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Case Study

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### Identify factors that effecting on wood and papers student's entrepreneurial spirit (case study: college of agricultural and natural resources of Tehran university)

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#### Abstract

The purpose of this study was to identify factors that effecting on wood and papers student's entrepreneurial spirit. Statistical population of this research consisted of whole wood and paper students in college of agricultural and natural of Tehran University (N= 263). A stratified random sampling method was used to select 100 students applying Morgan's table. The main tool to collect data was a researcher made questionnaire that Content validity of the questionnaire was approved, by a panel of experts and Exploratory factor analysis and its reliability, was confirmed by calculating Cronbach's alpha coefficient ( $\alpha = 0.71 - 0.79$ ). Data was analyzed by SPSS<sub>Win20</sub> software. Results of factor analysis showed that four factors: curriculum content, psychological, teaching method and management explained 60.87 percent of the variance of students' entrepreneurial spirit.

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## 1. Introduction

Youth in terms of employment is discriminatory influencing of world economic crisis. This trend recently has been faced with more challenges and there are concerns that in the absence of take appropriate proceedings, youth status was instable and social cohesion threatened. According to the international labor organization (2007) despite positive development index among educated young people than before, the labor market in many countries are no able to place young graduates. Therefore, it is essential that tent to training graduates and students entrepreneurial spirit. Because, the entrepreneurship is a vital part of the competition, wealth creation and proceeding of any society and helps to countries economic through promotion of innovation, created competition and job creation (Amatori, 2005) and didn't attention to it can be created negative results for societies (Salimath and Cullen, 2010).

In response to the challenges of graduates' employment, the universities new mission is created entrepreneurial skills in graduates and high schools students. University as a one of the pillars of education systems can play an important role in the field of entrepreneurship through education. Education increases the students' entrepreneurial spirit and who students that exposed of entrepreneurial education, rather than their peers, are more likely to self-employment (Khosravipour, 2007; Hosaini and Azizi, 2007; Tghipour and Ghafari, 2009). Also, some believe that peoples by influencing of their cultural and educational values achieve to a certain level of entrepreneurship and be as active agents in their own development (Hayton, 2002; Morrison, 2000). Therefore, humans are not chanceful enter to the entrepreneurial activities, but do it as a result of one decide and the universities mission is to facilitated this decision (Kruger, 2007).

It is important to know the effectiveness of these educations requires identifying factors that affecting on entrepreneurial spirit as the basis for entrepreneurial activities (Koh, 1996; Mueller, 2001; Robinson, 1991). An early answer to the question of what factors effect entrepreneurial spirit has been offered by traits approach, in other word, entrepreneurial spirit and behavior were ascribed solely to the personality of the individual (Baum et al, 2007). Antecedents such as self-efficacy, risk-taking propensity or optimism were identified (Fraser and Greene, 2006; Rauch and Frese, 2007). However, against the background of many inconsistent findings wide criticism of this approach arose (Mitchell et al, 2002). As entrepreneurial phenomena occur in different contexts and in close interaction with other individuals and the environment (Robinson et al, 1991), explanations based merely on the personality of the individual produce a somewhat reductionist impression. Consequently, based for instance on the theory of planned behavior (Ajzen, 1991), contextual factors have been integrated into recent models of entrepreneurial intentions (Kuckertz and Wagner, 2010). Advocated of multidimensional researches (Hitt et al, 2007) especially in entrepreneurship researches (Davidsson and Wiklund, 2001) explain that to understand the entrepreneurial spirit, researchers should consider both individuals and organizational factors. Therefore, the purpose of this study was to identify factors that effecting on wood and papers student's entrepreneurial spirit.

Researchers find several factors that effecting on entrepreneurial spirit, among them Gurel et al (2010) in their research showed that there is positive and significant relationship between students' innovation and entrepreneurial spirit. Altiny et al. (2012) in their research "the influence of family tradition and psychological traits on entrepreneurial intention" showed that family entrepreneurial background and innovation influence the intention to start new business; there is positive relationship between tolerance of ambiguity and risk taking propensity. In addition, they suggest edit does not seem that education play an important role in increasing students' entrepreneurial spirit. Aldrich et al (2001) showed that there is positive and significant relationship between education factors, content of curriculums and students' entrepreneur spirit.

## 2. Methodology

This survey in its nature is a quantitative; In terms of objective is an applied and in term of statically is descriptive-correlation. The aim of this study was to Identify and analyzing of factors that effecting on wood and papers student's entrepreneurial spirit. Statistical population of this research consisted of whole wood and paper students in college of agricultural and natural of Tehran University (N= 263). A stratified random sampling method was used to select 100 students applying Morgan's table. The main tool to collect data was a researcher made

questionnaire that Content validity of the questionnaire was approved, by a panel of experts and Exploratory factor analysis and its reliability, was confirmed by calculating Cronbach's alpha coefficient (0.71- 0.79). Data was analyzed by SPSSWin20 software.

