



Research Article

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Start-Up Ecosystem Development: A Correlative and Comparative Study of Albania and Baltic Countries

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Abstract

This paper shows and proves that a business ecosystem favourable to new start-up ventures will undoubtedly bring about a greater number of active start-ups developing and striving for success. The research undertaken here focuses on Albania, on the start-up business ecosystem of Albania and the number of active start-ups in the country. However, in order to reach the intended conclusion, a comparison is drawn with Estonia and Lithuania. By applying the correlation analysis to two groups of variables for each country — the start-up business ecosystems rankings and innovation capacities rankings on the one hand and the total number of active start-ups on the other hand — the paper proves that there is a strong correlation between a favourable start-up business ecosystem and the overall number of active start-ups. The conclusion reached here points to the necessity for Albania to improve the overall business climate for the flourishing of start-up ventures.

Keywords: start-ups, start-up ecosystem, innovation, Albania

1. Introduction

The public institutions and society at large have the duty and obligation to build and nurture conducive business ecosystems for the flourishing of start-up ventures. Taking cue from the research project undertaken as part of the PhD programme followed at the Aleksander Moisiu University of Durres, Albania, this paper shows and proves that there is a strong correlation between the degree a business ecosystem is favourable to start-ups and the number of active start-ups in any given country, and therefore concluding that Albania must do a lot more to foster the right market conditions and legal framework toward incentivising start-ups in order to spur and sustain their

growth and development, as well as the future prosperity of the society.

By referring to the Global Startup Ecosystem Index for the 2018-2023 period, this paper looks at the degree the business ecosystem is favourable to start-ups in Albania and compares it to that of Estonia and Lithuania, since these two countries share a similar background with Albania. The paper recognizes the overall important role that innovation capacities play in creating a more vibrant start-up culture and illustrates that by referring to the standings of these three countries in the Global Innovation Index for the 2018-2023 period.

The conclusion that Albania must do a lot more to foster the right market conditions and legal framework toward incentivising start-ups in order to spur and sustain their growth and development is drawn by applying the correlation analysis to the two groups of variables for each country: the start-up business ecosystems rankings and innovation capacities rankings on the one hand and the total number of active start-ups on the other hand. This analysis proves that there is a strong correlation between a favourable start-up business ecosystem and the overall number of active start-ups, as well as showing that a favourable start-up business ecosystem is crucial for the growth and development of start-ups.

Albania today has about 88 start-ups per 1 million inhabitants, whereas countries of similar size and background to Albania have a lot more. The European Union average is of 250 start-ups per 1 million inhabitants, but Estonia stands out with more than 1100 start-ups for that number of inhabitants, while Lithuania has 500 start-ups per 1 million inhabitants.

Start-ups are vital for sustaining the future development of an economy and, therefore, very important to guaranteeing the prosperity of a society in the years ahead. Today start-ups might look as simple or pretty wild and out-of-this-world ideas, but in some years' time they will represent the new and uncharted path the economy will take. Start-ups are today the nascent foundation of the next generation's economy, and Albania is not an exception to this rule.

2. Role of Start-Ups in Economy: Literature Review

Start-ups cannot and should not be treated as any other business opening shop and trying to succeed in a given market because they are not. The studies conducted on this subject overwhelmingly agree that a start-up strives to offer a totally new product or service to the market, whereas a traditional business, even if it is newly opened, follows an already established pattern (Eisenmann, 2021; Mier, 2023). A start-up is, thus, always built upon an innovation.

2.1 Entrepreneurship and innovation

Since the earliest of times, mankind has always tried to improve his life, simultaneously discovering that economic activity was the best way to achieve this major objective. Involvement in economic activity, regardless of its form or type, made a person an entrepreneur, while the very economic activity he engaged in gave life to entrepreneurship. Subsequently, entrepreneurship became part of the discussion about improving human life through economic activity, a concept that refers to the process of creation and continuous management of a business by the entrepreneur with the aim of generating as much profit as possible. This definition of entrepreneurship has not changed much and researchers continue to consider entrepreneurship as a process that basically has the desire and effort to increase the profit of the entrepreneur who manages the enterprise, a process that is always accompanied by the risk of unknowns that the market embodies (Smith, 1776/1904; Mill, 1848; Marshall, 1890; Lamb, 1959; Stevenson & Gumpert, 1986).

