

Investigating the Status of Entrepreneurship Development Levels in the Iranian University System

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Purpose: Entrepreneurship development is one of the important concepts of recent decades that higher education has an important role in promoting it. As a result, the present study was conducted with the aim of investigating the status of entrepreneurship development levels in the Iranian university system.

Methodology: This study was a descriptive from type of survey. The research population was managers of calligraphy organizations and professors of entrepreneurship disciplines of country in 2020 year. The research sample was 72 people who were selected by cluster sampling method and answered the researcher-made questionnaire of entrepreneurship development in the university system (82 questions). The face and content validity of the questionnaire was confirmed by 20 experts and its reliability by Cronbach's alpha method was obtained 0.91. Data were analyzed by binomial test in SPSS software.

Findings: Findings showed that the entrepreneurship development in the Iranian university system at the institutional level (and its components including cultural factors and social factors) and policy level (and its components including actors in the field of entrepreneurship areas, entrepreneurial elements, policy-making stages and policy-making institutions) was above the average and at the individual level (and its components including individual factors and psychological factors) was below the average ($P < 0.05$).

Conclusion: According to the findings of the present study, officials and planners of entrepreneurship development in the Iranian university system should take steps to improve the curriculum and holding entrepreneurship training courses in order to improving the individual level of entrepreneurship development and the personal and psychological characteristics of entrepreneurs.

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1. Introduction

Considering the rapid changes and the need for innovation today, organizations, countries and universities will be more successful if they are able to commercialize knowledge, and the success rate of scientific and research institutions that are supported by the university is higher, and universities are a suitable place for development according to their mission. Entrepreneurship is identifying and introducing entrepreneurs to society (Azizi, Rezaee & Hosseinpour, 2021). One of the characteristics of today's era is the rapid and increasing changes and transformations that occur in various organizations and societies, which have caused various organizations to seek to attract creative, innovative and entrepreneurial people, and in addition, the level of creativity, innovation and entrepreneurship increase in their employees (Leonidou, Christofi, Vrontis & Thrassou, 2020).

Entrepreneurship is an interdisciplinary topic that includes the fields of economics, anthropology, sociology, psychology, and management, which literally means committing, and an entrepreneur is someone who commits to manage and organize a new business despite the risk (Cervello-Royo, et al, 2022). Entrepreneurship is a process that plays a vital role in the continuity, growth and development of countries in various fields, and creating a suitable platform and atmosphere for improving and promoting entrepreneurship is very important. Because in addition to its role in expanding economic activities, it reduces unemployment, increases production and business skills, and creates a competitive advantage (Robert, Frey & Sisodia, 2021). Entrepreneurship is the driving engine of economic growth and social, political and cultural changes and creates new jobs, effective use of resources and revitalization (Shan, Jia, Zheng & Xu, 2018). Entrepreneurs are those who play a key role in economic, political and social development and can accelerate the development of developing countries and the development of more developed countries (Galindo-Martin, Castano-Martinez & Mendez-Picazo, 2021).

Entrepreneurship is a process in which a new idea turns into a new product or service and can increase productivity, create wealth, prosperity and create employment. Entrepreneurship requires coherent and long-term planning that begins at the family and school levels and evolves in the university (Breig, Coblenz & Pelz, 2018). Entrepreneurial University is the main center for the training of expert and entrepreneurial human resources, which by having new and innovative knowledge, thoughts, ideas and skills can improve the state of the society and move the society towards growth and development (Schaeffer, Guerrero & Fischer, 2021). In its reports on the competitiveness of the world's economic systems, the World Economic Forum has categorized Korea into five groups of economies based on resources, efficiency, and innovation, which are transitioning from the first stage to the second stage and from the second stage to the third stage, and the world's advanced economies are They reached the third stage of development. Iran's economy ranked 74th in 2017 and is moving from the first stage to the second stage, and the distance and gap between the development of Iran's economy compared to advanced countries is very high, and the reason for that is the weakness in exploiting new knowledge and technology and injecting them into various activities, and creating economic value. Therefore, the status and rank of Iran in the field of innovation and entrepreneurship compared to the countries of the world in the years 2011 to 2017 were presented in Table 1 (Entezari, 2019).

