

## **Design of a Regional Entrepreneurship Ecosystem Model in Iran**

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**Abstract.** Entrepreneurial ecosystem is a geographic framework that indicates that a person is supported by which factors for becoming a businessman. Effective factors on this issue include

social, cultural, political and economic structures that should be considered in the context of different regions. In our research, we are going to identify not only international and national factors affecting entrepreneurship but also factors that will affect on the entrepreneurship of the region. The statistical sample includes 100 entrepreneurship development policymakers, entrepreneurs, and owners of knowledge-based companies. The data gathering tool of the interview was based on a closed questionnaire and the validity and reliability of this research were confirmed after the assessment. Based on the findings of this study from the descriptive aspect, this conceptual model has been appropriate for experts and entrepreneurs. Analysis of the main goals of the research shows that there are a number of factors on the region that the ecosystems of entrepreneurship are affected by them, which include geographic, demographic, institutional factors, and regional infrastructure.

**Keywords:** Regional Entrepreneurship, Entrepreneurial Ecosystem, International and National Factors.

## 1. Introduction

Entrepreneurship research firstly tried to explain the concept of entrepreneur and its place in society. In the same vein, it was attempted to show the difference between entrepreneurs and other people in the community, in some way, they attributed certain characteristics to their personal, family, past life, background, and sociology cognition. But over time, it has been proven that although entrepreneurial activities originate from the individual level, the entrepreneur and entrepreneurial activity are not formed in a vacuum, and are affected by the underlying factors and environment. In other words, entrepreneurial motivations and activities are influenced by some factors such as cultural, institutional, government, business environment and macroeconomic conditions (UNCTAD 2005). On this basis, governments have come to the conclusion that they need to explain their economic and non-economic policies to expand entrepreneurship ( Audretsch et al. 2015c; Zacharakis et al. 2003; Isenberg 2010; Rodriguez-Pose 2013). In terms of factors such as taxes, interest rates, laws, subsidies, grants, education, in

general factors that shape the business environment, make changes that lead to entrepreneurial growth (Feldman 2014). First, in the individual dimension, entrepreneurship is influenced by the attitudes, ideas and opportunities that an entrepreneur faces in their place of residence and work (Wright and Stigliani 2012; Wright 2014; Szerb et al. 2013). Second, The location of people affects the type of startup that they are launching (Stam 2014), It means that the place of ones determines that the launch of a business is more based on the necessity and opportunity (Mason and Brown 2012). The concept of the entrepreneurial ecosystem began to emerge between the 1980s and 90s. This means that when the researchers gradually changed the arguments of the entrepreneur to question about the entrepreneurial environment (Dodds and Anderson 2007). Part of this shift in research by Dubini (1989), Van de Ven (1993), Spilling (1996), examined the impact of regional factors such as social, cultural, political and economic structure in the process of entrepreneurship (Malecki 1997; Neck, Meyer, Cohen and Corbett 2004). Lisburg (2010) in the studies of Harvard university and Bird Feld (2012) in the Startup Community book, were two of the researchers who had the greatest impact on this process. Both of them showed the importance of society to the entrepreneurial process through emotional, financial, educational, political and economic environments. On the other hand, groups such as the World Economic committee (2013), the Kaufmann Foundation (Motoyama, Konczal, Masterson, Morelix 2014) and OECD (Mason and Bravan 2014) adopted this approach as a new economic development strategy. In the follow-up of this research, many other scholars have described the characteristics of the successful entrepreneurship ecosystem (Stam and Spigel 2015; Mack and Mayer 2015; Motoyama and Knowlton 2016; Qian 2016; Spigel 2017; Stam and Bosma 2017). The researchers argue that the characteristics of a successful ecosystem will enable entrepreneurs to identify market gaps and increase their competitive advantage. In the literature of the entrepreneurial ecosystem, it is widely referred to the impact of economic and social conditions on competitiveness, but a comprehensive agreement on the typology of entrepreneurship has not yet been made. The entrepreneurial ecosystem approach is based in innovation support and diverse the range of actors in the flow of knowledge and intellectual