However, more contemporary researchers have added another feature to this definition, by considering entrepreneurship closely related to innovation. New business ideas, new or improved products or services, new or more efficient production processes, etc., otherwise known together as innovations, represent one of the drivers keeping the entrepreneurship engine moving forward because they offer to solve an unsolved problem or to bring to market a redesigned or a completely

new and previously unknown product or service. This is a comprehensive description of the role that ventures arising from innovation or new business ideas play, and precisely for this reason many researchers, past and contemporary, agree with it (Schumpeter, 1911/1934; Birch, 1981; Kirchoff & Phillips, 1990; Baldrige & Curry, 2022).

2.2 Start-ups and start-up ecosystems

A new venture of the start-up type is generally considered a temporary organization or institution in search of a profitable, measurable and scalable business model (Blank & Dorf, 2020; Szarek & Piecuch, 2018). Meanwhile, in regard to Albania's legal framework on start-ups, the definition that the Law no. 25/2022 "On the support and development of startups" stipulates for the start-ups is very close to the description that the scientific literature gives them.

In this view, every start-up venture is in itself a new business venture, but not every new business venture is a start-up venture. The distinctive feature is the high uncertainty in which the start-up ventures operate. As long as the product or service being offered is completely new and unknown, you never know for sure how the market will react. New ventures of the start-up type usually pass through two phases of development, which are the experimental phase and the production phase. Today in the world, about 90 percent of start-ups fail and do not pass the experimental phase.

World experience shows that start-ups need support during the first experimental phase and this support is known as the "start-up ecosystem". Such ecosystems in the world operate with clear legal and regulatory frameworks, with various partners and collaborators, with the involvement of public and private actors, as well as with incentives for promoting the climate for the establishment and development of start-up ventures. In fact, the concept of ecosystem in economics and business is borrowed from ecology and the earliest definition of a business ecosystem was given by Moore (1993, 1996). According to him, a business ecosystem enables enterprises to "absorb resources of all kinds, attract capital, partners, suppliers and customers to build networks of cooperation" (Moore, 1993, p. 75).

Start-ups are very important for the development, growth and long-term sustainability of Albania's economy because they represent its future evolutionary directions. It is for this reason that these ventures should be encouraged and supported.

3. Methodology

This research reveals the relationship that exists between the business ecosystem and the development rate of start-up ventures. It also reveals the direction and strength of that relationship. The correlational research model aims to discover the relationship between variables, which are neither controlled nor changed by the researcher. Correlation reflects both the direction and strength of the relationship between variables. The direction of the relationship can be positive when the variables move in the same direction or negative when they move in opposite directions. The strength of this relationship, meanwhile, is represented by the correlation coefficient. There is also a possibility that two variables might not have any kind of relationship with each other.

Generally, correlational research provides insights into complex real-life relationships, helping researchers develop theories, as well as make the relevant predictions.

3.1 Correlation coefficient

In fact, there are several types of correlation coefficients, but this research uses Pearson's correlation coefficient, also known as Pearson's r . The formula for calculating Pearson's r is given in the form of the following equation:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

The value of the correlation coefficient between two variables ranges from -1.0 to 1.0. A coefficient value of 0 indicates that there is no relationship between the two variables, while a value greater than 0 up to 1.0 indicates positive correlation and a value less than 0 up to -1.0 indicates negative correlation.