Table1. Status and ranking of Iran in the field of innovation and entrepreneurship compared to the countries of the world

Year	Innovation in economic competition		Global innovation		Global entrepreneurship	
	Iran's rank	The number of countries in the ranking	Iran's rank	The number of countries in the ranking	Iran's rank	The number of countries in the ranking
2011	83	142	95	132	65	71
2012	77	144	104	141	67	79
2013	86	148	113	142	86	118
2014	102	144	120	143	99	132
2015	102	140	106	141	94	130

2016	101	138	78	128	80	132
2017	81	137	74	127	85	137

The university can create entrepreneurial capabilities including knowledge, skills and entrepreneurial attitude in graduates and they can promote entrepreneurship in the society. Entrepreneurship in the university system is an attractive and advanced ideal for the university system, and in today's competitive world, universities have no way to maintain and improve their position but to move towards entrepreneurship (Nunez & Marco, 2020).

Entrepreneurship is a long-term educational process that requires planning in educational systems and the implementation of its programs from the family and school level to the university and organization level and causes people to act using expertise, creativity, initiative, risk-taking, facilities, opportunities and capabilities. to create productive and income-generating employment (Mei & Symaco, 2022). One of the important activities in the university is the development of entrepreneurship in it. Because universities are suitable places for knowledge and skill innovation in terms of having human capital in the form of students and faculty, and an entrepreneurial university is a university with the following two characteristics. One is that it should teach entrepreneurship and train people who have an entrepreneurial spirit and create businesses, and the other is that the university itself should act entrepreneurially and involve students and graduates in entrepreneurial activities and make them financially independent (Chaker H & Jarraya , 2021).

An entrepreneurial university is said to be a university that creates an economic-academic enterprise to commercialize the results of its research, and universities to create the necessary platforms to implement the goals and programs related to entrepreneurship and to align as much as possible with the local, regional and regional economic, social and technological development process. International has undergone many changes (Huda, Hossain & Ferdous, 2020). Academic entrepreneurship means the participation of universities in economic development and commercialization of researches, which is considered as the regulation of operations activities and academic elements including students, professors and university officials during the stages of innovation and competitiveness of the economy in the national and global markets and the increase of various funds (Zaring, Gifford & McKelvey, 2021).

To realize the development of entrepreneurship in the university system, the university itself must be an entrepreneur and commit to creating new products, new processes, and a new organizational system, and for this purpose, it must create a new revolution towards the development of intra-organizational entrepreneurship (Amiri, 2016). Research on entrepreneurial activities in the university system indicates the existence of eight specific types, which were presented in Table 2 (Klofsten & Jones-Evans, 2000, quoted by Samadi Meyarkolaei & Samadi Meyarkolaei, 2018).

Table2. Types of entrepreneurial activities in the university system

Activity	description
Large-scale scientific projects	Conducting external research projects with major funding or through public grants and industry sources
Research contract	Carrying out specific research projects with the university system for foreign organizations
Counseling	Selling personal scientific or technological expertise to solve a specific problem
Patents and Licensing	Exploiting patents or industrial licenses from research results
Reproductive companies	Forming a new company or organization to exploit university research results
Foreign education sale	Providing short term courses to non-academic staff/students and external organizations
	Commercial sales of university developed products
Test	Providing tests and grading facilities for non-academics and outsiders of the organization

In the following, the results of the most important research related to the levels of entrepreneurship development in Iran's academic system are reported. Keykha & Ezati (2021) concluded in a research that the factors inhibiting the development of university entrepreneurship did not include external obstacles with seven categories of traditional governance structure, ineffective laws and supervision, ineffective macro-

finance, ineffective policy making in higher education, and weakness in the soft capacities of society. Support and encouragement mechanisms at the macro level and weakness in the hard capacities of the society and internal obstacles with eight categories of inappropriate governance within the university, non-entrepreneurial pedagogy, disconnection between the university and the industry, inappropriate rules and supervision within the university, ineffective university finance, weakness in the soft capacities within the university, It was the lack of support and encouragement mechanisms at the university level and weakness in the internal hard capacities of the university.

Tooshmali, et al (2020) concluded in a research that the main categories of third-generation universities, i.e. entrepreneurial universities, include attracting financial resources and policies, innovation and creating a science and technology park, technological entrepreneurship management and structure, flexible organization and entrepreneurial approach of professors and the quality of knowledge of individuals and the text and content of lessons.

