, employment and promote entrepreneurship. The development guidelines are also necessary due to the current economic crisis, which implies appropriate and urgent measures to improve the business environment, promote economic growth and reduce unemployment.

The relevance of the study stems from the socio-economic significance of the issue under consideration. The current topic is relevant and significant, but nevertheless there is a lack of sufficient research and expert work in the field. The expectation for institutions is to formulate and provide appropriate policies and instruments for the continuous development of the appropriate business environment. The culture and expectations of modern society are tied to the achievements and innovations in the field of high technologies. The present work aims to contribute to the development of appropriate policies for the improvement of the entrepreneurial ecosystem.

2. Object and subject of the study

Object

Policies, practices and instruments for improving the environment for starting and developing entrepreneurial activity.

Subject

The impact of specific policies and practices for improving the environment for starting and developing entrepreneurial activity.

3. Goals and objectives of the study

The aim of the dissertation is to study and propose specific policies and programs for improving the environment for the development of entrepreneurship and innovation in Bulgaria. In this regard, the overall development of the entrepreneurial ecosystem of Israel is considered as an example, as well as specific policies and programs, as good experience that can be applied.

• To achieve this goal, the following research tasks have been set:

1. To conduct a factor analysis of the studied example, according to Daniel Eisenberg's model for the growth of the entrepreneurial ecosystem and to identify the factors that led to the creation of a thriving entrepreneurial ecosystem in Israel.

2. To study the Israeli Yozma program (Why was the program successful?), as well as other programs, policies and practices.

3. To analyze the role of government policies and interventions on the creation and evolution of the entrepreneurial ecosystem.

4. To analyze the role of the government in building the venture capital industry.

5. To use the studied example to find and implement good practices for improving the social and economic environment in Bulgaria.

6. To formulate justified conclusions and recommendations for policies based on the analysis of the factors influencing the emergence of the successful industry.

7. To analyze policies and programs with the aim of creating a favorable environment for the development of entrepreneurial activity in Bulgaria;

4. Thesis and Hypotheses

The main research thesis:

The competitive advantage of the Israeli entrepreneurial ecosystem is a consequence of the combination of government policies, investments in the venture capital industry and liberal immigration policy.

This paper examines and analyzes the veracity of the following hypotheses:

1. Governments have a real opportunity to stimulate the venture capital industry and thus provide companies with better access to financing.

2. A positive entrepreneurial culture plays a major role in building the innovation ecosystem in Israel.

3. The government's liberal immigration policy contributes to the development of the innovation system in Israel.

5. Research Methodology

The preferred method for this paper is a descriptive analysis of the selected example, in which some of the forms of government intervention have led to the evolution of the entrepreneurial ecosystem. The description will be in the form of a "fact check" of the example against Daniel Eisenberg's model for the growth of the entrepreneurial ecosystem and a search for the factors leading to the growth and development of the entrepreneurial ecosystem of the selected example (Israel).

The logic in the application of this model can be considered predictable, that is, if countries aiming to develop an entrepreneurial ecosystem show a certain margin in some of the areas of Daniel Eisenberg's entrepreneurial ecosystem model, adopt and implement some of the strategies and policies used in the considered example, they can achieve significant progress in the development of the entrepreneurial ecosystem. This will lead to a discussion of the specific issues and challenges facing entrepreneurial activity in Bulgaria.

This document is based to some extent on the numerous works of Daniel Eisenberg on the influence of government interventions on the evolution of the entrepreneurial ecosystem and the importance of the interaction of a wide range of stakeholders, which are necessary to strengthen the entrepreneurial ecosystem.

• To achieve the goal of the dissertation work, the following research approaches will be used:

1. Interdisciplinary approach

2. The systemic approach

3. The interdisciplinary approach is appropriate due to the connection between the political and economic aspects of the researched issue.

The systemic approach is expressed in the consideration of the more general framework of development of the entrepreneurial ecosystem in which context the researched issue is situated.

To solve the research tasks, tools such as reviewing and summarizing sources of information, updating conducted studies and their further development, collecting, systematizing and summarizing statistical data, graphical, tabular and schematic presentation of information, statistical data, etc. are used.

6. Limitations of the study

The choice of a research paradigm, the interpretive approach, is a limitation, as it is loaded with biases by the author and can be compensated for by strict adherence to the ethical issues of the study. The wide scope of the study makes it difficult to delve into the topic, which makes in-depth analysis difficult to perform.

II. Structure and content of the dissertation work

The dissertation work has a total volume of 175 standard pages and is structured in an introduction (4 pages), main text in three chapters (152 pages), conclusion (3 pages), bibliography (269 literary sources). The dissertation contains 7 tables, 2 graphs and 15 figures.

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III. Brief presentation of the dissertation work

INTRODUCTION

The introduction of the dissertation work justifies the relevance of the topic and the motives for its research. The following are defined: the main goal, the object and the subject of the study. The specific research tasks and the limitations of the study are formulated. The research approaches are presented. The emphasis is on the research thesis and the hypotheses of the study.

CHAPTER ONE

Theoretical foundations of the entrepreneurial ecosystem. Approach, analysis and policies for promotion

The first chapter focuses on the scientific and theoretical foundations of entrepreneurship and entrepreneurial ecosystems. A review and analysis of research in the field is made. The factors influencing the creation of a favorable environment for launching numerous entrepreneurial ventures are defined, in order to achieve economic growth, solve unemployment problems and increase the level of competitiveness of the economy.

Creating and developing an effective environment that will encourage entrepreneurial behavior and ensure the transfer of knowledge and technology to the market is a significant challenge for organizations operating in a dynamic business environment. This type of environment is recognized as an "entrepreneurial ecosystem". Entrepreneurial ecosystem is a term that has emerged in discussions and research in recent years.

"Entrepreneurship is the surest way to develop." Economic studies around the world consistently link entrepreneurship to rapid growth, rapid job creation, GDP growth, and long-term productivity gains.

Entrepreneurship, or the creation of a new firm, is a fundamental process of economic geography Stam, (2007). Empirical studies of economic geography have historically focused on large firms that are employers as agents of globalization, but large firms usually start small. The study of

entrepreneurial ecosystems reveals the dynamic social, institutional, and cultural processes and actors that have the potential to foster and enhance the formation and growth of new firms.