The value of the coefficient also represents the strength of the correlation. A value of 1.0 represents perfect positive correlation and a value of -1.0 represents perfect negative correlation, while a value ranging from 0.8 to 1.0 or from -1.0 to -0.8 indicates a strong relationship, while a value ranging from 0.5 to 0.8 or from -0.8 to -0.5 indicates a moderate relationship. A value greater than 0 up to 0.5 and less than 0 up to -0.5 indicates a weak relationship.

Positive correlation implies the fact that an increase in one variable is always accompanied by an increase in the other variable or a decrease in one variable is always accompanied by a decrease in the other variable. In other words, in a positive correlation, both variables move in the same direction. The opposite is true for negative correlation, where the variables move in opposite directions.

For the practical calculation of the correlation coefficient, the MS Excel application with the added Analysis ToolPak package was used.

3.2 Research question

The question that this paper will strive to answer is whether there is a relation between the business ecosystem and the number of active start-up ventures in Albania in particular and in any other given economy. And, if there is, what kind of relation is that.

Therefore, correlation analysis is applied to measure the strength and direction of relation between business ecosystems rankings and innovation capacities rankings on the one hand and the total number of active start-ups on the other hand in relation to Albania, as well as in relation to Estonia and Lithuania for comparative purposes.

3.3 Data collection

In so far as the research presented in this paper is concerned, the attention is turned to the numerous studies conducted worldwide in the field of start-up, focusing on various development indicators. The data collected is in the form of time-series datasets related to the start-up friendliness ranking of the business ecosystems of Albania, Estonia, and Lithuania for the 2018-2023 period, to the ranking of innovative capacities of Albania, Estonia, and Lithuania during the same period of time, and to the total number of active start-ups that each country had every year for the 2018-2023 period.

3.4 Limitations

The research presented in this paper is part of a broader study on the start-up ecosystem of Albania, undertaken in the framework of the PhD programme followed at the Aleksander Moisiu University of Durres, Albania. Even though the abovementioned study is much larger in scope, this paper is confined to presenting only the role that business ecosystems play in the development and growth of start-ups.

It might be viewed as a limitation, and it may very well be one, but the purpose of this paper was not to touch on other factors contributing to the development of start-ups.

4. Data Collected and Correlation Analysis

As mentioned earlier, the data collected is in the form of time-series datasets related to the start-up friendliness ranking of the business ecosystems of Albania, Estonia, and Lithuania for the 2018-2023

period, to the ranking of innovative capacities of Albania, Estonia, and Lithuania during the same period of time, and to the total number of active start-ups that each country had every year for the 2018-2023 period.

Correlation analysis is then applied to measure the strength and direction of relation between business ecosystems rankings and innovation capacities rankings on the one hand and the total number of active start-ups on the other hand. The Pearson correlation coefficient is the method used for this purpose.

In this study, in so far as the context for the growth and further development of start-ups is concerned, Albania is compared to Estonia and Lithuania because the three countries share some background similarities. They used to be communist countries with centrally planned economies since the end of World War II. By the early 1990s, they transformed into democratic societies switching to the free market economy. At the beginning of 2024, Albania had a resident population of 2.82 million, whereas Estonia had a population of 1.32 million and Lithuania had 2.69 million inhabitants. Estonia and Lithuania started reporting their economic data only by the beginning of 1995 because both countries were part of the Soviet Union and reestablished their independence only by the end of 1991. In 1995, Estonia had a Gross Domestic Product of 4.5 billion US dollars, Lithuania's Gross Domestic Product at that year stood at 7.8 billion US dollars, whereas in 1995 Albania had a Gross Domestic Product of 3.2 billion US dollars (World Bank, 2017).

4.1 Data collected and division of variables

The Global Startup Ecosystem Index, published annually by StartupBlink since 2017, ranks the start-up ecosystems of 1000 cities and 100 countries. StartupBlink is an information centre maintained by a group of researchers from various academic institutions and young entrepreneurs all over the world, focused on the global start-up ecosystem. Data is analysed based on various parameters, such as the number of active start-ups, number of investors and accelerators, amount of accumulated private sector investments, number of start-up employees, internet freedom and speed, research and development investments, corporate tax rate, labour laws, corruption perception index, etc. (StartupBlink, 2024).