Ferdosi & Molavi Taleghani (2019) while researching the factors affecting the development of entrepreneurship in the university, including three fundamentals (with the components of developing the infrastructure of entrepreneurship centers, empowering the workforce, customers and stakeholders, creating a database of entrepreneurial people, identifying entrepreneurship opportunities in the field of health providing consulting services in the field of business plans and creating communication bridges with the activity centers of entrepreneurs and top entrepreneurs), guidance and operations (with the components of persuading and encouraging entrepreneurs, facilitating processes and removing legal obstacles, attracting internal and external capital to start a business and empowering and Necessary consultations in implementation processes) and consolidation and institutionalization (with the components of holding continuous training courses and workshops, supporting innovative processes and awarding badges of honor to effective entrepreneurial activities, promoting communication networks between business organizations with universities and other levels of the health system, supporting cooperation Research and development and help to continue the current business companies and the formation of new knowledge-based companies. Yosefi Mohamadi, Goli & Movahedi (2018) while researching the individual and environmental factors affecting the development of entrepreneurship of students including individual characteristics (age, education and gender) and entrepreneurial abilities (entrepreneurial skills, flexibility, effort and perseverance and leadership) as individual factors and They identified social conditions, political conditions, economic conditions and financial conditions as environmental factors.

Samadi Meyarkolaei & Samadi Meyarkolaei (2018) while researching the indicators affecting the development of an entrepreneurial university, respectively, including vision, mission and strategy in the university, entrepreneurial culture in the university, leadership in the university, quality and familiarity of faculty members with entrepreneurship, promotion and entrepreneurial education of investment in They introduced the university, physical facilities and equipment in the university, the status of the growth center and companies derived from the university, supporting entrepreneurship and encouraging it in the university, connection with industry and management institutions, and the organizational structure and plan in the university.

Amiri (2016) concluded in a research that the obstacles to the development of entrepreneurship in Payam Noor University, from the point of view of students, include behavioral obstacles (with two components of personality characteristics and upbringing and parenting), structural obstacles (with three components of building a higher education system, curriculum elements and management and academic leadership) and environment (cultural-social obstacles and economic-financial conditions) which were the components of personality characteristics, education and parenting methods and economic-financial conditions at a higher than average level and the components of building a higher education system, curriculum elements and management and leadership Universities were at a lower than average level.

Jahanian (2011) came to the conclusion during a research that the most important strategies for entrepreneurship development in technical and vocational schools of Islamic Azad University include creating

an entrepreneurial culture, creating entrepreneurial management, developing entrepreneurial education, creating an entrepreneurial structure, commercializing research, developing continuous learning, providing entrepreneurial financial resources, Entrepreneurial marketing and entrepreneurship development through creative and innovative human resources in Islamic Azad University.

One of the factors of entrepreneurship development is paying special attention to strengthening educational systems, especially the university system, and currently, on average, entrepreneurship has a special place in all developing and developed countries. Another important point is that the functioning of the entrepreneurship education system is influenced by the strategic decisions of experts in this field, and the established policy determines the direction and path of entrepreneurship development in the university system (Tooshmali, et al, 2020).

The emergence of the entrepreneurial university and the development of entrepreneurship in the university system is a response to the increasing importance of knowledge in national development and a new perception of the university. Nowadays, it has been proven that the transformation of first and second generation universities into third generation universities is not only a necessity, but neglecting it will have many negative consequences for the university and the whole society, the most important of which is the unemployment of educated manpower and economic, social and cultural problems. And it is political because of it. Therefore, in order to plan for the development of entrepreneurship in Iran's university system, it is necessary to carry out many researches, and since most of the researches have examined the factors affecting the development of entrepreneurship in various organizations, including the university and less research has investigated the current situation. Considering the above and the importance of examining the status of entrepreneurship development levels and planning based on it for the growth and development of entrepreneurship in the country's academic system, the present study was conducted with the aim of examining the status of entrepreneurship development levels in Iran's academic system.

2. Methodology

This was a descriptive survey type study. The research community was managers of policy-making organizations and professors of entrepreneurship fields in the country in 2020. The research sample was 72 people who were selected by cluster sampling method. The sampling method was that among all the provinces of the country, two provinces of Tehran and Qazvin were randomly selected, and all managers of policy-making organizations and professors of entrepreneurship fields were selected as a sample if they met the conditions for entering the study. The conditions for entry into the study included having an article, book and guide to a dissertation or thesis and the desire to participate in the research, and the conditions for exiting the study included refusing to complete the researcher-made questionnaire and not answering more than fifteen percent of the questions. To conduct this research, first two provinces were selected as a sample, and then managers of policy-making organizations and professors of entrepreneurship fields in the mentioned provinces were identified and examined in terms of the conditions for entering the study. If they had the conditions to enter the study, they were selected as a sample and the objectives of the research were explained to them and they were asked to answer the questions of the questionnaire completely and honestly.