The main ideas about entrepreneurial ecosystems emerged in the 1980s and 1990s as part of a shift in entrepreneurship research from individualistic, person-based studies to a broader community perspective that includes the role of social, cultural, and economic forces in the entrepreneurial process.

According to Van de Ven (1993), individual entrepreneurs cannot manage all the resources, institutions, markets, and business functions needed to develop and commercialize their entrepreneurial ventures. Entrepreneurship is a collective achievement that consists not only of the behavior of individual entrepreneurs, but requires key roles from numerous entrepreneurs in both the public and private sectors to develop an industrial infrastructure that facilitates and encourages innovation. (The new change in context emphasizes the importance of situating the entrepreneurial phenomenon in a broader context that includes temporal, spatial, social, organizational, and market dimensions of context.)

The use of the term “ecosystem” became widespread only after the work of Moore (1993), where the business ecosystem was defined as the external environment of the firm. (Business ecosystems are condensed from the initial capital, customer interest, and talent generated by innovation. In the business ecosystem, entrepreneurs focus on defining what customers want, i.e., the value of the proposed new product or service and the best form for its delivery.)

Entrepreneurial ecosystems have similarities to industrial districts, clusters, and innovation systems; entrepreneurs and technology start-ups are present in these frameworks, but do not have the primary importance (or central role) as in entrepreneurial ecosystems.

Accordingly, entrepreneurial ecosystems have developed in business strategy and regional development, having similarities with industrial districts, clusters and innovation systems.

Entrepreneurial environment (or similar phrases) is the most common term used in the literature from the 1970s to 2015. The phrase “entrepreneurial ecosystem” appeared only in 2000, but became dominant after 2016.

The term “entrepreneurial environment” refers to the various factors that influence entrepreneurship, such as economic, social, cultural and political factors. Whereas, the term

“entrepreneurial ecosystem” refers to the complex network of actors, institutions and resources that support entrepreneurship in a particular region or industry.

In fact, the two terms are related, but have different connotations and implications. The term “entrepreneurial environment” is more general and refers to the broader context in which entrepreneurial activity takes place, while the term “entrepreneurial ecosystem” is more specific and refers to the network network of actors and resources that support entrepreneurship. Similarly, the innovation ecosystem is defined as the interaction between various stakeholders, including human capital, market saturation and access, financial capital, digital technologies and regulations. Building an entrepreneurial ecosystem leads to improved quality of life, creating a range of opportunities for growth and prosperity, the results can be an increase in the number of entrepreneurs, companies and jobs.

Overview of some theoretical statements of the entrepreneurial ecosystem:

Cohen (2006) Sustainable entrepreneurial ecosystems can be defined as an interconnected group of actors in the local geographic community, committed to sustainable development by supporting and facilitating new sustainable enterprises

Isenberg (2010) The entrepreneurial ecosystem consists of a set of discrete elements - such as leadership, culture, capital markets and potential customers - that combine in complex ways.

Isenberg (2010) An entrepreneurial ecosystem can be viewed as “the collective vision of a group of stakeholders committed to fostering entrepreneurship, creating an ecosystem that actualizes their vision”.

Mason and Brown (2014) A set of interconnected actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, and banks), institutions (universities, public sector agencies, and financial organizations), and entrepreneurial processes (e.g., new businesses, number of high-growth firms, levels of “entrepreneurialism,” number of serial entrepreneurs, and levels of entrepreneurial ambition) that formally and informally connect, aggregate, mediate, and govern performance in the local entrepreneurial environment.

Stam (2015) A set of interdependent actors and factors coordinated in a way that enables productive entrepreneurship.

Spigel (2017) Entrepreneurial ecosystems ... are the convergence of localized cultural perspectives, social networks, investment capital, universities, and active economic policies that create an environment that supports innovative ventures.

Entrepreneurial ecosystems are composed of subsystems that are aggregated into systems that can be optimized for system efficiency at the ecosystem level. There is a growing recognition in the entrepreneurial literature that a theory of entrepreneurship that focuses solely on the entrepreneur may be too limited.

The concept of entrepreneurship systems is based on three important premises that provide a suitable platform for analyzing entrepreneurial ecosystems:

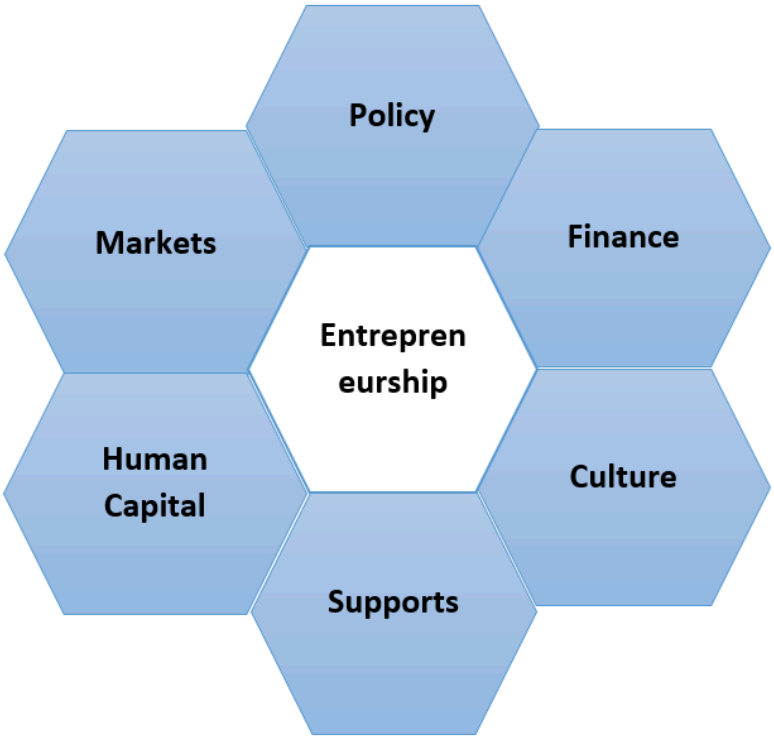
o Innovation and technological progress: Entrepreneurship develops in an environment where the presence of innovation and technological progress is a key factor. This includes the development of new products, services, and business models.

o Access to resources and support: Entrepreneurs need access to financing, training, mentoring, and other resources to support them in the process of starting and developing their businesses.

o Development of entrepreneurial culture and institutions: Creating a favorable entrepreneurial culture and supporting institutions is essential for the successful functioning of entrepreneurial ecosystems. This includes educational programs, legal reforms, and other initiatives.

