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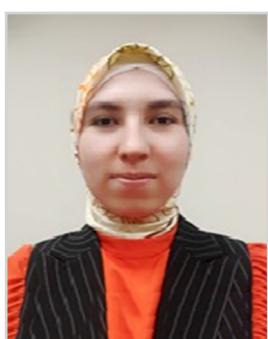
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## Economic development through analysis of the education and entrepreneurship impacts

**Abstract.** Experts in economics consider entrepreneurship to be the engine of growth and economic production of countries. This article aims to investigate and analyze the role of education in the promotion of entrepreneurship and consequently in economic development. The research method in this article is analytical-explanatory, which has been evaluated using the data collection from 200 Uzbekistan entrepreneurs during the 2023-2024. The findings of this research show that education plays an important role in the development of entrepreneurship. Hence, investment in education and creating practical and technical entrepreneurial skills has a direct impact on economic growth. It was concluded that encouraging entrepreneurs to education and invest in it is the most appropriate strategy to respond to the economic and social challenges of entrepreneurial companies. Entrepreneurship has emerged as one of the important ways to promote economic development and, therefore, is a way to revive the economy in Uzbekistan.

**Keywords:** Entrepreneurship; Economic Growth; Education; Investment

**JEL Classifications:** E24; E41; E64; I18; J28; J31

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## 1. Introduction

Education and entrepreneurship are two fundamental wings of economic development; education trains a skilled and knowledge-based workforce, and entrepreneurship promotes innovation by creating wealth and employment, and is considered the driving force of economic growth in countries. Analysis of the mutual effects of the two on economic development shows that education provides the necessary infrastructure for effective entrepreneurship, and entrepreneurship, in turn, leads to improving the quality of education by creating demand for new skills. In this regard, social entrepreneurs who have characteristics and behaviors similar to economic entrepreneurs are more related to sympathetic and supportive works and activities and have a favorable vision and vision for solving social problems (Peprah & Adekoya, 2020). Today, entrepreneurship is one of the factors of economic development and growth of countries, so that in some countries, the last two decades have been called the golden decades of entrepreneurship. The category of entrepreneurship is considered as the main source of development (Ordeñana et al., 2024; Hardiyanto et al., 2022). Therefore, the need to create a suitable platform and atmosphere for rational support, including material, spiritual, cultural, research and scientific, for entrepreneurship and entrepreneurs is felt more than ever in today's dynamic market (Kim et al., 2022). Therefore, it requires that by creating appropriate platforms and creating a favorable culture, the discussion of entrepreneurship and its importance and necessity should be institutionalized in the society, and education and its important role in this regard should not be hidden from anyone, and should play a role in its development and promotion (Oyetunde et al., 2016).

In conditions and circumstances where the job qualifications of job seekers do not match the real needs of the labor market, the process of recruiting people in the labor market and finding a suitable job will not be fast and easy (Carree & Thurik, 2005). This situation creates two serious problems. On the one hand, the number of unemployed people will increase and on the other hand, part of the human capacities will become idle and unused and will not play a role in the development and growth of the society. Entrepreneurship training will improve human capacities and increase the employability of people, thereby reducing youth unemployment. One of the effective factors in the development of entrepreneurship is paying special attention to strengthening the educational system. Today, education and promotion of entrepreneurship has a special place in all educational levels (Miço & Cungu, 2023). The contribution of education is very valuable both in the creative intellectual force as an evolution of the production process and in simple work as a support for the continuation of production. Today, communities in educational environments incur considerable expenses for education and these centers are facing increasing problems. Many are having to re-evaluate their mission and overall strategies, and government funding is dwindling (Sadeq et al., 2025).