### 3. Results and discussion

Based on the results of descriptive statistics the average of student's age was 24 years old. In terms of gender the 74 person of responsible was male and 26 person was female. In term of degree 66% were in B.Sc, 30% was M.Sc student, and 4% was Doctorial students. In terms of family business backgrounds the 67% of students didn't have such experiences.

Findings from ranking of psychological items in development of students' entrepreneurial spirit (table 1) show that motivation, foresight and need to progress were in the first priority. In contrast, having systematic view, criticism viability and locus of control were in the latest priority. Also, the findings from ranking of educational and universities items in development of students' entrepreneurial spirit(table 2) indicated that purposefulness in her/his education, suitable access to computer and internet, and experienced teachers were in the first priority. In contrast, degree-orientation, trainings students in operational status, and studying in university were in the latest priority.

**Table 1**  
Ranking of psychological items that effect on students' entrepreneurial spirit.

| Items  | Mean of 5 | S.D  | CV   | Rank |
|--|-----------|------|------|------|
| Motivation   | 4.44      | 0.65 | 0.14 | 1    |
| Foresight  | 4.36      | 0.74 | 0.17 | 2    |
| Need to progress   | 4.21      | 0.72 | 0.17 | 3    |
| Responsibility   | 4.28      | 0.76 | 0.17 | 4    |
| Hard work to achieve the goals                                 | 4.11      | 0.81 | 0.19 | 5    |
| Productivethinking   | 4.26      | 0.84 | 0.19 | 6    |
| Ability to planning  | 4.04      | 0.85 | 0.21 | 7    |
| Consult with experts   | 4.17      | 0.90 | 0.21 | 8    |
| Triple-management skills (technical, cognitive, communicative) | 4.12      | 0.89 | 0.21 | 9    |
| Self-confidence  | 4.05      | 0.90 | 0.22 | 10   |
| Pluck  | 4.13      | 0.95 | 0.23 | 11   |
| Technical skills   | 3.96      | 0.93 | 0.23 | 12   |
| Good management  | 3.95      | 0.93 | 0.23 | 13   |
| Ability to problems analysis                                   | 4.05      | 0.95 | 0.23 | 14   |
| Awareness about market place and economy status                | 3.85      | 0.93 | 0.24 | 15   |
| Believe to study before action                                 | 3.90      | 0.94 | 0.24 | 16   |
| A spirit to teamwork   | 4.05      | 1.00 | 0.24 | 17   |
| Communication with entrepreneurships                           | 3.94      | 0.98 | 0.24 | 18   |
| Having the freedom to vote                                     | 4.07      | 1.02 | 0.25 | 19   |
| Innovative   | 3.95      | 1.00 | 0.25 | 20   |
| Personal experience  | 3.81      | 0.98 | 0.25 | 21   |
| Risk-taking  | 3.97      | 1.02 | 0.25 | 22   |
| Family supported   | 3.91      | 1.01 | 0.25 | 23   |
| Ability to create motivation in others                         | 3.93      | 1.05 | 0.26 | 24   |
| Internal control   | 3.79      | 1.04 | 0.27 | 25   |
| Criticism viability  | 3.92      | 1.08 | 0.27 | 26   |
| Having systematic view   | 3.75      | 1.04 | 0.27 | 27   |

**Table 2**

Ranking of educational and universities items that effect on students' entrepreneurial spirit.

| Items   | Mean of 5 | S.D  | CV   | Rank |
|---|-----------|------|------|------|
| purposefulness in her/his education   | 4.29      | 0.90 | 0.21 | 1    |
| suitable access to computer and internet                                    | 4.26      | 0.96 | 0.22 | 2    |
| experienced teachers  | 4.21      | 0.97 | 0.23 | 3    |
| Conducting marketing courses for students                                   | 4.20      | 0.99 | 0.23 | 4    |
| Closely relationship between university and successful business enterprises | 4.02      | 1    | 0.25 | 5    |
| Use of some successful entrepreneurship in teaching some courses            | 4.05      | 1.02 | 0.25 | 6    |
| Since excursion   | 4.02      | 1.03 | 0.25 | 7    |
| Universities facilitates and equipments                                     | 4.15      | 1.07 | 0.25 | 8    |
| Content of academic course  | 3.99      | 1.04 | 0.25 | 9    |
| Development entrepreneurial centers in university                           | 3.96      | 1.04 | 0.26 | 10   |
| Carrying out entrepreneurial seminars                                       | 3.77      | 1.02 | 0.27 | 11   |
| Information systems for access to information and technical knowledge       | 3.93      | 1.06 | 0.27 | 12   |
| Educations that accordance with the labor market                            | 3.99      | 1.08 | 0.27 | 13   |
| Suitable atmosphere in university to competition                            | 4.04      | 1.11 | 0.27 | 14   |
| Creativity teaching method  | 3.82      | 1.07 | 0.28 | 15   |
| Create appropriate books in the field of entrepreneurship                   | 3.80      | 1.07 | 0.28 | 16   |
| Investigation spirit among teachers   | 3.87      | 1.09 | 0.28 | 17   |
| Planning in accordance with studentswillingness                             | 3.74      | 1.07 | 0.28 | 18   |
| Practical activities in the field of held courses                           | 3.95      | 1.14 | 0.29 | 19   |
| Dynamic and creative environment of residences                              | 3.92      | 1.16 | 0.29 | 20   |
| studying in university  | 3.89      | 1.20 | 0.30 | 21   |
| trainings students in operational status                                    | 3.87      | 1.20 | 0.31 | 22   |
| degree-orientation  | 3.48      | 1.10 | 0.31 | 23   |