These premises create a basis for the development of entrepreneurial potential.

Fig. 1. Eisenberg's model of an entrepreneurial ecosystem



The entrepreneurial ecosystem model is an approach that focuses on the clustering of economic activity, an approach that has been ignored or underestimated in previous studies. First, the explicit focus is on entrepreneurial activity and especially on high-growth firms. Second, the emphasis is on the local and regional environment and the conditions necessary to generate and support entrepreneurship. Third, this approach emphasizes the interaction between framework conditions and the local/regional geographical environment. Policymakers are increasingly recognizing the merits of a systems-based form of supporting high-growth entrepreneurship, which represents a shift towards holistic activities that focus on developing networks, aligning priorities, building new institutional capabilities, and fostering interaction between different stakeholders. The current approach focuses on "entrepreneurial ecosystems." James Moore argues that business does not develop in a "vacuum" and has noted the relationally embedded nature of how firms interact with suppliers, customers, and financiers. James Moore's clarification provides an insight into the motivations behind Daniel Isenberg's approach, which argues that such an approach is a cost-effective strategy for stimulating economic prosperity.

According to Isenberg, this approach potentially becomes a “prerequisite” for the successful implementation of cluster strategies, innovation systems, knowledge economies or national competitiveness policies.

He identifies six areas within the entrepreneurial ecosystem, which consist of hundreds of elements interacting in extremely complex and idiosyncratic ways, meaning that taken individually, these areas are of very limited value and should not be considered in isolation. All six areas need to be developed: Policies and leadership; A supportive culture; Availability of appropriate financing; High-quality human capital; Enabling markets; A set of institutional supports.

Isenberg emphasizes the importance of context: each ecosystem emerges under a unique set of conditions and circumstances, leading to the conclusion that each entrepreneurial ecosystem must be shaped around local conditions.

Entrepreneurship creates common good, which reflects the mutual interdependence between entrepreneurs and governments, with the latter engaged in enhancing common good, and entrepreneurs dependent on the context that is shaped by governments.

CHAPTER TWO

Mechanisms and Opportunities for Promoting and Developing the Entrepreneurial Ecosystem - A Study of the Israeli Entrepreneurial Ecosystem

Chapter Two examines the Israeli entrepreneurial ecosystem in order to identify the main assumptions leading to the emergence and development of the entrepreneurial ecosystem in Israel. Specific policies and practices leading to the development of the thriving innovative ecosystem in Israel are analyzed.

An analysis of the reasons contributing to the emergence of successful industry in Israel shows that the factors that were relevant to this process are many, some of which are unique to the Israeli case. These factors are generally: universities, the Israeli army, and the migration of

scientists and engineers from the former USSR, which have provided entrepreneurs, knowledge, and skilled labor. All of these factors are crucial, and it is necessary to emphasize the essential role of government support programs, in the form of grants for research and development, as well as the business incubator program, which encourages the development of companies based on new technologies by providing capital and services. Government programs aimed at attracting venture capital to Israel have successfully created the foundation of the venture capital industry, allowing for increased investment in Israeli companies based on new technologies. "Government programs such as Yozma, which has sparked the emergence of the venture capital industry, and the technology incubator program in synergy have had a significant impact on the development of clusters in Israel."

Some of the academic literature emphasizes the role of smart policymaking in fostering innovation by aggressively pursuing strategic goals, quickly adapting to market conditions, and combating market failures.

Numerous comparative studies on policy design aim to identify the "secret ingredient" of Israeli public policy for sustainable entrepreneurial capital formation and to propose a generic model that can be replicated in other economies.

Many innovation scholars consider military spending to be a major source of technological progress, and attribute Israel's success to its mandatory military service. But beyond the military industry, two other important aspects that help Israel become one of the most developed countries for starting technology companies are the specific immigration of tens of thousands of highly educated Russian Jews from the former Soviet Union and the strong presence of high-quality education. In the 1990s, almost a million Jews from the former Soviet Union immigrated to Israel, many of whom were highly skilled engineers and scientists looking for work. In 1991, OCS established a network of technology incubators to offer immigrants employment opportunities and develop entrepreneurial skills and experience in a protected environment.

In addition, Israeli citizens at the age of 18 are drafted into the military, known as the Israel Defense Forces (IDF), where they are exposed to risk-taking and the use of the most advanced technologies in the world.

There is a correlation between military service and entrepreneurial intentions in Israel, or Israel's success as a startup incubator can be largely attributed to the military.

Israeli veterans develop impressive entrepreneurial abilities, due to the IDF's unique ability to cultivate talent with an emphasis on the paradigm that any problem can be solved. The IDF's ability to hone entrepreneurial intentions is something that should be emulated by militaries, universities, and industries around the world.

According to Eyal Gura, (entrepreneur and venture capitalist, CEO of Zebra Medical Vision), Zebra-Med, a digital healthcare startup, "100% of the Israel-based team of employees served in the IDF and all have benefited from the 'IDF network.'"

In terms of funding, many foreign entrepreneurs choose to base their startups in Israel. The national fund Tnufa influences these entrepreneurs' decisions. This fund plays a key role in supporting innovation and startups in Israel, providing funding, advice, and development resources. The country is known for its vibrant startup scene and high-tech industries, which attract entrepreneurs from all over the world.

There are also cultural reasons for Israel's successful innovation ecosystem. Innovation is an act of rebellion; a culture of individualism should contribute, while a culture of hierarchy, tradition, respect for the status quo, and authority should hinder (Mokyr 2002). Israel has one of the lowest rankings on "power distance" – 13th place, indicating that hierarchies are very flat. High levels of cultural "individualism" – 54th place, correlate with national levels of innovation (Hofstede, 2021). Furthermore, certain types of collectivism present in Israel (e.g. patriotism and nationalism) also promote innovation at the national level.

In Israel, the entrepreneurial spirit is a cultural norm and is actively encouraged among children. This spirit, called "Chutzpah," comes from an old Hebrew word meaning "daring." It certainly takes audacity to seek out the biggest ideas in the smallest enterprises in society and to model a city on a vibrant startup ecosystem.

