Modeling the Effects of Entrepreneurship Atmosphere on the Tendency of Agricultural Students for Beginning Creative Businesses

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Entrepreneurship is the driving force behind the economy of any country. It is strongly believed that without entrepreneurial activities the process of agricultural development will not be achieved. This requires the proper transformation of capital and skill. The agricultural students should possess creativity in order for them to be able to start new businesses. However with the support of the university reaching this goal is impossible. Hence the objective of this descriptive-correlative paper is to evaluate the entrepreneurial atmosphere created by the university as well as its effects on the tendency of agricultural students to start creative businesses. The statistical population of this research includes the agricultural students studying in Islamic Azad University, Ilam Branch (320 people), among which 169 ones were selected by using Bartlett table and random sampling method as the sample for the study. The research tool was a questionnaire. Its validation was confirmed by structural equation modeling and its stability by using Cronbach’s Alpha Coefficient (0.91). Based on the results the tendency of the students towards entrepreneurship is estimated as an average tendency. The results of modeling showed that the entrepreneurial supports of the university possess an indirect impact on the tendency of the students to start a new business via changing the attitude towards entrepreneurship and general skills. The results of the current study can have implications for the educational structure of agriculture. Hence we recommended some methods for creating a proper entrepreneurial atmosphere for paving the way of creating new businesses in this field. [Roya Eshraqi and Alireza Poursaeed. Modeling the Effects of Entrepreneurship Atmosphere on the Tendency of Agricultural Students for Beginning Creative Businesses. International Journal of Agricultural Science, Research and Technology in Extension and Education Systems, 2012; 2(4):157-163].

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1. Introduction

Human resources sector is the most important capital in any country in order for economical growth and development to be achieved. Hence many economists believe that ultimately it is human resources that determine the path and characteristics of the economical and social developments of the country. The most obvious situation, in which the need for skilled and expert human resources appears, is the supply and demand situation present in agricultural business market in rural areas and production centers all around the country. The present status of this supply and demand situation indicates the prevailing unemployment of the graduates in agricultural education system (Nouripour, 2011).

Based on the obtained statistics of the year 2001, the unemployment rate among the 147000 graduates of agricultural education is reported at 28 percent which is twice the unemployment rate of other groups and also it is the highest rate of unemployment among all university graduates (Jalali, 2003). Hence because of some reasons such as the low skills as well as the limited capacity of the job market, it is impossible to provide jobs for all of these graduates and this fact will increase the unemployment rate in the country (Rostami et al, 2011). Hence it is necessary to prepare the agricultural graduates using the culture of entrepreneurship and self employment based on the experiences of other countries. Entrepreneurship and starting new businesses is a very important issue which attracted much attention in developed as well as developing countries. Entrepreneurship is a dynamic process which includes objective, change, evolution and creativity. This process requires application and usage of resources as well as the will of people to create and execute new ideas as well as
applied solutions (Rostami et al, 2011). The obvious point is that preparation for entrepreneurship should not just include the time period after the graduation. In order to achieve desirable results we should supply the requirements and remove the barriers and limitations of entrepreneurship during the studying years. One of these important measures is to affect the entrepreneurial attitudes. Creating an entrepreneurial attitude in students is one of the prerequisites of entrepreneurial behavior (Amiri & Moradi, 2008). Motivating and reinforcing attitudes are affected by two sets of internal and external factors of the person. The internal set is composed of a wide range of factors such as the internal attitude of the individual towards entrepreneurship, belief in self-usefulness and his or her general entrepreneurial skills. The external set is comprised of those factors present in the individual’s environment which affect him or her including entrepreneurial supports of the university, as well as intrinsic norms. The tendency towards entrepreneurial actions includes the decision to start a business, hence the university supports are not limited to traditional education (general knowledge and skills necessary for starting a business).

In reality there are other supportive measures necessary for smoothing the way for students from employment seeking towards entrepreneurship which can have a great impact on their tendency towards entrepreneurship. Regarding these supportive factors the educational centers can go from teaching role to capitalizing knowledge role (Linan et al, 2005). Hence the universities can provide three kinds of supports for their students which include: educational support, targeted cognitive support and targeted non-cognitive support. The effects of these supports on the tendency of the students towards entrepreneurship are somewhat ambiguous (Amiri & Moradi, 2008). On the other hand, using tendency-based models as proper tools for explaining and describing the tendency towards entrepreneurship and entrepreneurial behavior makes it possible for us to use it as a suitable framework for evaluating the effects of entrepreneurial training programs in universities and to improve the relative plans and programs as a hope for solving the problem of graduates’ unemployment. Hence the main purpose of this study is to investigate the impact of entrepreneurial atmosphere created by the university on the tendency of agricultural graduates of Ilam Azad University towards starting creative businesses.

