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## **ANALYSIS THE BARRIERS OF ENTREPRENEURIAL TENDENCY AMONG AGRICULTURAL ENGINEERING GRADUATES IN THE CITY OF AHVAZ**

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### **ABSTRACT**

The purpose of this research was analysis of the barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz of Khuzestan province of Iran. The population of study consisted of 1997 agricultural engineering graduates, in which 321 people were selected as a sample size, using Krejcie and Morgan table. In order to gathering the information, the questionnaires' was prepared and validated by the judgment of the experts in agricultural extension. The reliability of the main scales of the questionnaires' was examined by Cronbach Alpha coefficients, which ranged from 0.713 to 0.98, indicating the tool of study is reliable. Based on the results of factor analysis the factors were categorized into six main components, which have been named inappropriate macroeconomic policies of the government, the lack of government economic support, lack of resources and training, lack of appropriate infrastructure for entrepreneurship, low levels of knowledge and skill, low capacity for labor market. The obtained results from the factor analysis revealed that the six mentioned factors explained 65.465% of the variation of barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz.

**Keywords:** *Barriers, Entrepreneurial Tendency, Agricultural Engineering Graduates, Ahvaz*

### **INTRODUCTION**

Entrepreneurship is the development of a business from the ground up — coming up with an idea and turning it into a profitable business. But while the definition of entrepreneurship may be simple, its execution is much more difficult. Hofer *et al.*, (2012) indicated, there are many approaches to entrepreneurship education and there are at least four different conceptualizations on which the entrepreneurship curricula can be based:

1. Entrepreneurship a process of realizing opportunities. In the literature on entrepreneurship over the last 10 years there is an emphasis on entrepreneurship that is viewed as a process of opportunity discovery, exploration and exploitation. In a curriculum following this conceptualization, the emphasis is on “what are opportunities?”, “how do opportunities arise?”, “how can opportunities be evaluated?”, etc.
2. Entrepreneurship a set of competencies. Entrepreneurship is a set of competencies that a person should have. In a curriculum with this approach the emphasis is on the acquisition of (personal) skills.
3. Entrepreneurship starting a company. Entrepreneurship is seen by many as starting a company on the basis of a business plan or a business model. The curriculum reflecting this approach deals with issues that are related to the business plan, e.g. the business idea, the market, the financial plan, etc.
4. Entrepreneurship the management of a small company (SME management). Entrepreneurship according to this conceptualization sees management of the processes as the most important issue and regards a small company as the “little brother” of a big company and its management. In such a curriculum we find topics or modules on “finance”, “strategy”, “marketing”, “management skills”, etc.

According to formal statistics of Agricultural and Natural Resource Engineering System Organization of Iran, approximately 57 thousand of agricultural graduates are looking for job (Nasrollahi, 2009).

Amiri and Moradi (2009) revealed that entrepreneurship is essential to prepare university graduates but preparation should not be after graduating; it should be made during the study (Movahedi *et al.*, 2013).

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Entrepreneurship and self employment restrictions should be identified and resolved during the study. One of the most important steps in the field of developing entrepreneurship and self-employment among students is influencing their attitudes into this category. The entrepreneurial tendency is a condition in which a person tends to show entrepreneurial behavior in an independent business or organization. In fact, creating tendency towards self-employment in the entrepreneurial behavior of students is a necessary condition for them (Amiri and Moradi, 2009).

Entrepreneurship has a more critical role for economies - especially in developing countries - since it can be an engine of economic progress, job creation, and social adjustment (Thresi and Hamadi, 2013). Entrepreneurship is the new revolution and it's about continual creativity and innovation. Entrepreneurship is a major engine driving many nations' economic growth, innovation and competitiveness (Scarborough and Zimmerer 2003; Kuratko and Hodgetts 2004).

Ali and Rajabi (2007) analyzed the barriers of agricultural academic entrepreneurship and revealed factors such as inefficiency of higher education system, lack of a specific model for development of entrepreneurial skills for graduates, long term returns of investment in this field and lack of coordination between administrating organizations and entrepreneurship institutions as the main barriers of development of entrepreneurship education in agriculture faculties.

Haji and Mokhber (2010) assessed the barriers to development of entrepreneurship in agriculture applied science higher education system. Results showed that there are three factors affecting the development of entrepreneurship education including debilitating of professional competencies of human resources, low quality of educational material, and weakness in attitude and functional competencies of agricultural graduates.