Table 1: The position of Albania, Estonia and Lithuania in the Global Startup Ecosystem Index during 2018-2023

	Ranking in the Global Startup Ecosystem Index during 2018-2023		
	Albania	Estonia	Lithuania
2018	79	14	22
2019	85	13	18
2020	78	13	17
2021	75	12	17
2022	74	12	16
2023	72	11	15

Note: A higher position in the Global Startup Ecosystem Index denotes a better ecosystem for the growth and development of startups. Data is collected from the Global Startup Ecosystem Index, published annually by StartupBlink [StartupBlink. (2024). *Global Startup Ecosystem Index Report 2024*. Paris: StartupBlink. <https://www.startupblink.com/reports>]

Another set of data comes from the Global Innovation Index, published annually since 2007 by the World Intellectual Property Organization, one of the specialised agencies of the United Nations. In calculating the standing of each country in the world in so far as innovation capacities are concerned, the World Intellectual Property Organization takes into consideration data related to the human capital qualifications, research and development expenditures, infrastructure related to the information and communication technologies, sustainability, market sophistication, business

sophistication, technology, knowledge creation, knowledge diffusion, etc. (Dutta et al., 2023).

Table 2: The position of Albania, Estonia and Lithuania in the Global Innovation Index during 2018-2023

	Ranking in the Global Innovation Index during 2018-2023		
	Albania	Estonia	Lithuania
2018	84	25	40
2019	84	24	40
2020	83	24	39
2021	83	21	39
2022	83	18	38
2023	82	16	34

Note: A higher position in the Global Innovation Index denotes better innovation capacities. Data is collected from the Global Innovation Index, published annually by the World Intellectual Property Organization [Dutta, S., Lanvin, B., León, L. R., & Wunsch-Vincent, S. (Eds.). (2023). *Global Innovation Index 2023*. Geneva: WIPO. <https://doi.org/10.34667/tind.48220>]

The third time-series datasets collected relates to the total number of active start-ups in Albania, Estonia, and Lithuania at each year for the 2018-2023 period. This data is collected by referring to the official statistics published by each country.

Table 3: The number of active start-ups in Albania, Estonia and Lithuania during 2018-2023

	Number of active start-ups during 2018-2023		
	Albania	Estonia	Lithuania
2018	42	673	424
2019	88	680	996
2020	151	1051	1039
2021	219	1300	1100
2022	239	1452	1220
2023	250	1550	1307

Note: Data on Albania is collected from the statistical yearbooks published by the Institute of Statistics of Albania [Institute of Statistics. (2023). *Vjetari statistikor rajonal 2023* [Regional statistical yearbook 2023]. Tirana: INSTAT]. In regard to Estonia, data is collected from the database maintained by the Startup Estonia [Startup Estonia. (2024). *Explore the Estonian startup ecosystem* [Data file]. <https://ecosystem.startupestonia.ee/intro?applyDefaultFilters=true%20>]. Data on Lithuania is provided from the database maintained and published by the Startup Lithuania [Startup Lithuania. (2023). *The Lithuanian startup ecosystem 2023*. Vilnius: Startup Lithuania].

The time-series datasets represent variables, which are divided into two groups for each of the three countries. The variables related to the start-up ecosystem ranking and innovation capacities ranking for the 2018-2022 period are put into the first group, whereas the variables related to the number of active start-ups for the same period of time are put into the second group. Correlation analysis is then applied to two variables, one from each group.

4.2 Correlation analysis

Correlation analysis is applied to measure the strength and direction of relation between business ecosystems rankings and innovation capacities rankings on the one hand and the total number of active start-ups on the other hand. The Pearson correlation coefficient (r) is the method used for this purpose.