property, capital, talent, relationships and trust among stakeholders such as governments, corporations, startups, private equity, private and public labs, and universities organize and coordinate (Groth 2015). Although research and studies that has a systemic approach to local entrepreneurship is very limited (Acs et al. 2014), but much research has described regional entrepreneurial differences (Marshall 1920; Saxenian 1994; Audretsch 2012; Bosma et al. 2014; Stam 2008). That means the positive and negative factors affecting entrepreneurship activities at the regional and urban levels (Estrin et al. 2013; Stenholm et al. 2013; Fritsch and Storey 2014). The first action was taken by the GEM group that in their research, the entrepreneurship process was categorized in countries by using things as attitudes, abilities and desires (Bosma et al 2008; Levie and Autio 2008). In recent years, theoretical and applied research on entrepreneurial ecosystem has grown significantly (Napier and Hansen 2011; Wright 2014; Feld 2012; Malechi 2011). But so far in Iran there has been no regional and urban differences regarding entrepreneurship and its effective factors. Therefore, in this research, we try to design a model that can distinguish differences between regional and local factors on entrepreneurial activities and our perception will increase than it. That is a more correct basis for policy in the field of entrepreneurship development, accordingly, the main objectives of this research are identification of regional ecosystem model in Iran and validating the structural framework of regional ecosystem model in Iran.

## **2. Literature review**

In past research, entrepreneurship ecosystems are usually presented as a list or chart that includes several players or beneficiaries as well as a set of materials for launch (Gaile-sarkane, Shatrevich, Eria 2017). The concept of the business ecosystem appeared with an influential article by Moore (1993), whose purpose was to describe economic societies and create innovative value through a new look that was more specific than the classical concept of the industry. According to Moore (1996), agents in the ecosystem, firms directly involved in creating common values, and stakeholders such as governments and legislators. In the next article (Modern Business Thinking), Moore (2006) argues that it is only

necessary to go through three analytical units: market, in-house hierarchy, and ecosystems. The ecosystem provides a platform for growth, enabling the exchange of ideas, and introducing government mechanisms that require innovation and fear of failure. In order to create a secure network, an innovative entrepreneurial ecosystem requires investors, public and private sector supporters, government intervention and investment (Groth 2015). Baltepol (2011) has pointed out that if local trends are important and if people are not able to find a decent job in an area they are likely to be self-employed. Additionally, business owners are well integrated into local networks in a way that they can use to benefit their company. Based on numerous studies conducted in several regions of the United States, it was concluded that entrepreneurship involves a set of interrelated actors within a particular region that contains at least these elements: Universities and research organizations, qualified human resources, formal and informal networks, governments, owners, investors, professional service providers and entrepreneurship culture that are dynamically linked to all of these factors (Nek et al 2004). Khalil and Olafsan (2010) argue that ecosystems consist of elements that are beneficiaries of entrepreneurship in the region. Entrepreneurial stakeholders may include government, schools, universities, private sector, family businesses, investors, banks, entrepreneurs, social leaders, research centers, the army, labor representatives, students, lawyers, cooperative companies, municipalities, multinational corporations private foundations, actors of international assistance (Ghambar Ali et al. 2014). According to Vogel's view (2013), an entrepreneurial ecosystem consists of a set of components that have a powerful impact on entrepreneurial activities. These components can be classified into three overlapping categories: (a) An irrelevant entrepreneurship environment, which includes infrastructure, government, regulations, markets, innovation, and geographic location and (b) Entrepreneurial environments include components such as budgeting, entrepreneurship education, culture, networks, support for startups and entrepreneurship promotion, and finally (c) entrepreneurship activists were composed at individual level (Peter Vogel 2013). The Daniel Isenberg model is the result of the initiative at Babson College, it is called Babson Entrepreneurship Ecosystem Project

(BEEP). BEEP aims to develop basic concepts that will understand the different societies and nations to consider what Isenberg calls entrepreneurship ecosystems. Daniel Isenberg (2010) defines entrepreneurship ecosystem as a set of networked entities aimed at helping entrepreneurs through the process of developing the business risk business mix. It can be received as a service network, where the entrepreneur is the focus of activity and measure success. Isenberg believes that the strategy of the entrepreneurial ecosystem provides a new and cost-effective strategy to stimulate economic progress. In his opinion (2011), this strategy is either replaced or at least complemented by the necessary or even prerequisite for clustering strategies, innovation systems, knowledge-based economies and national competitiveness policies. Isenberg introduced the Entrepreneurship Ecosystem in six areas (Stam 2015). 1) Market (primary customers and networks such as entrepreneurship networks and international companies), 2) Politics (strong leadership styles and support for government structures within institutions, regulatory frameworks for incentives and capital-friendly legislation), 3) Financial capital (microfinance, Risk Investment Funds and Investment Angels), 4) Culture (Visible success, risk tolerance, and social position of entrepreneurs), 5) Supports (infrastructure, professional support such as law and accounting, and non-governmental organizations), 6) Human Capital (educational and Human Resources Offices). Neck et al. (2004) attempted to design a comprehensive and complete entrepreneurial ecosystem based on Boulder's research results and some other investment research. However, they mostly added cultural aspects to the classical commercial and financial aspects, and did not complete the comprehensive process, especially since the interaction and system rules were not generally defined, but rather focused on individual elements and their roles. In addition, other influential factors such as university or official support were only vaguely defined and related that made the model incomplete. They provide seven specific components for a powerful entrepreneurial ecosystem, including: access to capital, state-owned entrepreneurship programs, entrepreneurship education, supportive policies, research and development, and business infrastructure. (Ghambar Ali et al. 2014). Hernerxon and Jenson (2011) emphasized the importance of the