Economic growth models represent the quantitative growth of production value and income of countries as a dimension of development goals and analyze the factors affecting it in different societies and time periods. These theories have introduced the classic elements of labor force, physical capital and technological changes as factors of growth in the economics literature. But empirical studies have shown that countries, despite the labor force and physical capital, are deprived of sustainable and comprehensive economic growth due to the weakness in the coherence of institutional arrangements and the inefficiency and inadequacy of institutions supporting the production and distribution sector. Therefore, another factor that is emphasized in the new theories of economic growth is the quality of the business environment. Therefore, in order to meet the challenges of growth, countries need a suitable business environment. It supports the market economy, with cost reduction. It facilitates transactions and creates trust, and supports the property rights of individuals, by creating an incentive environment, it helps to attract more investors and entrepreneurs in a safe political environment. Individuals and society can better engage in economic activities and create new profitable opportunities in the market. On the other hand, profitable opportunities are found in places where there are clever entrepreneurs to achieve abundant economic growth, because these entrepreneurs can make fundamental changes. Therefore, they will create more entrepreneurial opportunities. The development of

entrepreneurship creates new business opportunities and as a result, more entrepreneurship, and this act is a fluid, stable and constant movement towards economic growth, so the research hypotheses are explained as:

***The first research hypothesis (H1):*** there is a significant relationship between the entrepreneurship and economic development through education.

***The second hypothesis of the research (H2):*** there is a significant relationship between education through the creation of workshops on the basics of entrepreneurship, and the development of entrepreneurship.

***The third hypothesis of the research (H3):*** there is a significant relationship between investment in education and development of entrepreneurship.

## **2. Method**

The current research is a descriptive survey and is included in applied research. Descriptive statistics and inferential statistics were used to analyze the data. The statistical population of this research is 200 experts active in entrepreneurship fields in 2023-2024; Primary data was collected through the distribution of questionnaires among the statistical population and was analyzed in SPSS software. In order to test the hypotheses, the one-sample t-test was used, and the Kolmogorov-Smirnov test was used to determine the normality or abnormality of the research components (Doran et al., 2018). Also, at the end, to prioritize research components, Friedman's test was used.

Since the past decades, economists have been looking for factors that are effective on growth, and in this regard, they have presented various models and theories along with key variables; Including Solow's model of economic growth (Apostu et al., 2022), which is presented as an evolved neoclassical model of exogenous growth. Analyzing the behavior of production based on variables such as physical capital and labor force, he considered the engine of economic growth to be technological growth, which happens in the axis of knowledge and entrepreneurship. Many entrepreneurs start their activities in the form of creating small and medium companies, so governments should supply a growth procedure for small and medium-sized units in the form of growth centers, industrial and technological parks, and support them until they can enter the market as an independent company. With the production of technical knowledge of a product by an entrepreneur, foreign manufacturing companies are informed of these abilities by their agents in the country and lower the price of their product so much that the entrepreneur loses the ability to compete and fails in a short period of time. Therefore, along with training, experience and scientific approach to entrepreneurship, governments should regulate laws and regulations in this regard.

## **3. Results**

First, to check the normality of the data collected through the questionnaire, the Kolmogorov-Smirnov test is utilized, the outcomes are presented in **Table 1**. As it can be seen, the significant value for research hypotheses is more than 5%, as a result, the assumption of normality of distribution is accepted, and one-sample *t*-tests are used to test the research hypotheses.

**Table 1:**  
**Kolmogorov-Smirnov test results**

<b>Variables</b>	<b>H1</b>	<b>H2</b>	<b>H3</b>
Number of data	200	200	200
Mean	4.44	3.71	4.01
Average	0.79	0.63	0.65
Kolmogorov-Smirnov Z statistic	0.96	1.29	1.31
Significant amount	0.067	0.069	0.073

Source: Authors' own findings

First, the descriptive statistics related to the respondents' opinions about the hypotheses are discussed, which are shown in **Table 2**. The average value of opinions related to the growth of entrepreneurship through education and its impact on economic development is equal to 4.44. Also, the average opinions related to training through the creation of training workshops on the basics of entrepreneurship and training through focusing on investment in entrepreneurship development are equal to 3.71 and 4.01, respectively, which indicates that the average opinions of the sample in response to all three research hypotheses The standard value (3 averages) is higher.