Exploratory factor analysis was used to determining the number of factors that effect on student's entrepreneurial spirit. Statistical analysis showed that the internal consistency of data was appropriate for factor analysis ( $KMO=0/691$ ) and the Bartlett's test was significant ( $Bartlett=3492.271$ ). Four factors were extracted by using the Kaiser's rule. Factor loadings after varimax rotation are shown in table (3). Then, according to the nature of variables, factors were named as: curriculums content, psychological factor, teaching method, and management factor. Given the amount of extract eigenvalues, content of curriculum factor were greatest effect on the total variance of student's entrepreneurial spirit (eigenvalues= 8.194) and then were the psychological factor (eigenvalues=7.84), teaching method (eigenvalues=6.53) and management factor (eigenvalues=4.30) (table 4). In total, 60.87% of students' entrepreneurial spirit variances were determined by these factors.

**Table 3**  
Rotation sums of effecting variables on student’s entrepreneurial spirit.

| Factor | Eigenvalues | % of variances | Cumulativevariance |
|--------|-------------|----------------|--------------------|
| 1      | 8.194       | 19.446         | 19.446             |
| 2      | 7.842       | 17.799         | 37.245             |
| 3      | 6.538       | 14.477         | 51.722             |
| 4      | 4.306       | 9.151          | 60.873             |

**Table 4**  
Factors and variables that related to students entrepreneurial spirit after the varimax rotation.

| Factor name        | Variables   | Load factors |
|--------------------|---|--------------|
| Curriculum content | Information systems for access to information and technical knowledge       | 0.750        |
|                    | Universities facilitates and equipments                                     | 0.682        |
|                    | Planning in accordance with students willingness                            | 0.679        |
|                    | Create appropriate books in the field of entrepreneurship                   | 0.672        |
|                    | Investigation spirit among teachers   | 0.634        |
|                    | Content of academic course  | 0.615        |
|                    | Closely relationship between university and successful business enterprises | 0.613        |
|                    | Practical activities in the field of held courses                           | 0.605        |
| Psychological      | suitable access to computer and internet                                    | 0.587        |
|                    | Communication with entrepreneurships  | 0.779        |
|                    | Innovativeness  | 0.635        |
|                    | Internal control  | 0.633        |
|                    | Responsibility  | 0.559        |
|                    | Need to progress  | 0.540        |
| Teaching method    | Self-confidence   | 0.538        |
|                    | Creativity teaching methods   | 0.648        |
|                    | Since excursion   | 0.595        |
|                    | Use of some successful entrepreneurship in teaching some courses            | 0.554        |
| Management         | Carrying out entrepreneurial seminars                                       | 0.543        |
|                    | Consult with experts  |              |
|                    | Triple-management skills (technical, cognitive, communicative)              |              |
|                    | Ability to create motivation in others                                      |              |
|                    | Ability to planning   |              |

The rapid environmental change, complexity and competitive of international society, population growth and increasing unemployment, social concerns about unequal income distribution, and poor quality of life for some segments of society in the national arena are some of the crises and challenges in this time. Meanwhile, unemployment phenomena is one of the most important social and economical challenge that cause many crudity in different filed. In the meantime, entrepreneurs identified as the main axis of development to respond to this crisis. Entrepreneurial spirit will facilitate the process of solving this crisis. Therefore, the purpose of this study was to identify factors that effecting on wood and papers student’s entrepreneurial spirit. Based on the findings, the motivation, foresight and need to progress were important items in psychological factor that effect on students entrepreneurial spirit. These findings confirm the results of Gurel (2010), Nurmiandpaasio (2007), Altinay et al. (2012) researches.

Among the indicators of education and universities factor, the education purposefulness, suitable access to computer and internet, and have expert teachers has the most effect on students entrepreneurial spirit and in versus, the degree-orientation, trainings students in operational status, and studying in university have lowest effect on students entrepreneurial spirit. This finding confirmed the result of Aldrich (2001) research.

Factor analysis showed that four factors (curriculum component, psychological factor, teaching methods, management factor) determined 60.87% of student's entrepreneurial spirit. This confirms the previous research finding (Aldrich, 2001) that were statement there are have a positive and significant relationship between education factor, curriculums contents and entrepreneurial spirit. Based on these factors we suggested that:

- ✓ Organizations that associated with development of curriculum content should be embedded contents in wood and papers curriculum in which increasing students' entrepreneurial spirit; for example: established courses about entrepreneurship skills, educated teachers about which teaching methods that is more effectedon entrepreneurial education.
- ✓ Since the communication factor explain the high percent of variances of students entrepreneurial spirit, it is essential that development network of electronic communication and created knowledge society to created more interactive between students and entrepreneurships.

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