The entrepreneurship researchers have been trying to find out why some of people move towards starting risky businesses while others do not (Shane & Venkataraman, 2000). In order to decide about starting a new business, the entrepreneurial tendency is the main part of the cognitive process. The tendency of entrepreneurs is the base of developing a new organization based on informed behavior. The theory of Ajzen (1991) on programed behavior includes personal and social factors for describing and explaining tendency-based behaviors. TPB is a cognitive social theory which has been used in different fields and in comparison to other models explains entrepreneurial tendency with more attention to details (Krueger et al, 2000; Van Gelderen et al, 2006). Hence it is used as the theoretical framework of many studies (Audet, 1999; Alexi & Kolvereid, 2006; Van Gelderen et al, 2000; Krueger et al, 2001; Autio et al, 2002). Regarding the importance of entrepreneurial atmosphere in increasing the tendency towards entrepreneurship, we use adjusted programed behavior model of Ajzen. Based on the PBM of Ajzen (1991), attitude towards behavior, intellectual norms and belief in self-usefulness are considered to be the predictors of the tendency towards starting creative activities. In this study attitude, belief in self-usefulness and general entrepreneurial skills are considered the internal set of factors and university’s entrepreneurial supports and intellectual norms are considered the external set of factors.

The variable of attitude towards a behavior is a personal and individual variable in which the behavior is evaluated by the person himself (Krueger et al, 2000). The application of this variable in entrepreneurial tendency studies includes the fact that from the very person’s point of view how much the starting of a business is attractive (Autio et al, 2001; Krueger et al, 2000). Self-Efficacy is considered one of the necessary predictors of behavior. This idea is not so much different from perceived behavioral control. The meaning of these two ideas is the ability of the person to do a deed and how much the person feels the ability to do a creative activity (Linan et al, 2005). In the model of motivation for entrepreneurship (Shane et al, 2003) it is suggested that efficacy is one of the motivation factors for entrepreneurs; hence, we can expect that a person with higher efficacy perception is more motivated to be an entrepreneur and start a new business (entrepreneurial behavior) and in turn he or she will have more stable tendency towards that. Other studies also confirm this findings (Tkachev & Kolvereid, 1990; Moriano, 2006; Moriano et al, 2005; Linan, 2005; Linan et al, 2004; Linan, 1999; De Noble et al, 2006; Van Gelderen et al, 2000; Krueger et al, 2001; Autio et al; a; b; 2007 and others).

General entrepreneurial skills regarding human resources are necessary for finding entrepreneurial opportunities, problem solving, accepting changes and using new technologies.
Hence, gathering human resources is one of the important factors which affect the success of a person towards entrepreneurship (Zimmerman & Chu, 2010).

If future entrepreneurs were fully trained in entrepreneurial and business skills, when they would face challenging tasks in the beginning of the business process they would not be disappointed (Gnyawali & Fogel, 1994). Also in the study of Sadeghi & Malekinia (2011) it was confirmed that there was a significant relationship between entrepreneurial skills and the willing for being an entrepreneur. Without doubt the more one is competent in general entrepreneurial skills; the one is more likely to trust one’s own ability in starting entrepreneurial activities and this in turn leads to a more positive tendency towards starting these activities and he or she will be more determined to execute the new ideas. In many studies the impact of general skills on the individual’s business preparedness has been mentioned (McQuaid, 2006; Moreau & Leathwood, 2000; Groot & Van Den Brink, 2005; Pezeshkirad et al, 2006).

2. Materials and methods
The method of this research is a quantitative approach and regarding the analysis of the obtained data it is a descriptive-correlative research. The statistical population of this research includes the senior students of several fields of agricultural studies in Ilam Branch Islamic Azad University which add up to 320 people. The sample size was confirmed to be 169 participants using Bartlett’s (2001) table. In this study we used stratified random sampling (based on the academic orientation). The main tool of the research was a researcher constructed questionnaire. The formal validity of the questionnaire was confirmed by a panel of experts. In order to evaluate its validity, as well as its conformity and the fitting of our data with the PBM of Ajzen and also assessing the research’s conceptual framework we used Structural Equation Modeling using AMOS software application version 18.