These factors could explain about 50% of variance of barriers of entrepreneurship development in agriculture applied science higher education system.

### **MATERIALS AND METHODS**

The purpose of this research was analysis of the barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz of Khuzestan province of Iran. The population of study consisted of 1997 agricultural engineering graduates, in which 321 people were selected as a sample size, using Krejcie and Morgan table. In order to gathering the information, the questionnaires' was prepared and validated by the judgment of the experts in agricultural extension. The reliability of the main scales of the questionnaires' was examined by Cronbach Alpha coefficients, which ranged from 0.713 to 0.98, indicating the tool of study is reliable. The method of research was a correlative-descriptive and research conducted in 2015.

The data were analyzed by SPSS version 20.0. Appropriate statistical procedures such as frequency, percentage, mean, standard deviation and correlation coefficient were applied to analyze the data. In order to measure the barriers of entrepreneurial tendency among agricultural engineering graduates, different appropriate scales were developed and included in the final format of the questionnaire. The responses to each item of the scales were obtained on a five-point continuum viz., very disagree, disagree, no idea, agree and very agree with the scores of, one, two, three, four and five, respectively. Then a total score was calculated for different scales by summing up the item's assigned scores, which indicated overall score for barriers of entrepreneurial tendency among agricultural engineering graduates.

### **RESULTS AND DISCUSSION**

#### *Personal Characteristics*

Results show that the mean of the agricultural engineering graduate's age was about 26.85 years old with a standard deviation of 3.46 years old. Table 1 shows the education levels of the agricultural engineering graduates.

The results indicate that more than 66 percent of the agricultural engineering graduates had BSc level education, while only 33.6 percent of them educated in MSc levels.

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**Table 1: Frequency distribution of the agricultural engineering graduate's based on personal characteristics**

Personal Characteristics	Frequency	Percent	Cumulative Percent
<b>Age</b>			
21-25	154	48	48
25-30	119	37.1	85.1
30-35	36	11.2	96.3
35-40	12	3.7	100
<b>Education level</b>			
BSc	213	66.4	66.4
MSc	108	33.6	100

**Ranking the Barriers**

In order to assess the barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz, 25 statements were designed and asked from agricultural engineering graduates to show their opinions. Based on the results, table (2) is provided. It presents the mean, standard deviation and then, items were ranked by using the coefficient of variation on respondents' views, and it also shows the frequency responses of entire population of study about each item. The statement "Complex and cumbersome rules for create business " is allocated as first priority. In this item, 131 person of respondents were very agree, 118 were agree, 55 had no idea, 12 were disagree and 0 were very disagree. Based on the results the items of complex and cumbersome rules for create business, lack of social and governmental support for creation of businesses, inflation and economic instability, the imbalance between the needs of the market and university and the high rates on loans for productive activities assigned in the first priority to fifth, respectively.

**Table 2: Distribution of agricultural engineering graduates in terms of responding to the items and prioritize them based on the coefficient of variation**

Statements	1	2	3	4	5	Me an	Sd	CV	Ra nk
1. The long process of obtaining permits to establish small businesses.	8	29	34	109	141	4.0 8	1.0 62	0.26 0	15
2. Lack of timely access to financial resources for investment	5	29	22	138	127	4.1 79	0.9 9	0.23 9	10
3. Lack of entrepreneurial skills	16	35	94	109	67	3.5 5	1.0 89	0.30 6	22
4. Lack of emphasis on the development of entrepreneurship education	0	33	94	112	82	3.7 6	0.9 5	0.25 2	13
5. Complex and cumbersome rules for create business	0	12	55	118	131	4.1 6	0.8 46	0.20 3	1
6. Lack of proper development of an entrepreneurial culture in the country	8	13	109	121	70	3.7 2	0.9 33	0.25 0	12
7. Lack of self-confidence and self-esteem among students	13	41	92	98	77	3.5 8	1.1 07	0.30 9	23
8. Shortcomings in training and operational applications	20	17	72	123	88	3.7 6	1.1 03	0.29 3	20
9. Large expansion of agricultural fields and graduates	21	54	51	69	122	3.6 8	1.3 15	0.35 7	25