industrial framework, pointing out that regional differences can reflect the role of regulatory and industrial frameworks, all of which affect the dynamics of businesses. For example, major barriers to entering, granting subsidies to importers, or political measures that delay the withdrawal of insolvent firms can lead to a reduction of competition and a reduction in the process of reallocating to the economy without an obstacle. Regional regulations, agreements between market actors (suppliers or distributors), limited access to local inputs, bankruptcy laws and labor market regulations also play a role in reducing the proportion of new firms entering. These barriers can have an impact on entry opportunities and hence have a strong impact on entrepreneurship and industrial recovery (Aghoun et al., 2005, Adresc Colbacheh 2008). Entrepreneurship can be considered as a complex phenomenon formed by individuals but integrated into a broad social and economic context. In other words, although people's activities can lead to entrepreneurial activities in the regions, a wider regional context can affect the quality and outcomes of the process (Acs et al. 2013). In recent years, the fields of entrepreneurship studies, geography, urban economics, and entrepreneurship have become closer to each other through entrepreneurship research (Welter 2001; Zahra et al. 2014). In the new approach, entrepreneurship is thought to be a local phenomenon because most people start their entrepreneurial activities where they are born, worked, or stayed. An entrepreneurial ecosystem is in fact a collection of individual elements in a region, such as human capital, the culture of entrepreneurship, and supportive organizations that interact in complex ways. Each of these elements is indispensable for the development of the entrepreneurial process, but is not enough (Daniel Isenberg 2010). Regional benefits, absolute, relative, or competitive advantages in a host region are entrepreneurial opportunities. Based on recent research on regional development, policy-making should be based on the specific policies of a country or region, not based on non-localized experiences of other countries. The area's characteristics for entrepreneurs' decision making to set up and develop business has an impact on their chances of success (Butler et al. 2015). There is, of course, a major gap here: Given that the phenomenon of entrepreneurship has been widely studied at the individual and regional level, recursive relationships between these two

levels have not yet received much attention. This can be a major disadvantage because of the interaction between individuals and their context, which ultimately can determine the scale of the economic and social benefits of entrepreneurship. According to many researchers, the entrepreneurial ecosystem is the geographic framework that a person supports for entrepreneurship by what factors (Andersson and Koster 201; Autio et al. 2014). In this regard, regional approaches to entrepreneurship assessment by the model Regional entrepreneurship and Development index (REID) were introduced (Szerb et al. 2013). In this research, the difference in entrepreneurship among European countries was examined and concluded that, firstly, there are differences between the different regions in a country in terms of the nature of their startup and growth (Audretsch et al 2015; Bosma et al. 2009). Secondly, there are many differences in subjects such as institutions, economics, their social status and, most importantly, information and technology among the different areas studied in one country (Edquist 1997; Autio et al 2014). In a summary, the factors affecting regional entrepreneurship can be classified into the following categories. (I) Determines life (e.g. urban, non-nuclear, remote, environmental, environmental, or rural areas), (II) Economy (e.g. economic growth of the region, the rate of new company formation), (III) Perspective (e.g. social life, customs), (IV) Sources (e.g. access to human capital, social and financial), (V) Institutions and policies (e.g. regional policy), (VI) Infrastructure. In addition, regional development aims at changing human behavior and socioeconomic conditions into desirable, useful and sustainable regional conditions (Cecora 1999). As a result, regional development means positive in the literature (Pike et al 2007). Other empirical research has divided the determinants of entrepreneurship in the region. For example: (1) The unemployment rate has a negative impact on the formation of a new company (Davidasson et al 1994); (2) The structure of the workforce affects entrepreneurship in a region, for example, regions with a high educated ratio, especially labor, have a higher rate of start-ups than start-ups than lower-level ones (Garofoli 1994; Fritsch 1994); (3) Launching new companies in areas close to cities with much higher rates for universities and research institutes (Aufretsch and Keilbach 1994); (4) The areas where small businesses are active have more business