Accepting the risk of failure is a cultural norm in Israel. Part of this mindset probably comes from the language – the definition of failure is different in Hebrew, and making mistakes is widely accepted in Israeli society, allowing people to learn from their mistakes. Failures for some Israeli companies open up opportunities for innovation and success, as failure can be used as a learning

experience and as a lever for innovation (INSME). Israel is a world leader in research and development (R&D) spending – 4.3% of GDP is spent on this sector, the highest in the world. The highly efficient financial sector and the ability to provide stability over time motivate investors to establish their activities in Israel (OECD).

Israel is home to key research and scientific units of major global technology companies such as Google, Microsoft, Intel, Facebook, Oracle, Dell, SAP and many others. Innovation and high technology are important areas of cooperation between Israel and other countries, including Bulgaria, multinational companies are an important component of the innovation ecosystem.

Another part of Israel's innovation ecosystem consists of incubators and accelerators, which number about 300, (one of the highest values in the world), which focus on various industries and economic sectors.

The government also supports innovation through the academic environment, Israel has been one of the world's pioneers in technology transfer since 1959 and boasts two of the world's best technology transfer companies, the Weizmann Institute of Science, Yeda, and the Hebrew University of Jerusalem, Yissum.

The Israeli government has a significant role in supporting parts of the economy that need temporary assistance (e.g. social investments, creating a national nanotechnology infrastructure), policies such as (regulation, market access, tax credits, and institutional investments). But in terms of culture and entrepreneurial mindset, the contribution is from the private sector, understanding that a system allows for failure and enables growth.

Israel's innovation ecosystem is the result of cooperation between the state, venture capital firms, successful entrepreneurs, the education system, the business system, incubators, and accelerators, all of which work in synergy.

In addition, geographical isolation, a small local market, and the lack of a regional market are factors that cause Israeli companies to strive to establish themselves in the global market from their inception. Global thinking is a key factor in the success of many Israeli companies.

• Key Government Policies:

Technology Business Incubators

In the early 1990s, the Israeli government established a technology business incubator program (Hebrew: חממה טכנולוגית) to leverage the strengths of the 750,000 scientists, engineers, and doctors who had arrived from the former USSR. The Israel Innovation Authority, formerly known as the Office of the Chief Scientist (OCS), a division of the Ministry of Economy, launched six "incubators" designed to promote and develop early-stage technologies through entrepreneurship. Today, there are 24 such incubators in Israel, located throughout the country. Of these, 65% of the projects are related to research and development, according to data from the IVC Research Center. These incubators play an important role in promoting innovation and supporting startup companies in Israel.

Government Support for Venture Capital (VC)

Israel has a well-developed innovation system that receives public support in a variety of ways. The government makes significant investments in human capital infrastructure, provides significant funding for research, and offers tax incentives to encourage multinational corporations to establish their R&D operations in Israel. In addition, the government supports the creation of a large VC industry focused on high-tech startups and implements a number of government programs to support technological innovation.

Early-stage market indicators

Israel has the highest number of startups per capita in the world. The success of startups is attributed to the government's innovation policy, technological innovation coming from the national military, cultural diversity, and collaboration.

The venture capital industry in Israel experienced significant growth in the 1990s, when Israel's annual venture capital spending increased almost 60-fold from $58 million to $3.3 billion.

Immigration Policy

Additional factors contributing to the development of innovation are the government's liberal immigration policy, which has been able to integrate thousands of Jewish immigrants into the economy, benefiting from their scientific and technical expertise, as well as military support for investment in research and development, which has stimulated private sector companies in the fields of cybersecurity, electronics, computers, software, communications, visualization and process control.

Venture Capital

The Yozma Program

The Yozma Program is recognized worldwide as the creator of the Israeli venture capital industry. Yozma makes equity investments in technology companies engaged in areas in which Israel has demonstrated global leadership. Yozma originated from a government program aimed at encouraging venture capital investment in Israel, Yozma I transformed the domestic private equity investment landscape.

The Israeli government established the Yozma Program with a $100 million fund, which created ten venture capital funds over three years. Each fund consists of an Israeli private partner and a foreign private partner (primarily from the United States, Western Europe, and Japan) with proven experience in fund management. Since its inception, Yozma has managed more than $220 million across its three funds: Yozma I, established in 1993; Yozma II in 1998, and Yozma III in 2002, with direct investments in approximately 50 portfolio companies.

The Yozma program has earned worldwide recognition as the creator of the Israeli venture capital industry. Yozma makes equity investments in high-growth technology companies engaged in areas where Israel has demonstrated global leadership in areas such as communications and information technology.

As a result, annual venture capital spending in Israel increased by almost 60 times, from $58 million to $3.3 billion, between 1991 and 2000. The number of companies started with the help of Israeli venture funds has grown from 100 to 800. Israel's IT revenues have grown from $1.6 billion to $12.5 billion. By 1999, Israel ranked second only to the United States in private equity investment as a share of GDP and was the world leader in the share of its growth attributable to high-tech enterprises, according to the OECD. Israel also ranks first in the world in research and development (R&D) spending as a percentage of GDP. Although the Israeli venture capital industry plays a significant role in the high-tech sector, the financial crisis of 2007-2010 has so far reduced the availability of venture capital locally. In 2009, 63 mergers and acquisitions were completed in the Israeli market, totaling $2.54 billion; 7% below 2008 levels. ($2.74 billion),