The tool of the current research was a researcher-made questionnaire on the development of entrepreneurship in the university system, which was designed based on the research of Alegre & et al (2015) at three institutional, policy and individual levels. The first level, i.e. the institutional level, has two components of cultural factors and social factors, the second level, i.e. the policy level, has four components of actors in the fields of entrepreneurship, entrepreneurial elements, policy-making stages and policy-making institutions, and the third level, i.e. the individual level, has two components of individual factors and psychological factors. The said questionnaire was designed with 82 questions, which were scored according to a five-point Likert scale of one (completely disagree), two (disagree), three (neither disagree nor agree), four (agree) and five (completely agree). The score of each component is calculated with the sum of the questions of that component and the score of each level is calculated with the sum of the questions of that

level, and a higher score indicates that the development of entrepreneurship in the university system is more desirable. The formal and content validity of the questionnaire was confirmed by the opinion of 20 entrepreneurship development experts and its reliability was obtained by Cronbach's alpha method of 0.91. After collecting the data with a researcher-made questionnaire on the development of entrepreneurship in the university system, the data were analyzed with a binomial test in SPSS software at a significance level of 0.05.

3. Findings

The participants of the current research were 72 managers of policy-making organizations and professors of entrepreneurship fields in the country, and there was no drop in the samples. The results of investigating the institutional level of entrepreneurship development in Iran's university system are presented in Table 3.

Table3. The results of investigating the status of the institutional level of entrepreneurship development in Iran's university system

Variable	Average	standard deviation	group	Number	Percentage	Test ratio	meaningful
cultural factors	3/18	0/52	Greater than 3	44	61/11	0/50	0/006
			equal to or less than 3	28	38/89		
social factors	3/42	0/50	Greater than 3	39	54/17	0/50	0/012
			equal to or less than 3	33	45/83		
The whole institutional level	3/30	0/49	Greater than 3	42	58/33	0/50	0/007
			equal to or less than 3	30	41/67		

The findings showed that the development of entrepreneurship in Iran's university system at the institutional level and its two components, including cultural factors and social factors, were in a higher than average state ($P < 0.05$) (Table 3). The results of the investigation of the policy level of entrepreneurship development in Iran's university system are presented in Table 4.

Table4. The results of investigating the status of entrepreneurship development policy in Iran's university system

Variable	Average	standard deviation	group	Number	Percentage	Test ratio	meaningful
Entrepreneurial players	3/16	0/45	Greater than 3	52	72/22	0/50	0/000
			equal to or less than 3	20	27/78		
Elements of entrepreneurship	3/48	0/33	Greater than 3	65	90/28	0/50	0/000
			equal to or less than 3	7	9/72		
Policy making steps	3/20	0/92	Greater than 3	41	56/94	0/50	0/009
			equal to or less than 3	31	43/05		
Policy making institutions	3/52	0/55	Greater than 3	60	83/33	0/50	0/000
			equal to or less than 3	12	16/67		
The whole policy level	3/34	0/29	Greater than 3	55	78/39	0/50	0/000
Variable			equal to or less than 3	17	23/61		

The findings showed that the development of entrepreneurship in Iran's university system at the policy-making level and its four components, including actors in the fields of entrepreneurship, elements of entrepreneurship, policy-making stages, and policy-making institutions, were in a higher than average state ($P < 0.05$) (Table 4). The results of examining the status of the individual level of entrepreneurship development in Iran's university system are presented in Table 5.

Table 5. The results of examining the status of the individual level of entrepreneurship development in Iran's academic system

Variable	Average	standard deviation	group	Number	Percentage	Test ratio	meaningful
Individual factors	2/58	0/29	Greater than 3	27	37/50	-0/50	0/003
			equal to or less than 3	45	62/50		
psychological factors	2/98	0/34	Greater than 3	14	19/44	-0/50	0/000
			equal to or less than 3	58	80/56		
Total individual level	2/78	0/33	Greater than 3	20	27/78	-0/50	0/000
			equal to or less than 3	52	72/22		

The findings showed that the development of entrepreneurship in Iran's university system at the individual level and its two components, including individual factors and psychological factors, were below average ($P < 0.05$) (Table 5).