startup rates than those with high business rates (Davidsson et al 1994). (5) The level of productivity and the specialization level of the industrial structure of the region have a positive impact on the rate of launch of new businesses (Garofoli 1994). (6) The formation of new companies is higher in areas where business start-ups require less capital requirements for entry (Hart and Guggin 1994). (7) Local strong policy-making boosts technical knowledge and encourages entrepreneurs to become more entrepreneurial (Kautonen and Gorman 2004, Chrisman 2002); In addition, (8) Places with proper access to finance and investment (Avdeitchikova 2009), Human and social capital promotes the launch of new companies (Audretsch and Keilbach 2006); (9) Regions with a strong entrepreneurial culture that increases risk-taking, creativity, and innovation (Florida and Kenney 1998); and finally (10) Places with more tendencies to entrepreneurial activities will encourage start-up rates for businesses more than other locations (Aoyama 2009). We focus in this paper on the regional ecosystem of entrepreneurship. In addition to the issues raised in order for entrepreneurship to reach a maturity region, we need to examine the variables that affect internationally and nationally on entrepreneurship.

### **3. Method**

The main objective of this research is to identify the regional entrepreneurship ecosystem in Iran and to test the appropriateness of the elements of the relationship between this conceptual model in a functional structure. This research is a descriptive-survey method in terms of data collection. The research approach is based on numerous comparative studies in the field of entrepreneurship based on which a new conceptual model has been developed in the field of entrepreneurship policy development at the provincial level. The data gathering tool was interviewed in the first stage and in the second stage, based on a five-choice Likert scale. This research was a quantitative-qualitative mixture which was tested in quantitative section after extraction of the model from the qualitative section. In the qualitative part of the ethnographic method, research has been used. Several patterns for research are presented using the theory-based method of data (such as the Spiegel model (2015), Ishtberg (2010), Vogel model

(2013), Boulder model (2013), Entrepreneurial ecosystem in the Global Economics Society, Stanford University, Arsten Jung and Bose (2013). The data of this study were collected using participatory observation method and open and deep interview technique and then combined with triangulation technique. The sampling method used in this research is qualitative sampling in the qualitative section. Using the theoretical saturation index, 16 researchers and university professors in the field of entrepreneurship and management sciences, as well as the policy maker of the program and the city of Fars province as examples research was conducted. Their attitudes and perspectives on the factors affecting the development of the entrepreneurship ecosystem at the provincial level were studied. After preparing the original model, a questionnaire was prepared to test the model.

#### 4. Findings

In this research, the Principal components extraction and Varimax rotation method have been used. In this study, the variables of the research were evaluated based on studies and specialized interviews were conducted and the variables were identified, after that, a scale of 54 questions was designed to validate the identified variables. Exploratory factor analysis was used to cluster the elements. The steps in SPSS software are as follows. Before applying the Factor Analysis method, it is necessary to ensure that the sample size is sufficient for factor analysis. One way to check the adequacy of a sample is to factor in the calculation of the sample's adequacy index, which is represented by the KMO symbol.

**Table 1.** The KMO was released

0.677	K coefficient to determine the sample size	
2719.376	Chi-Score statistics	Bartlett test statistic
593	Degrees of freedom	
0.000	Significance level	

The KMO value is also 0.72 in the acceptable range, so the second stage begins. The next step is extraction of the components. For this purpose,

factor load must be calculated. The correlation of any observed variable (measures) with each factor (the hidden variable) is called the factor load and its value is between  $[+1, -1]$ . The variance explained by each factor is equal to the sum of its factor load factors. This variance is called the Eigen value, the first special value is always larger than one and smaller for subsequent factors. Each variable has to have at least one non-zero factor at zero and has a high correlation with several variables. The results of the main component analysis before the rotation in the SPSS software output are similar to table 2. According to table 1, 12 factors have a specific value higher than 1 and account for about 72% of variance of measured variables. The component matrix is used to extract the components. The components of the matrix in SPSS software identified 12 clusters in this study. That is, the problem has 12 factors. Identification of components is performed before rotation.