The statistical results of the first-order confirmatory factor analysis showed that the research tool is valid enough (RMSEA= 0.04, P-value < 0.05, Chi-Square (2195) =3897.42). In order to assess the stability of the questionnaire we used Cronbach’s Alpha Coefficient which turned out to be 0.91. Regarding the modeling of structural equation it is worth mentioning that this method is a comprehensive and wide-ranging statistical approach which tests some hypotheses about the relationships between observed and hidden variables of the study (Mahmoodabbad et al, 2009). The overall fit measures of the model included: Chi-Square ($\chi^2$), normalized fit index of Bentler and Bonnet (NFI), incremental fit index (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI) and root mean square error of approximation (RMSEA). The fitting of the tested model is satisfactory when the value of $\chi^2$ is low and Sig>0.05, the values of NFI, IFI, TLI and CFI are more than 0.09 and the value of RMSEA is lower than 0.05.

It is worth mentioning that Chi-Square is a function model of the sample size so that the higher the sample size, the more the Chi-Square shows a significant probability level. Hence most of the rational models with a big sample size were not be valid if they only satisfy with the Chi-Square fit index. With this clearing the necessity to evaluate other measures is clear.

3. Results and discussion
Based on the findings 56.21 percent of the applicants are male and 43.79 percent are female. The academic orientation of 16.57 percent of the applicants is plant products, 24.85 percent is agronomy, 25.447 percent is agricultural extention and education and the others are studying livestock sciences.

3.1. Evaluating the Direct and Indirect Impacts of the Independent Variables of the Research on the Dependent Variable of Entrepreneurial Tendency
In order to find out the causal relationships between the entrepreneurial tendency of agricultural students of Islamic Azad University, Ilam branch as the dependent variable and attitude towards entrepreneurship, Subjective norms, Self-efficacy, general entrepreneurial skills and the university’s support for entrepreneurship as the independent variables we used structural equation modeling by AMOS software application version 18. The studied model is a path model and path models are those kinds of models which can be used for determining and predicting different phenomena. First, the correlation between the research variables is given in table 1.

The findings obtained from Pearson’s Correlation Coefficient show that there is a significant positive relationship among independent variables of attitude towards entrepreneurship, general entrepreneurial skills, belief in efficacy, and the university’s support for entrepreneurship. Also there is a positive significant relationship between entrepreneurial general skills with belief in efficacy and the university’s support for entrepreneurship. Based on the above table there is a positive significant relationship between all the independent variables and entrepreneurial tendency of the students except for intellectual norms.
Table 1. The Correlation between the Independent Variables and the Dependent Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tendency towards starting a creative business</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude towards entrepreneurship</td>
<td>0.45**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual norms</td>
<td>0.25</td>
<td>0.05</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belief in efficacy</td>
<td>0.54**</td>
<td>0.33*</td>
<td>0.17</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>General entrepreneurial skills</td>
<td>0.54**</td>
<td>0.42**</td>
<td>0.16</td>
<td>0.44**</td>
<td>-</td>
</tr>
<tr>
<td>The university’s support for entrepreneurship</td>
<td>0.26*</td>
<td>0.26*</td>
<td>0.23</td>
<td>0.17</td>
<td>0.32*</td>
</tr>
</tbody>
</table>

Table 2. Direct, Indirect and Total Impact of Predictor Variables on the Dependent Variable

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Predictor Variable</th>
<th>Direct Impact</th>
<th>Indirect Impact</th>
<th>Total Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tendency R²=0.46</td>
<td>Attitude</td>
<td>0.21</td>
<td>-</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>Norm</td>
<td>0.14</td>
<td>-</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>Efficacy</td>
<td>0.32</td>
<td>-</td>
<td>0.32</td>
</tr>
<tr>
<td></td>
<td>General Skills</td>
<td>0.29</td>
<td>-</td>
<td>0.29</td>
</tr>
<tr>
<td></td>
<td>University Support</td>
<td>0.00</td>
<td>0.17</td>
<td>0.17</td>
</tr>
<tr>
<td>Attitude R²=0.07</td>
<td>University Support</td>
<td>0.26</td>
<td>-</td>
<td>0.26</td>
</tr>
<tr>
<td>Norm R²=0.05</td>
<td></td>
<td>0.23</td>
<td>-</td>
<td>0.23</td>
</tr>
<tr>
<td>Efficacy R²=0.03</td>
<td></td>
<td>0.17</td>
<td>-</td>
<td>0.17</td>
</tr>
<tr>
<td>General Skills R²=0.10</td>
<td></td>
<td>0.32</td>
<td>-</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Table 2 shows direct impact, indirect impact and total impact of predictor variables on the dependent variable of entrepreneurial tendency of the students. In this table the direct impact equals the standardized coefficient of multiple regression variables and it is when a change in variable x causes a change in variable y (x → y). The indirect impact of any variable equals the multiplication of the path coefficients of all the variables in a path which are leading to the dependent variable. To better put it, it is when the variable y is affected by variable x via a third variable of z (x → z → y). The total impact is the total addition of the direct and indirect impacts of any variable. Regarding all the fit measures we can say that the model is properly fit (RMSEA=0.06, CFI=1.00, TLI=0.95, IFI=0.99, NFI=0.98, p=0.27, $\chi^2(2)=1.20$).