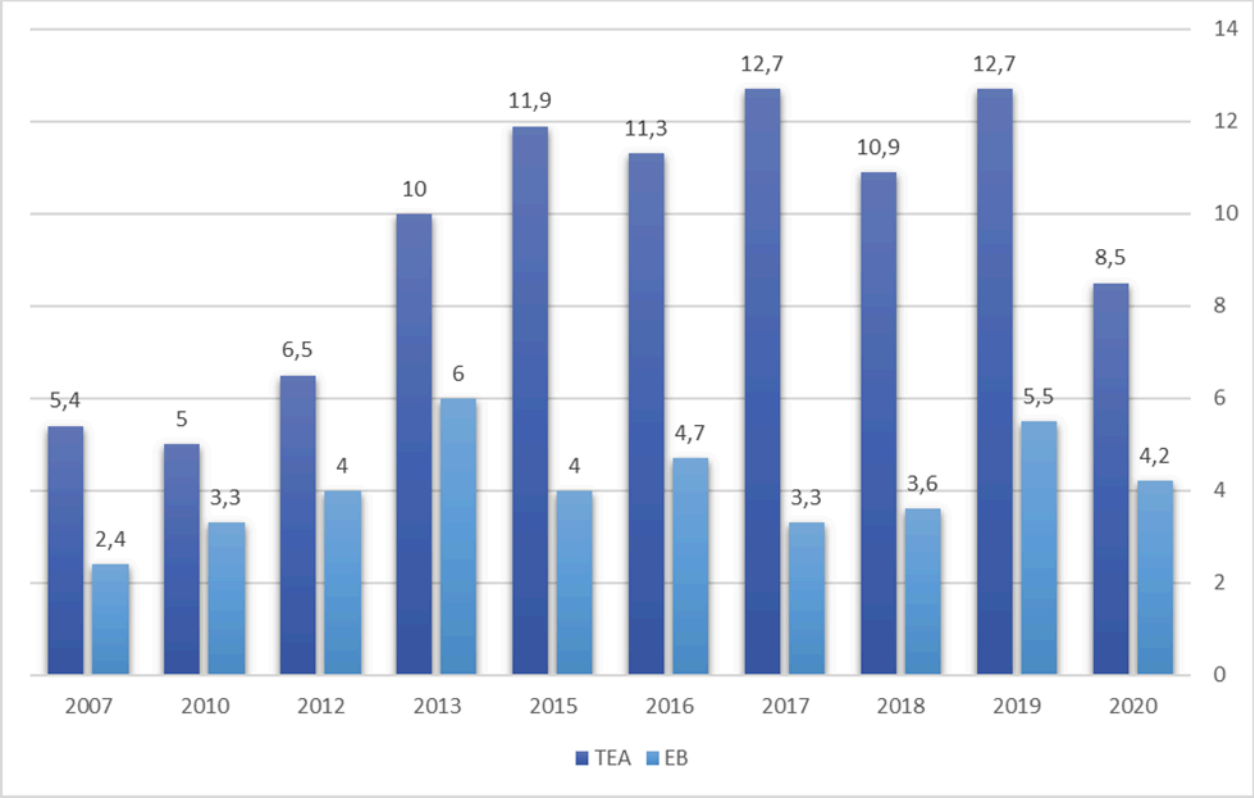
when 82 Israeli companies were merged or acquired, and 33% lower than 2007 revenues ($3.79 billion), when 87 Israeli companies were merged or acquired.

In 2019, Israeli companies were considered more popular than American ones. For comparison, the volume of investments in Israeli startups grew by 140% in 2014-2018, and investments in technology startups from the United States grew by 64%. ("Start-Up Nation Central's Annual Ecosystem 2019 Report". Start-Up Nation Central).

• Total rate of early entrepreneurial activity

Fig. 2. Israel - Early-stage entrepreneurial activity (TEA) and Established businesses (EB), 2007-2020

ITEA (Total new Entrepreneurial Activity), EB (Established Businesses)



According to data from: Entrepreneurship and Innovation in Israel – GEM 2019/2020.

Tnufa Idea Incentive Program

The Tnufa National Fund is a risk-free grant provided by the government to young entrepreneurs to help develop and validate innovative technological concepts.

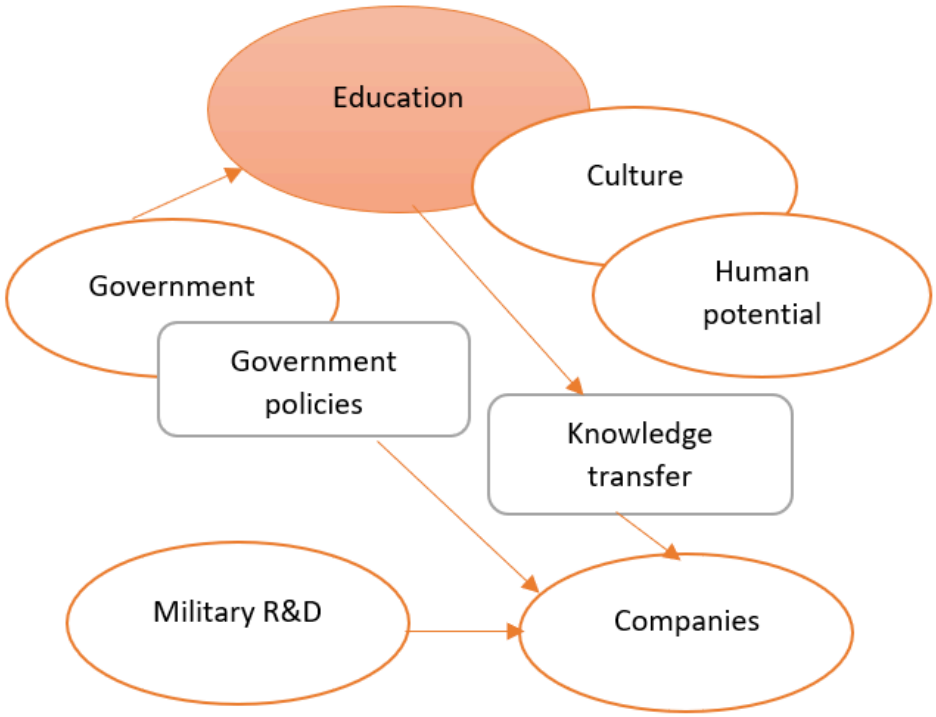
The Startup and Business Development Department supports early-stage businesses and idea-stage startups, as well as corporations interested in implementing open innovation through partnerships in technology incubators and innovation labs. The department supports the process – from the initial technological idea to production – and in the development of the initiative to reach advanced stages of capital raising and sales. Entrepreneurs and new Israeli startups can receive conditional grants of up to NIS 200,000 over a period of two years, NIS 100,000 awarded each year (85% of the approved budget).

The program allows foreign entrepreneurs to stay in Israel for up to 24 months, during which they can receive support. In the conditions of Israel's innovation ecosystem, entrepreneurs receive workspace and technological infrastructure, as well as business and logistical support.

The report cites the Tnufa fund as one of the possible reasons why there are so many startups in Israel.

The dissertation identified the leading factors in the development model of Israel's entrepreneurial ecosystem.

Fig. 3. Leading factors in the development of an entrepreneurial ecosystem in Israel.