**Table 2.** Evaluation of the reliability and convergence validity of the main dimensions

Criterion	Reliability and Validity			Exploratory factor analysis		Confirmatory Factor Analysis		Result
	Cronbach's alpha	Combined reliability	AVE	KMO	Percentage of variance	Path coefficient	T statistics	
Acceptance criteria	>0.7	>0.7	>0.5	>0.6	>0.1	>0.3	>1.96	verification
International factors	0.728	0.611	0.745	0.66	29.385	0.67	7.18	verification
Entrepreneurial sponsorship laws	0.766	0.633	0.798	0.65	27.822	0.65	5.53	verification
Political conditions	0.801	0.667	0.702	0.67	27.280	0.38	7.47	verification
Government supportive policies	0.812	0.623	0.753	0.68	23.845	0.47	11.38	verification
Industrial factors	0.853	0.6790	0.786	0.67	23.483	0.43	7.37	verification

Criterion	Reliability and Validity			Exploratory factor analysis		Confirmatory Factor Analysis		Result
Economic factors	0.798	0.625	0.805	0.65	21.404	0.39	5.47	verification
cultural factors	0.736	0.678	0.862	0.65	19.645	0.59	8.38	verification
Educational factors	0.765	0.571	0.756	0.64	17.836	0.48	13.30	verification
Geographical factors	0.836	0.626	0.831	0.68	17.278	0.65	7.58	verification
Demographic factors	0.816	0.655	0.869	0.63	16.282	0.67	5.69	verification
District infrastructure	0.769	0.716	0.797	0.68	15.005	0.59	7.89	verification
Institutional factors	0.737	0.755	0.838	0.68	13.629	0.45	5.34	verification

The results of factor analysis are presented in Table 3. To measure 12 hidden variables and 54 questions (visible variables). Each of these variables is represented by the index  $Q_{01}$  to a  $Q_{54}$ . The factor load in observation in all cases is greater than 0.3, which indicates that the correlation between hidden variables (dimensions of each of the principal structures) with acceptable variables is acceptable. After the correlation of variables has been identified, a meaningful test should be performed. T-value statistics are used to determine the significance of the relationship between variables. Because the significance is checked at the error level of 0.05, so if the T-Value test statistic is greater than the critical value of 1.96, then the relationship is meaningful. Based on the results of the measurement indices, each of the comparisons used at the level of confidence of 5%, the T-value statistic was greater than 1.96, indicating that the correlation observed was significant. Extract items after variance rotation. Table Rotated Component Matrix was used to extract items after rotation. According to the data in the table below, the items that have a factor load greater than 0.3 are selected by the agent and are ignored from other terms.

**Table 3.** The results of inventory factor analysis

No.	Factors	Percentage of variance fixed	Criterion				
1	International factors	29.385	Advancement of world-class technology	0.516	0.326		
2			Agreements, treaties and international laws	0.403			
3			International relations with neighbors and other countries	0.518			
4			International social networks	0.102			
5			Cultural Relations with Other Nations	0.091			
6	Government agents (legal and political)	27.822	Bankruptcy laws	0.619	0.570	0.653	√
7			the right of moral possess	0.333			√
8			salary	0.811			√
9			Immigration rules	0.213			√
10			Insurance system	0.876			√
11		24.280	Political sustainability	0.423	0.649		√
12			Trade restrictions and tariffs	0.655			√
13			Rules of security and civil	0.884			√
14			The political framework of the state	0.553			√
15			Sanctions	0.769			√
16	Government corruption		0.601	√			
17	Government supportive policies	23.845	International factors	0.717	0.740	√	
18			International factors	0.753		√	
19			International factors	0.781		√	
20			International factors	0.710		√	

No.	Factors		Percentage of variance fixed	Criterion				
21		Government agents (legal)	23.473	Industry type of activity	0.694	0.798		√
22				Industry clusters and large industry affiliated industries	0.838			√
23				The domestic and foreign markets as the customer level of development, change, absorption and technology exchange	0.777			√
24				Incentives and economic breaks supporting entrepreneurship	0.778			√
25	Economic and industrial factors	Economic factors	21.404	Economic and monetary policy	0.770	0.735	0.673	√
26				financial markets	0.602			√
27				The per capita income	0.739			√
28				Minimum wage	0.603			√
29				Economic Growth Rate	0.688			√
30				The amount of foreign investment in the country	0.892			√
31				Cost of Living	0.830			√
32				The existence of various methods of financing entrepreneurship by the private and public sector	0.760			√
33				Entrepreneurship supportive culture	0.710			√
34	Cultural and educational factors	cultural factors	19.645	The existence of success stories in society	0.018	0.555	0.592	√
35				Cultural Relations with Other Nations	0.619			√
36				Media support and culture of entrepreneurship	0.814			√
37				Social freedoms	0.615			