The following is the calculation of the Pearson correlation coefficient (r) regarding the relation between the business ecosystems rankings and the total number of active start-ups for Albania,

Estonia, and Lithuania.

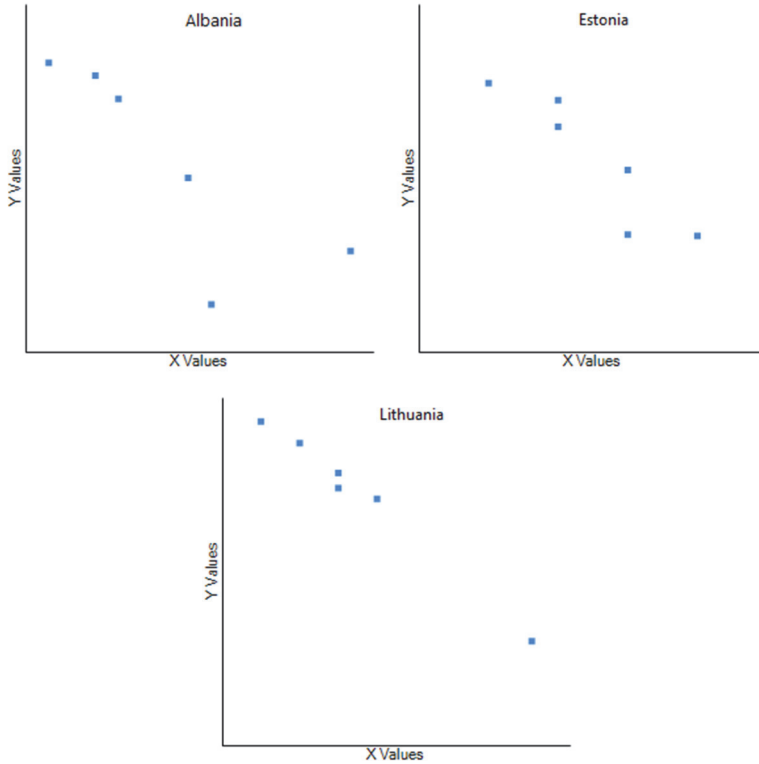


Figure 1: Correlation analysis of business ecosystems rankings and number of active start-ups

Notes: The x variable scores represent the ranking values in the Global Startup Ecosystem Index and the y variable scores represent the number of active start-ups.

In the case of Albania, the value of r is -0.82 , whereas for Estonia is -0.91 and for Lithuania is -0.99 . In all the three cases there is a strong negative correlation, which means that low x variable scores go with high y variable scores, or vice-versa. This means that the higher a country is positioned in the Global Startup Ecosystem Index, which subsequently means that the x variable scores get lower, the chances for having a higher number of start-ups are great.

Further down follows the calculation of the Pearson correlation coefficient (r) regarding the relation between the innovation capacities rankings and the total number of active start-ups for Albania, Estonia, and Lithuania.