Author's systematization

The development of Israel's innovation economy is made possible by government policy based on the following prerequisites: the presence of a positive entrepreneurial culture that preceded the creation of the Yozma program, the program is a response to the huge number of well-trained engineers working on promising technologies and, as a result, put Israel on the map of innovation technologies.

At the heart of the existence and development of all these factors, we see the indispensable support of the Israeli government and institutions with their adequate, timely, flexible, creative and adaptive policies.

1. Government policies have the main contribution to the construction and evolution of the entrepreneurial ecosystem.

The example of Israel in terms of government support is indicative. The competitive advantage of the Israeli ecosystem is largely due to adequate, timely and adaptive state policies that respond to real-time challenges. The Israeli government is one of the first to recognize the potential for promoting an innovation-based industry. Every achievement, without exception, is the result of state intervention in support of various endeavors, by providing resources, creating policies and regulations that encourage or sometimes restrict certain activities.

Developing economies usually report relatively poorly developed institutions supporting the market, such as capital markets, labor markets and legal systems, which leads to limitations on further economic development, but can also provide guidelines for institutional development.

Accordingly, the contribution will be to apply the policy conclusions reached in the development of strategies and recommendations to promote the effective management of the entrepreneurial ecosystem.

2. Governments have a real opportunity to stimulate the venture capital industry and thus provide companies with better access to financing.

The Israeli Yozma program is proof that governments have a real opportunity to stimulate the venture capital industry and thus provide companies with better access to financing.

Therefore, governments should provide substantial support in building the venture capital industry. The general consensus is that the lack of venture capital will sooner or later bring the entrepreneurial ecosystem to a standstill (Gnyawali & Fogel, 1994; Chorev, & Anderson, 2006; Isenberg, 2010; Lerner, 2010; Mason & Brown, 2013).

It is indicative that all venture capital markets that we know of were created with state support. That is, these markets do not appear without some form of assistance, which raises the question of what it is that requires the need for state support in these markets, at least at the stage of their **formation.**

3. Human potential plays a decisive role in the construction and evolution of entrepreneurial ecosystems.

In the studied example, the process begins precisely with the irreplaceable human potential, i.e. the influx of well-educated and trained engineers and experienced specialists.

(Israel has an exceptional intellectual potential (incredibly talented people with an innovative way of thinking), which is invested in the development of all possible industries - agriculture, medicine, robotics, etc. The quality of education plays a key role - the best universities (for example, Tel Aviv University, where some of the best engineering personnel are trained); military education (military service is part of the ecosystem, through military service, those serving develop personal qualities and skills, use of high technologies, teamwork and cooperation in high-risk situations. In cooperation with several major research universities, the military develops a large part of innovative technologies, especially in the field of cybersecurity. The combination of military education, the best universities and a purposeful culture forms the structure of the successful innovation system in Israel 2021, Israel Innovation Authority).

The participation of a critical mass of experienced entrepreneurs who have contributed time, energy, knowledge and experience to support the ecosystem, especially through business angels, mentoring of start-ups and creation of leading organizations, have a significant impact on the success of the entrepreneurial ecosystem.

The most essential element of an effective entrepreneurial ecosystem is the presence of a diverse and qualified group of employees (talent). An important source of entrepreneurial opportunities can be found in knowledge, both from public and private organizations.

The new contribution is the central place that is assigned to human potential and its role in building the entrepreneurial ecosystem and maintaining it in good condition, with the support of other stakeholders related to the ecosystem.

Chapter Three

A Model for Effectively Improving the Entrepreneurial Ecosystem in Bulgaria

Chapter Three reviews and analyzes the entrepreneurial ecosystem in Bulgaria, and provides recommendations, policies, and practices for effectively improving the Bulgarian economy for starting and developing entrepreneurial ventures. The proposed recommendations are in line with

the conclusions drawn from the case study (Israel) as well as the specifics of the entrepreneurial ecosystem in Bulgaria.

Starting a business in Bulgaria can be challenging due to several factors, such as corruption, which is still prevalent in the business environment. Starting a business will also be challenging without adequate local support.

Registering a company can take almost three weeks, with most of the time spent on registering with the Commercial Register at the Registry Agency and submitting a VAT application.

Construction can be a very difficult element when establishing a corporate body in Bulgaria. Obtaining permits can take over 100 days and requires overcoming 21 procedures, including correspondence with the municipality's chief architect, water supply, telecom operator, fire department and many other intergovernmental departments.

Obtaining electricity is also a difficult process, requiring long-term communication with CEZ Distribution Bulgaria. After the works are completed, companies must receive a note from the electricity supplier and finalize the contract with the electricity supplier before receiving the meter installation and the flow of electricity.

There are more male entrepreneurs in Bulgaria than female, with the female/male ratio being 0.9, which places the country closer to resource-driven than investment- and innovation-driven economies.

The share of people planning to start their own business reached its lowest level in 2018. Only 3.9% of Bulgarians intend to start a business in the next three years, compared to an average of 26% in other investment-driven economies.

The reported low awareness of entrepreneurial opportunities in Bulgaria (37-39%) also has a negative impact, as individuals do not feel more prepared to start a business (19%-19.5%) - there is no upward trend.

Both indicators are significantly lower than the average levels for similar groups of economies. The fear of failure is growing, but Bulgaria remains among the well-performing economies on this indicator.

“Entrepreneurs in Bulgaria are increasingly informed and prepared for the risks they take, but remain skeptical about the entrepreneurial environment. The relatively good infrastructure and light bureaucratic and tax burden cannot compensate for the impression of inequality between certain companies and all other participants in the economy,” says Dr. Veneta Andonova, author of the report and member of the Board of GEM Bulgaria and Dean of the Faculty of Administration at Universidad de Los Andes, Colombia, author of articles and books on entrepreneurship.

For the fourth consecutive year, there has been a predominance of PANF in sectors with low added value, low level of innovation and a very low share of internationalization. Trade continues to be the preferred sector for entrepreneurs in Bulgaria and reaches 49.3%. Bulgaria reports a traditionally low level of internationalization of PANF, as the country is among the four economies whose indicator is below 10%, along with Poland, the Netherlands and Spain.

Education is inextricably linked to entrepreneurial intentions and the vitality of the entrepreneurial ecosystem, as it affects the confidence of entrepreneurs that they have the necessary skills and knowledge to start a business. Government policies and initiatives have the function of shaping the conditions that favor the launch of entrepreneurial ventures.