No.	Factors		Percentage of variance fixed	Criterion				
38		Educational factors	17.836	Educational support system for entrepreneurship	0.536	0.629		√
39				The level of social capital	0.716			√
40				Entrepreneurial skills training	0.636			√
41				The climate of the region	0.853			√
42		Geographical factors	17.278	Geographic extent of the region	0.739	0.743		√
43				Regional attractiveness	0.637			√
44				The population of the regional labor force	0.648			√
45		Demographic factors	15.289	Access to skilled and unskilled labor	0.735	0.636		√
46				Adult Literacy Rates in the Area	0.527			√
47				The extent of development of the region	0.633			√
48	Regional factors	District infrastructure	15.005	Access to energy infrastructure	0.665	0.673	0.72	√
49				Access to Information and Communication Technology	0.692			√
50				Transport infrastructure	0.665			√
51				Local Entrepreneurship Support Entities in the Region	0.692			√
52		Institutional factors	13.629	Regional universities support entrepreneurship	0.715	0.828		√
53				The existence of growth centers, parks and scientific research institutes	0.847			
54				Industry type of activity	0.802			√

√ means Confirmation

The next step is goodness fitting the model. One of the general indicators for taking into account free parameters in calculating the fit indices of the RMSEA index. Whether this value is between 1 and 5 is desirable. Also, the RMSEA index is used in most of the confirmatory factor analysis and structural equation models as an index for fitting index. If this index is smaller than 0.05, it is desirable. In the saturated model of the present research, the RMSEA index is 0.000, which indicates that fitting the model is desirable. The  $\chi^2/df$  index is 3.472 and less than 5.

$$\frac{\chi^2}{df} = \frac{77639.58}{2200} = 3.472$$

Since the RMSEA index is 0.000 and less than 0.5, the model has a good fit. Other fitting features are also within acceptable range. Other good fitness indicators are also well-accepted. The GFI index evaluates relative amounts of variances and covariance jointly through the model. The range of GFI changes is between zero and one. The GFI value should be equal to or greater than 0.9. The AGFI's other fitness index is the adjusted amount of the GFI index for degrees of freedom. This characteristic is equivalent to the application of the mean squares instead of the sum of facial and denominator squares (GFI-1). The value of this index is also between zero and one. The GFI and AGFI indices proposed by Jarzak and Subrom (1989) do not depend on sample size. The RMSEA index for good models is 0.1 or less. The NFI index is acceptable for high values of 0.9 and is a sign of the fitness of the model. The CFI index is greater than 0.9 and is a model signifier. This indicator also examines the magnitude of the improvement by comparing a so-called independent model in which there is no relation between the variables and the proposed model. The CFI index is meaningful, such as the NFI, except that it penalizes the size of the sample group.

**Table 4.** Indicators of goodness fit structural model

Fitness Index	$\chi^2/df$	RMSEA	DFI	AGFI	NFI	NNFI	IFI
Indicator Acceptable	<0.5	<0.1	>0.9	>0.9	>0.9	>0.9	0-1
Calculated values	3.472	0.000	0.93	0.92	0.98	0.98	0.91



At this stage, it was also shown that items 4, 5, 9, 35 are eliminated. In the following, the criteria listed are based on three international, national, and regional categories.

Based on the research model, the criteria have been studied in 3 international, national and regional categories. Using the confirmatory factor analysis, the accuracy of this categorization was studied.