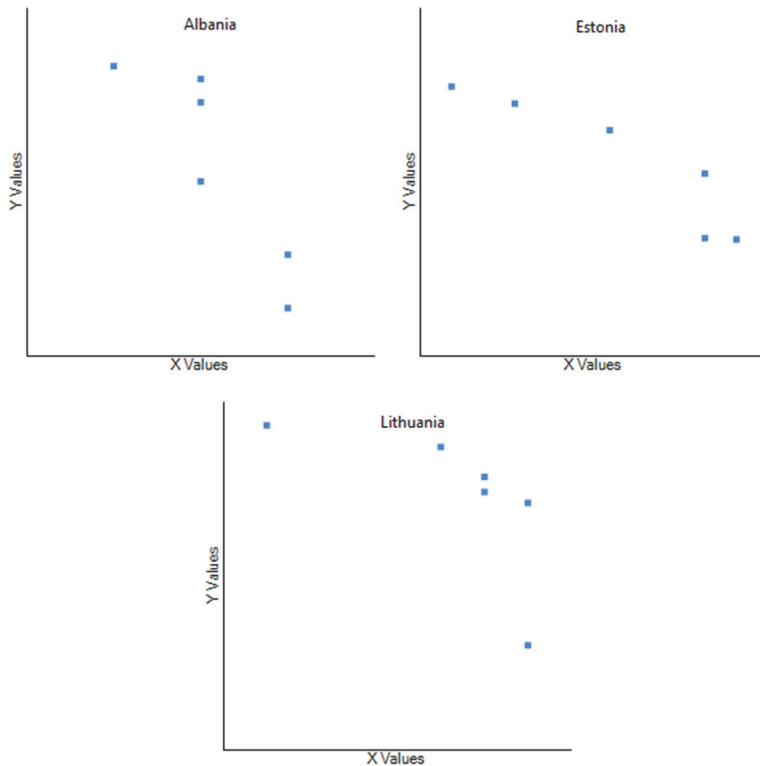


Figure 2: Correlation analysis of innovation capacities rankings and number of active start-ups

Notes: The x variable scores represent the ranking values in the Global Innovation Index and the y variable scores represent the number of active start-ups.

In the case of Albania, the value of r is -0.88 , whereas for Estonia is -0.92 and for Lithuania is -0.65 . In so far as Albania and Estonia are concerned, there is a strong negative correlation, which means that low x variable scores go with high y variable scores, or vice-versa. In regard to Lithuania, the correlation is more moderate. This means that the higher a country is positioned in the Global Innovation Index, which subsequently means that the x variable scores get lower, the chances for having a higher number of start-ups are great.

4.3 Discussion of results

During the 2018-2023 period, the Albania's standing in the Global Startup Ecosystem Index and in the Global Innovation Index has improved, and this is accompanied by a growth in the number of active start-up ventures. Even though in comparison to Estonia and Lithuania, Albania still has a long way to go.

However, the purpose of this paper was to show the way for Albania towards achieving a notable growth in the number of start-ups, which is a means for securing the future development of its economy and guaranteeing the prosperity of its society. And the paper has achieved the purpose set out.

The results clearly show that there is a strong correlation between a business ecosystem favourable to start-ups and the number of active start-ups: the better the start-up ecosystem is, the

greater is number of start-ups. The fact that Estonia and Lithuania are better positioned in the Global Startup Ecosystem Index and in the Global Innovation Index is a strong indication why both these countries have a more active start-ups than Albania.

5. Conclusions

Start-ups are very important for the development, growth and long-term sustainability of Albania's economy because they represent its future evolutionary directions. It is for this reason that these ventures should be encouraged and supported.

Albania lags behind many European countries in relation to the development of start-ups. Albania lags behind even some of the Western Balkan countries in that area. A very simple and clear illustration of this is the Law no. 25/2022 "On the support and development of startups", which was approved by the Assembly of Albania only in early 2022. Prior to two years ago, Albania had no legal framework relating to the start-ups and no schemes in place to encourage and support the development and growth of start-ups. The abovementioned law does establish a favourable regulatory and institutional framework for the creation and development of startups, but the funding is still far off from what it should be. For the 2024, the fund approved by the Government of Albania in favour of start-ups was only about 3 million euros.

It is obvious that Albania must greatly improve the funding of start-ups, but the policies should not be confined to just that. A lot must be done towards building the much-needed networks with start-up facilitators across the European Union in order to exchange experiences and attract investments. Being a rather small country, Albania needs to be part of the bigger networks for the local start-ups to succeed.

To this end, the conclusion outlined in this paper is that improving the business ecosystem and making it even friendlier to the start-ups will ensure a more vibrant growth of start-ups in Albania. One of the many factors playing a role in a business ecosystem being more favourable to start-up is innovation, and Albania needs to seriously invest towards encouraging innovation. The comparison drawn with Estonia and Lithuania serve to make this conclusion even more evident.

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