Based on table 2, among the independent variables of the research, belief in efficacy possesses the highest positive direct impact (0.32) on the entrepreneurial tendency of the students in Azad University of Ilam. Then the variables of general entrepreneurial skills (0.29) and attitude towards entrepreneurship (0.21) have got positive direct impacts on the entrepreneurial tendency of the students. While the university’s support for entrepreneurship and intellectual norms have not got any significant positive impact on the dependent variable of entrepreneurial tendency of the students. Despite this, the university’s support indirectly and via attitude towards entrepreneurship and general entrepreneurial skills will impact the entrepreneurial tendency of the students (0.17).

Based on the findings in total 46 percent of the changes in the entrepreneurial tendency of the students is determined by the mentioned independent variables. Moreover, the variable of the university’s support for entrepreneurship has got the highest positive direct impact (0.32) on the variable of general entrepreneurial skills of the students and 10 percent of the changes in that variable are determined by the university’s support for entrepreneurship. On the other hand, the variable of the university’s support for entrepreneurship has got positive significant impacts on attitude towards entrepreneurship (0.26) and intellectual norms (-0.23).

Finally the first hypothesis of the research based on the significant impacts of internal set of factors in students (attitude towards entrepreneurship, belief in efficacy, and general entrepreneurial skills) on their tendency to start creative businesses is confirmed. Regarding the second hypothesis of the research only the indirect significant impact of the university’s
support for entrepreneurship (as one of the external set’s factors) via attitude towards entrepreneurship and general entrepreneurial skills (factors comprising the internal set) is confirmed and other items are rejected.

Based on the results of the study, the majority of the agricultural students of Islamic Azad University of Ilam Branch have an average tendency towards entrepreneurial absence of attention towards this issue in entrepreneurial programs and supports of the university. This finding is not in confirmation with the results of Degeorge & Fayolle (2005), Moriano et al (a, b, 2007), and Naktiyok et al (2009) which show a high entrepreneurial tendency. On the other hand based on the findings, from the point of view of the participants, enough effort will increase their chance to success in starting businesses.

4. Conclusion and Recommendations

Hence the students show a serious lack regarding in seeing opportunities we should reinforce their capabilities. So it is recommended that we consider proper training courses in order to reinforce the ability of the students to see the opportunities. So that by having these capabilities they can discover or create more opportunities.

Regarding the amount and the importance of entrepreneurial support in university, based on the view of the participants, the majority of them agree that Islamic Azad University of Ilam Branch has functioned better in having entrepreneurial courses, holding apprenticeship workshops based on entrepreneurship, and providing projects related to entrepreneurial activities. On the other hand the participants do not agree about the ability of the university on targeted non-cognitive supports. On the whole, Islamic Azad University of Ilam Branch has provided limited entrepreneurial supports for the students.

Based on the evaluation of the entrepreneurial supports in Islamic Azad University of Ilam Branch it is recommended that the university change its previous roles, change the university supports from educational support towards targeted non-cognitive supports and be more flexible.