## 5. Conclusion

The subject of entrepreneurship ecosystem is an attempt to better understand the phenomenon of entrepreneurship and how it grows. In the article, the main question was why, although the manner in which the government is focused in the country, and the policies used to promote entrepreneurship, such as financial, economic, etc. indicators, apply equally, why is there a difference in the rate of employment, the number of business start-ups and many other entrepreneurial indicators? To answer our question, we tried to identify the factors that led to these differences among the provinces in the context of regional entrepreneurship ecosystems. During the research, the factors influencing this phenomenon were identified by a library study and interviewed by academic and executive experts. Then, the collected information from distributed questionnaires among entrepreneurs and policymakers was investigated and investigated explanatively. The model was evaluated and finally, 12 effective impacts on the regional entrepreneurship ecosystem were approved at three levels: international, national, and regional. International level with three indicators (global technological advances, agreements, treaties and international law, international relations with neighbors and other countries). The national level in three dimensions of government: Entrepreneurship Enforcement (Entrepreneurship Supporting Policies, Political Conditions, Government Support Policies), Economics and Industry (Industrial, Economic, and Cultural Elements). Regional factors affecting the development of regional entrepreneurship ecosystems in Iran. This study showed that regional factors had more impact on eco-system entrepreneurship than other factors (international and national). This structure includes geographic factors, demographic factors, regional infrastructure and

institutional factors. Institutional factors have the highest factor, which has the greatest impact on regional factors affecting entrepreneurship ecosystems. After regional factors, national factors have the greatest impact on entrepreneurship ecosystems.

## References

- Acs, Z.J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3), 476–494
- Anderson, J.R. (1980), *Cognitive Psychology and its Implications*, 3rd edition, New York: Freeman
- Audretsch, D.B., Keilbach, M.P. (2004b). Entrepreneurship capital and economic performance. *Regional Studies*, 38 (8), 949-959.
- Audretsch, D.B., Thurik, A.R. (2000). Capitalism and democracy in the 21st century: from the managed to the entrepreneurial economy, *Journal of Evolutionary Economics*, 10 (1-2), 17-34.
- Butler, J., Garg,R., Stephens,B., (2015). Social Networks, Funding, and Regional Advantages in Technology Entrepreneurship, *Social Networks, Funding, and Regional Advantages*.
- Cohen, B. (2006). Sustainable valley entrepreneurial ecosystems. *Business Strategy and the Environment*, 15(1): 1-14.
- Daveri, A., Safidbari, L., Bagher Sad, V. (2017), Iranian Entrepreneurship Ecosystem Factors Based on Eisenberg Model, *Entrepreneurship Development*, Volume 10, page 100-120 (In Persian)
- Feldman, M., Francis, J., & Bercovitz, J. (2005). Creating a cluster while building a firm: Entrepreneurs and the formation of industrial clusters. *Regional Studies*, 39(1), 129– 141.
- Ghanbari, R., Aghai, H., Alibeigi, A., Zarfashani, K., (2014) Entrepreneurship ecosystem strategy: A new paradigm and entrepreneurship development, *Entrepreneurship Encyclopedia in Agriculture*, Vol. I, (In Persian)
- Isenberg, D. (2010). How to start an entrepreneurial revolution, *Harvard Business Review*, [www.hbr.org](http://www.hbr.org).

- Isenberg, D. (2011). How to foment an entrepreneurial revolution, The Babson Entrepreneurship Ecosystem Project. 10th international Entrepreneurship Forum, Bahrain, January 11, 2011, 3-5.
- Isenberg, D. (2011). The entrepreneurship ecosystem strategy as a new paradigm for economic policy: principles for cultivating entrepreneurship. Presentation at the Institute of International and European Affairs, May 12, 2011, Dublin Ireland. Available on line at <http://entrepreneurial-revolution.com/> (last accessed: 01/27/2012). 1-32p.
- Kauffman Foundation. (2010). "Retrieved October 2010", from Kauffman Foundatio: <http://www.kauffman.org/>.
- Neck, H.M., Meyer, G.D., Cohen, B., and Corbett, A.C. (2004). An entrepreneurial system view of new venture creation. *Journal of Small Business Management*, 42(2): 190-208.
- OECD (2014). *Entrepreneurial Ecosystems And Growth Oriented Entrepreneurship*, OECD Leed Programme, The Hague, Netherlands.
- Spigel, B. (2015). *The Organization of Entrepreneurial Ecosystems,. Entrepreneurship: Theory & Practice*
- Stam, E. (2015). *Entrepreneurial Ecosystems and Regional Policy : A Sympathetic Critique*. *European Planning Studies*, 1759–1769 .
- Stam, E., Spigel, B. (2016). *Entrepreneurial Ecosystems*. . In R. Blackburn, D. De Clercq, J. Heinonen, & Z. Wang (Eds.), *Handbook for Entrepreneurship and Small Business*. London, UK: Sage.