National experts not only in Bulgaria, but also in Southeastern Europe find deficiencies in policies to support entrepreneurial ecosystems. The expert assessment of the determination of Bulgaria’s tax rates, which do not represent an impossible burden for new and growing companies, is positive. In addition, governments in Bulgaria and the region are paying increasing attention to the need for entrepreneurship to be a national and regional priority of growth policies.

The balance sheet for the development of the entrepreneurial ecosystem in our country shows that much more effort needs to be made for Bulgaria to reach its potential as a catalyst in Southeastern Europe in the field of entrepreneurship. It is crucial for Bulgaria to overcome demographic deficits, as well as to create the necessary conditions for replicating innovative and promoting growing businesses aimed at European and global markets.

In Bulgaria, innovative entrepreneurs are few, but they have a global mindset and are clearly aware of their institutional and historical context, as well as their unique geographical location. The geographical location is one of the advantages of the Bulgarian economy, access to the Black

Sea, as well as the huge internal market, as part of the European Union. Other advantages are the competitive costs of the labor market and the tax system, which is very attractive and favorable for foreign investments.

However, Bulgarian entrepreneurs are faced with the need to offer value in challenging conditions and in challenging markets, due to the small size of the domestic market and the price sensitivity of local customers.

The main reasons for the low levels of entrepreneurial activity in Bulgaria are environmental and personal factors. In terms of personal factors, the education system is of particular importance, as it contributes to the acquisition of entrepreneurial skills and the development of confidence.

Increasing the levels of entrepreneurial intentions and entrepreneurial activity cannot be achieved without significant improvements in numerous components of the economic context. An entrepreneurial ecosystem in Bulgaria requires significant change in the following problem areas: access to finance, trust in government officials and institutions, quality infrastructure, dynamically operating markets and increased consumption, the quality of school/university education, the lack of qualified labor and the rule of law. All of this directly affects entrepreneurial intentions, the level of entrepreneurial activity, especially at an early stage and in entrepreneurial employment, the capacity for innovation, internationalization, the consistency and predictability of policy changes, as well as the presence of barriers in the domestic market.

The local culture is prone to pessimism rather than optimism. In order for Bulgarian entrepreneurs to gain confidence and be successful in their endeavors, the necessary policies and practices must first be implemented to improve all of the listed areas.

Government institutions:

Institutions, government policies, programs and regulations play a significant role in creating a supportive environment for entrepreneurship, which is clearly highlighted in the example of Israel.

In Bulgaria, entrepreneurship does not receive specific attention, both in terms of regulatory requirements and in terms of media and communication representation. Entrepreneurship is not identified as a priority by decision-making institutions, there is a lack of awareness regarding the

strategic importance and impact of entrepreneurship, innovation, science, education and infrastructure on business development.

The justice system is considered a major problem in the business environment, and public institutions are considered corrupt.

Government policies

In terms of support and programs for entrepreneurship, they have a very low score. Other areas that showed low results are: Entrepreneurship education in schools; Transfer of research and development; Barriers to market entry, regulatory and administrative burden; Cultural and Social norms.

The areas that are marked as satisfactory are: Entrepreneurial finance; Government policies - taxes and bureaucracy; Trade and legal infrastructure; Internal market dynamics and Physical infrastructure.

Entrepreneurship is not identified as a priority, there is a lack of awareness regarding the strategic importance and impact of entrepreneurship on innovation, science, education and infrastructure on business development.

Financing

The limiting factors are the insufficient financial culture of entrepreneurs at an early stage, lack of adequate funds, lack of competent fund managers and experienced investors, risk aversion of more traditional fund providers (such as banks) and lack of a critical mass of business angels.

The Fund of Funds (FofF) is an important tool for supporting entrepreneurship and innovation in Bulgaria. It operates through various programs and instruments that focus on business development, research and innovation. Capital from family and friends and from business angels, which are not yet sufficiently recognizable, is limited and insufficient, more time and experience in expectations, understanding and risk-taking are needed.

The majority of financing directed at entrepreneurs in Bulgaria comes from the EU, a situation that should trigger political discussions about the role of the government as an investor.

Due to the lack of full-fledged late-stage financing opportunities, promising local entrepreneurial ventures are sold prematurely. Finding growth capital is a significant problem for Bulgarian entrepreneurs. Funds such as Vitosha Venture Partners, BlackPeak Capital and Silverline Capital have been created to address this problem, but the ecosystem needs more attention to later stages of investment=

Access to finance in Bulgaria is developing rapidly, through various programs and funds for venture investment and stimulating entrepreneurial ideas. However, access to finance is difficult in the initial stage of the business, especially when it is carried out through foreign funds.

The reasons for this are that a large part of entrepreneurial businesses are oriented towards the domestic market, as well as that over 50% of businesses are in sectors with low added value, which are not attractive. In summary, on the one hand there is capital, but on the other hand access to finance is difficult and there is a lack of information about application programs, required documents and criteria.

Human capital

The lack of labor is among the main problems facing business in Bulgaria. The trend towards a permanent increase in the shortage of qualified employees is increasingly starting to create problems for business in our country.

One of the main reasons for this is the imbalance in secondary education. For many years, a large part of specialized technical schools and vocational high schools have not trained personnel, as entire schools for highly qualified labor were closed.

Real reforms are needed in secondary education, dialogue with business regarding the need for specialists, changes in the system, from teaching methods to administrative processes.

Another significant reason for the lack of labor is the permanent depopulation and aging of the population.

A possible solution could be the import of specialists in accordance with the needs of employers. In the future, a resource can be found in the older population on the domestic labor market. A huge resource could be the population of retirement and over-retirement age, these are people

who would be very useful on the labor market, for example with their soft skills, such as responsibility and discipline, qualities that most young people lack.

Next, a significant imbalance is created by low birth rate and high mortality. It is necessary to implement state policies in the direction of - encouraging birth rate, etc.

Universities and entrepreneurship:

A deeper look shows that education (universities, centers, institutes) are the foundation of the ecosystem. These institutions attract human potential, attract scientists, retain talent, develop intellectual potential, shape and influence the thinking of students, create and preserve knowledge and experience, etc.

Universities drive the innovative ecosystem when they inspire proactivity and promote a culture of innovation as a platform for research in support of the ecosystem and a place for sharing knowledge and experience.