Based on the findings the agricultural students of Islamic Azad University of Ilam Branch evaluated themselves as having average entrepreneurial skills. However, they consider their highest capability in issues such as responsibility, decision making, planning, coordination and organizing. But regarding the skills to pay attention to details, gathering and analyzing data, team work, resourcefulness, time management and communication skills they consider themselves to be weak. The participants in the research, based on the framework provided in Shook et al (2003), somewhat possess the needed skills for the later stages of the entrepreneurial process that is evaluating the opportunity (choosing, decision making, judgment and so on), and seizing the opportunity (being responsible, management and so on). But they lack very much in the needed skills for the first stage of entrepreneurial process which is recognizing the opportunity (searching and analyzing the information, personal and social networks, communicating, knowledge and initiative) – the starting point of the entrepreneurial process. The results of Liyaghata dar et all (2009) show that from the point of view of the students, the training programs of the university have better acted regarding the issues like preparing them for accepting responsibilities than opportunity seizing skills such as communication, personal and group capabilities and initiative. The study of vij and Ball (2002) on the students of IT and computer engineering faculty of North Umbria University showed same results.

Regarding the fact that the importance of these skills is confirmed in several studies, for instance in Besich (2008) and Seibert & Harris (2006), and the fact that the economy of the country is focused on entrepreneurs and the expansion of self-employment, general entrepreneurial skills as the human resources are very important elements in the economy. Hence paying proper attention to these skills and developing them in university students should be considered one of the most important approaches of the country authorities.

In evaluating the direct and indirect impacts, among the independent variables of the research the belief in efficacy has got the highest positive direct impact on the entrepreneurial tendency of the agricultural students of Azad University of Ilam. Also the researches done so far about the relationship between entrepreneurship and efficacy confirm the presence of a positive relationship between efficacy and the decision of the individual to start doing entrepreneurial behavior (Tkachev&Kolvereid, 1999; De Noble et al, 1999; Linan, 2004; Linan et al, 2005; Linan, 2005; Moriano et al, 2006; Moriano et al, 2007 a, b; Autio et al, 2001; Krueger et al, 2000; Van Gelderen et al, 2006).

Then the variables of general entrepreneurial skills and attitude towards entrepreneurship possess positive direct impacts on the variable of the entrepreneurial tendency of the students. In several studies the effects of general skills on career readiness of the individual are mentioned (Pezeshkirad et al, 2005; Groot & Van Den Brink, 2000; Moreau & Leathwood, 2006; McQuaid, 2006). This career readiness or being prepared to accept a
job can encompass starting a new business or an entrepreneurial activity. Hence, these findings can somehow confirm the findings of the current paper. Regarding the relationship between attitude and tendency we can say that the people who consider entrepreneurial behavior desirable and have a positive attitude towards it are the people who would have the ability to see and seize opportunities and the people who have the capability of recognizing opportunities when others don’t without doubt are aware of their ability and will properly seize the opportunities. This finding confirms the results of Linan et al (2005), Degeorge&fayolle (2005), Linan (2005), Moriano et al (2006) and Moriano et al (2007, a, b).

The variable of the university’s support for entrepreneurship possesses the highest positive direct impact on the variable of general entrepreneurial skills of the students. In explaining this finding it can be said that the more the university provides educational supports (general knowledge and needed skills for business), cognitive supports (creating awareness, and business ideas) and non-cognitive supports (financial supports), there will be more opportunities for reinforcing the general entrepreneurial skills of the students. Also the study of Linan (2005) shows that entrepreneurial supports including financial supports however limited can be very much effective for those students who like to test their ideas even in a much smaller scale. The experiences of the agricultural faculty of Razi University can be very much helpful because theirs is a real example of supporting small businesses of the students. This faculty provides entrepreneurial opportunities for the students and hence their students are engaged in entrepreneurial process, and the ownership of a business. During this period the students get away from the theoretical atmosphere of the university and enter the new world of career and in that world they start experiencing things they never have experienced before (Rostami et al, 2011).

Hence the entrepreneurial supports of Islamic Azad University of Ilam Branch possess a direct impact on attitudes (the attitudes towards entrepreneurship and intellectual norms) and general entrepreneurial skills and an indirect impact on the tendency of the students towards entrepreneurial activities as well as the lack of university’s supports during the two stages of starting and continuing a business, it is recommended that the policies and proper programming should be considered so that the entrepreneurial supports of the university would be adjusted and reinforced, which in turn leads to the improvement of the attitudes and the entrepreneurial tendency of the students. In order to realize this we recommend that the educational materials of the training courses should change based on the new needs of the students and they should focus more on the two stages of starting and expanding a new business, as well as problem solving methods, group learning, experimental learning, brainstorming and mixed training (verbal and virtual) and also using experienced instructors with one of these two prominent characteristics: 1- having an entrepreneurial frame of mind and 2- being an entrepreneur.

References
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