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10. Low levels of knowledge and job skills of graduates	8	43	84	96	90	3.6	1.0	0.29	21
						8	96	7	
11. The imbalance between the needs of the market and university	0	18	45	18	177	4.3	0.9	0.21	4
							11	1	
12. Weak link between the education system and administrative	13	24	41	119	124	3.9	1.0	0.27	17
						9	87	2	
13. Lack of government attention to employment policies	4	20	91	90	116	3.9	1.0	0.25	14
						2	01	5	
14. Exit of human and financial capital of the country	8	38	55	127	89	3.7	1.0	0.27	18
						9	59	9	
15. Profitable businesses of intermediary rather than production	4	16	74	90	137	4.0	0.9	0.24	11
						6	84	2	
16. Much of the economy is governmental.	5	47	98	107	64	3.5	1.0	0.28	19
						5	17	6	
17. Poor management of financial institutions in guiding investment.	0	13	84	109	115	4.0	0.8	0.22	6
						2	86	0	
18. The high rates on loans for productive activities	5	8	48	97	163	4.2	0.9	0.21	5
						6	12	4	
19. No boom in the agricultural economy of the country	8	0	83	110	120	4.0	0.9	0.22	8
						4	26	9	
20. Investment insecurity in the country	4	30	59	105	123	3.9	1.0	0.25	15
						8	27	8	
21. Inefficient system led to the establishment of business	0	16	108	125	63	3.7	0.8	0.22	7
						5	33	2	
22. Lack of appropriate infrastructure to create new business	0	34	56	147	84	3.8	0.9	0.23	9
						8	20	8	
23. Lack of social and governmental support for creation of businesses	0	17	76	134	94	3.9	0.8	0.20	2
						5	61	4	
24. Inflation and economic instability.	4	12	36	127	142	4.2	0.8	0.20	3
						2	78	8	
25. Expect graduates for employment in government agencies	25	12	68	49	167	4	1.2	0.31	24
							60	5	

*1=very agree, 2=agree, 3= no idea, 4= disagree and 5= very disagree*

**Factors Analysis**

In order to classify the barriers of entrepreneurial tendency among agricultural engineering graduates, factor analysis was used. In this term, 25 items were designed and evaluated the statements in the correlation matrix. Bartlett and Kaiser-Meyer-Olkin (KMO) tests, were used to fit the data for factor analysis (Table 3).

The KMO coefficient was equal to 0.799 which indicates perfect correlation between the data for analysis. Table (4), shows the number of factors that are statistically significant for the analysis and mentioned 6 factors with eigen values greater than 1.

**Table 3: KMO and Bartlett's Test**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>	<b>0.799</b>
Bartlett's Test	1535.241
Sig	.0000

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**Table 4: Initial Eigen values for determine the number of factors**

Rank	Component	Initial Eigen values		
		Eigen values	% Variance	ofCumulative %
1	Inappropriate macroeconomic policies of the government	4.344	17.338	17.338
2	The lack of government economic support	3.034	12.136	29.474
3	Lack of resources and training	2.607	10.428	39.902
4	Lack of appropriate infrastructure for entrepreneurship	2.241	8.962	48.864
5	Low levels of knowledge and skill	2.190	8.780	57.625
6	Low capacity for labor market	1.960	7.840	65.465

Variables explained 65.465 percent of total variance and 34.535 percent of the remaining variance was related to factors that were not identified through factor analysis. These 6 factors were renamed after loading variables as: Inappropriate macroeconomic policies of the government, the lack of government economic support, lack of resources and training, lack of appropriate infrastructure for entrepreneurship, low levels of knowledge and skill, low capacity for labor market (Table 4).

**Conclusions**

The purpose of this research was analysis of the barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz of Khuzestan province of Iran. In order to assess the barriers of entrepreneurial tendency among agricultural engineering graduates in the city of Ahvaz, 25 statements were designed and asked from agricultural engineering graduates to show their opinions. Based on the results, the mean, standard deviation and then, items were ranked by using the coefficient of variation on respondents' views, and it also shows the frequency responses of entire population of study about each item. The statement “Complex and cumbersome rules for create business ” is allocated as first priority. In this item, 131 person of respondents were very agree, 118 were agree, 55 had no idea, 12 were disagree and 0 were very disagree.

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