Conclusion

The growth and development of entrepreneurship plays an important role in improving the social, economic, political, cultural, etc. conditions of the society, and it is the peak of the crystallization of entrepreneurship in the university. As a result, the present research was conducted with the aim of investigating the status of entrepreneurship development levels in Iran's university system.

The findings showed that the development of entrepreneurship in Iran's university system at the institutional level (and its components including cultural factors and social factors) and policy-making level (and its components including actors in the fields of entrepreneurship, elements of entrepreneurship, policy-making stages and policy-making institutions) is in a higher than average state. And at the individual level (and its components including individual factors and psychological factors) it was in a lower than average condition. Past researches have investigated the factors affecting the development of entrepreneurship in the university system and only one research was found on the status of entrepreneurship development levels, the findings of which showed that among the components identified as barriers to entrepreneurship development in Payam Noor University, the components of personality traits, education and parenting style and Economic-financial conditions were at a higher than average level and the components of the higher education system, curriculum elements and university management and leadership were at a lower than average level (Amiri, 2016).

Although the surveys indicate the growth and development of entrepreneurship levels in recent years, the amount of this growth was not appropriate and desirable. Also, the findings of this research can be aligned with the findings of Keykha & Ezati (2021), Tooshmali, et al (2020), Ferdosi & Molavi Taleghani (2019), Yosefi Mohamadi, et al (2018), Samadi Meyarkolaei & Samadi Meyarkolaei (2018) and Jahanian (2011). In explaining and interpreting the findings of this research, it can be concluded that in the development of entrepreneurship in Iran's university system, the first level, i.e. the institutional level, with its two components, including cultural factors and social factors, was in a higher than average and suitable condition.

Also, in the development of entrepreneurship in Iran's university system, the second level, i.e. the level of policy-making, with its four components, including actors in the fields of entrepreneurship, elements of entrepreneurship, policy-making stages, and policy-making institutions, was in an above-average and suitable condition. On the other hand, in the development of entrepreneurship in Iran's university system, the third level, i.e., the individual level, with its two components including individual factors and psychological factors, was in a lower than average and inappropriate condition. These findings indicate that relatively good and appropriate activities have been carried out at the level of society and universities to improve and promote the development of entrepreneurship at the institutional and policy levels, but at the individual level there are many shortcomings and defects that require coherent planning and Application along with executive requirements and having a person in charge who continuously seeks to improve the existing situation. Of course, it should be noted that the development of entrepreneurship in Iran's university system at the institutional and policy-making levels is also slightly above the average, and the comparison of Iran with other countries also indicates that at the mentioned level, including the institutional and policy-making levels, it is necessary to revise and To provide the ground for their strengthening.

In general, the findings showed that cultural factors and social factors indicate the favorable state of entrepreneurship development in Iran's academic system at the institutional level, and the factors of actors in the fields of entrepreneurship, entrepreneurial elements, policy-making stages, and policy-making institutions indicate the favorable state of entrepreneurship development in Iran's academic system at the policy-making level, but individual factors and psychological factors indicated the unfavorable situation of entrepreneurship development in Iran's university system at the individual level. These findings show that at the individual level and individual factors and psychological factors, no important activities have taken place in universities, which indicates the career-promoting educational system of the country's university system, and in which considerable attention is not paid to the education and training of entrepreneurial people. Entrepreneurship needs entrepreneurial drivers and people with an entrepreneurial spirit, and from another point of view, the results show the role and importance of human resources and expert and entrepreneurial people. Therefore, according to the necessity of continuously updating the laws, regulations and guidelines for the development of entrepreneurship at the country level, paying special attention to the characteristics of entrepreneurial people and growth, training and improving entrepreneurship and creating a suitable culture for it and even establishing entrepreneurship centers by experts, experts and experienced people and Designing appropriate educational content for it and including it in the curriculum is suggested. Also, according to the results of this research, it is suggested that the individual level of entrepreneurship development in the university system be given more importance through the improvement of individual factors and psychological factors, and in addition to that, the institutional and policy levels of entrepreneurship development in the university system should also be strengthened and improved.

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