**Table 2:**  
**Descriptive statistics related to respondents' opinions**

Hypothesis	Mean	SD	Error
H1	4.44	0.62	0.12
H2	3.71	0.79	0.98
H3	4.01	0.64	0.12

Source: Authors' own findings

In the next step, using the *t*-test, the level of significance as well as the value of the *t*-statistic for each of the hypotheses is checked to confirm or disconfirm the hypotheses. The results are presented in **Table 3**. According to **Table 3**, the level of significance is  $<0.05$  *p*-value, and considering that the difference between the means is a positive number, therefore the hypotheses of the research are accepted. In other words, according to the sample people, there is a significant relationship between the growth of entrepreneurship through education and economic development, between educations through the creation of workshops on the basics of entrepreneurship, and between educations through focusing on investment in the development of entrepreneurship. Also, according to the value of *t* obtained from the three hypotheses, it shows that the first hypothesis about the relationship between education and economic development through the mediating variable of entrepreneurship has the most validity and is placed in the first priority in terms of importance.

**Table 3:**  
**t-test results for the hypotheses**

Hypothesis	t-statistic	DoF	Significance	Mean difference
H1	35.01	199	0.000	0.85
H2	24.91	199	0.000	1.32
H3	15.65	199	0.001	1.05

Source: Authors' own findings

Economic growth is the dependent variable of the model, and entrepreneurship index variables, investment in education, and education through the creation of training workshops and the entire workforce are considered independent variables. The results of **Table 4** show that the coefficients of the independent variables were statistically significant and the *F* statistic confirms the significance of the entire regression. On the other hand, *R*<sup>2</sup> states that more than 89% of the changes in the dependent variable can be explained through the independent variables of the model. According to the results obtained from the estimation of the economic growth equation in **Table 4**, in this equation, the variable coefficient of the entrepreneurship index is significant at the level of 95 percent. The positive sign of this coefficient means that the economic growth of developing countries increases with the increase of new entrepreneurship. Since most of the selected sample economies are efficiency-oriented and some economies are resource-oriented, the positive effect of increasing entrepreneurship on economic growth and per capita income can be explained by relying on the theories of increasing economic productivity.

**Table 4:**  
**The result of estimating the economic growth rate equation**

Variable	Impact Coefficient	SD	t	P-Value
Entrepreneurship	0.125	0.14	5.51	0.000
Investment	0.086	0.08	2.89	0.002
Education	0.101	0.04	6.11	0.001
Regression statistics	R2=0.89; F=85.02; Probability of F: 0.00			

Source: Authors' own findings

The economic development of today's world is based on innovation and creativity and the use of knowledge, which is called knowledge-based economy. The production of science and knowledge, the use of knowledge and its expansion at the level of the society creates empowerment and power in all social fields. The countries that have allocated a large part of the production of science and knowledge are industrially developed and have high economic and political power. Obviously, the production of science and knowledge can only be achieved through research. The relationship between investment in research and science production and the relationship between science production and the economic and political power of countries is a direct relationship.

Applying knowledge and management in every society is the foundation of innovation and creativity; therefore, the need for economic growth in today's world is the development of centers for the production of knowledge, technology and technical skills.

#### 4. Conclusion

This article first discussed the role of education in the development and promotion of entrepreneurship and based its main assumption on the important and fundamental point that education plays a significant role in the development and promotion of skill training and entrepreneurship and, of course, in economic development. Both concepts of entrepreneurship and economic development are important subjects of study by experts all over the world. Entrepreneurship is a creative human process, a process that transfers resources from one level of productivity to another. Therefore, it can be said that the development of entrepreneurship plays an effective role in active presence in global markets (globalization), sustainable job creation, development of justice, reduction of poverty and solving the problems of society, government and public sector. Entrepreneurship as a development-oriented strategy has gained special importance in today's changing economic environment, so that many big companies in the world have used entrepreneurship to solve their problems. The role of the entrepreneur in economic development and creating employment in the society should become a common belief and this belief should arise that in today's world and in the "knowledge-based economy" development and growth is possible through creativity and innovation. Among the results obtained related to the development of social entrepreneurship is the increase of innovation, improvement of the level of technology, increase of employment, production of technical knowledge and production and distribution of income at the level of society, and in most countries of the world, it stands out as the center and center of gravity of growth and development programs.

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