Universities are an indispensable part of the most developed entrepreneurial ecosystems in the world, their role is to build lasting relationships with all partners in the ecosystem in synergy for continuous improvement.

New knowledge:

Investments in new knowledge are an important source of entrepreneurial opportunities and, if they lead to (better) solutions, they are also a source of prosperity. New knowledge is created in many ways, but probably the best measure of activity is investment in (public and private) research and development. In this study, the indicator for the knowledge element is the percentage of gross domestic product invested in research and development (by public and private organizations).

Bulgaria continues to allocate less than 1% of GDP to R&D and is among the countries in the European Union with the lowest spending on science (Eurostat, 2021).

Supportive culture

Participants in the local entrepreneurial ecosystem describe the prevailing tendency to avoid responsibility and over-analyze failure, which appears as a cultural constraint to the faster

development of regional entrepreneurial ecosystems. On the other hand, there is an overconfidence among young entrepreneurs, which repels investors and leads to greater difficulties in finding investments for start-ups.

Therefore, entrepreneurs need to improve their reputation among all participants in the entrepreneurial ecosystem, but especially with investors. To this end, it is necessary: improving business skills; in-depth knowledge of business fundamentals and indicators; willingness to learn and develop; a disciplined approach; appropriate behavior for the business environment; timely and adequate behavior, etc.

It is important to keep in mind that achieving a change in these indicators will take time. This is a process that requires efforts and commitment from all stakeholders, such as the media, serial entrepreneurs, educators, politicians, influencers and parents, to work together to influence the understanding of success through one's own efforts, emphasizing autonomy and personal initiative, as well as entrepreneurial risk - risk-taking, creativity, innovation and the responsibility of the individual to make proactive choices for his or her life.

Institutional support and infrastructure

In terms of education, there are enough universities and other educational institutions to prepare future entrepreneurs, but here the question arises about the ratio between the quantity and quality of education. According to respondents to a study of entrepreneurship in Bulgaria: education is more of a theoretical nature and does not contribute to the realization of start-up entrepreneurs.

Infrastructure is defined as the most developed component of the entrepreneurial ecosystem. The lowest scores are given to the indicators: "Institutions" - includes the political environment, regulators, business environment; "Human capital and scientific research" (66th place) - includes education, science, education and science spending; "Market complexity" (60th place) - includes credit, investments, market, market diversification, etc., as well as the indicator "Business complexity" (12th place) - includes knowledge workers, innovation connections, knowledge absorption. In the Global Innovation Index report for 2023 The importance of investments in science and technology for sustainable development in an uncertain economic environment is emphasized (Global Innovation Index, 2023). Bulgaria must continue to work on improving its

innovation potential. Knowledge, innovation and scientific research should be a top priority on the agenda of government, science and business, which is observed in all developed countries.

Markets

The Bulgarian market is defined by the entrepreneurial community as “small”, but still “sufficient” for the initial start-up stage, but not for subsequent growth. This limitation is overcome by the proximity to the European market. However, in order to increase access to global markets, more efforts must be made to improve perceptions abroad of Bulgarian culture and business, and initiatives must be taken to inform about opportunities and access to foreign markets. The problems identified by SMEs are mainly related to finding customers, competition, regulation and production or labor costs.

Conclusion

To improve the environment and competitiveness of the Bulgarian economy, it is important to implement targeted state policies to attract investments aimed at the development of high-tech industries, as well as the production of products with their own brand and high added value, this is an important step towards innovation and creating a sustainable economy; ensuring access to efficient energy sources, which is critically important for maintaining the competitiveness of production; providing access to markets for the sale of the relevant products, etc. This can be achieved by building long-term strategies and policies that can be adopted and consistently implemented by each subsequent government, using the positive experience of the case study in this document. Israel's economic achievements call for the study and sharing of their experience in building and developing an entrepreneurial economy and innovation. The case study clearly outlines some key points on the basis of which specific policies can be built and adapted to build effective strategies and solutions that can be implemented in practice.

Suggestions for future research:

In a broader scope of future research, the costs of developing an entrepreneurial ecosystem can be determined in relation to the percentage return of the relevant political program, thus determining

the need to follow such economic policies or the need to follow another path to economic development.

The scientific contributions of the dissertation are as follows

1. Factor analysis of entrepreneurial ecosystems: The dissertation uses Daniel Eisenberg's model to analyze the factors that lead to the development of successful entrepreneurial ecosystems, with Israel as a specific example.

2. Analysis of policy interventions: The study examines and analyzes the role of government policies and interventions in the development of the entrepreneurial ecosystem, especially in relation to the development of the venture capital industry.

3. Methodological contribution: The paper applies an interdisciplinary and systematic approach to studying the interaction between political and economic factors, which contributes to the development of entrepreneurial ecosystems.

4. Central role of entrepreneurs: One of the main contributions is the emphasis on the role of entrepreneurs as a key driver in the construction and maintenance of the entrepreneurial ecosystem. Entrepreneurs are presented as key actors who, through cooperation with other stakeholders, form a favorable environment for economic development.

5. Application of international experience: The dissertation analyzes the Israeli entrepreneurial ecosystem as a successful example and proposes measures and programs that could be adapted and implemented in Bulgaria. This includes mechanisms for promoting innovation, venture capital and cooperation between government, business and educational institutions.

6. Integrated approach to policies: The study proposes a holistic model for managing the entrepreneurial ecosystem, which includes interaction between different stakeholders and promotes innovation and the entrepreneurial spirit.

VI. Publications on the topic of the dissertation:

1. Nikolova, Diana, Innovation System of Israel - Key factors for building the innovation system in Israel, Journal of Business and Public Sector Management, ISSN 2815-391X, issue 2/2023, pp. 70-81.

2. Nikolova, Diana, Development of the entrepreneurial ecosystem in New Zealand, Journal of Business and Public Sector Management, ISSN 2815-391X, Issue 2/2023, pp. 56-69.

3. Nikolova, Diana, Artificial Intelligence and the Transformation of the Economy. Effects of the Introduction of Artificial Intelligence on Productivity and Economic Growth, Social Inclusion and Income Distribution, Collection of Papers Presented at the Fourth National Student and Doctoral Conference on "Artificial Intelligence and the Transformation of the Economy", ISBN 978-619-7622-66-9, Part One/17.05.2024, pp. 102-111.