ENTREPRENEURSHIP UNIVERSITY MODEL

Mahmut Tekin
Selcuk University
A. Selçuk Köylüoğlu
Selcuk University
Özdal Koyuncuoğlu
Selcuk University

ABSTRACT

The Entrepreneur University Model aims to promote the entrepreneurship in universities. Entrepreneurship in universities through the Entrepreneur University Model has been examined within the context of young entrepreneurship. At the model universities; university environment, industry-conditions and student performance. Surveys, observations, interviews, etc. for the appropriate method for collecting the data necessary for analysis in the research. There are two types of data, the primary data obtained based on techniques and the data collected by others on the same / similar issues. In this study, the previous literature on entrepreneurship, entrepreneurship in universities and entrepreneurship culture has been examined. A primary data collection tool has been developed for the studied area, taking into account the aims and hypotheses of this study. The questionnaire form which was revised in line with the collected opinions was then made to Selcuk University Tübitak 1601 TÜBİTAK 1601 Support Program for Capacity Building in Innovation and Entrepreneurship Areas and the results of the questionnaire were evaluated.

Key Words: Entrepreneurship, Entrepreneurship University, Entrepreneurship University Model

ENTREPRENEURSHIP UNIVERSITY

Entrepreneurial university; It means that the university is an entrepreneur. The entrepreneurial university has led to an increase in the level of education that has been trained along with the developing technology and information society with the increasing knowledge accumulation due to the change in the economic, political, social and cultural fields due to globalization in the world. This suggests that universities should be entrepreneurs to meet the growing need for information as entrepreneurs.

THE SUCCESS MODEL OF ENTREPRENEURSHIP UNIVERSITY

The university is aimed at bringing talented students into the business life with an objective, market-oriented approach to student entrepreneurship. In the entrepreneurial university ecosystem, qualified students improve their business relationships with local, national and international business environments, and they also work in global companies to develop end-to-end global collaborations. Entrepreneurial university develops entrepreneurial student entrepreneurship in this context. Thus, developing ecosystem of entrepreneurship is developed by establishing relationships with talented people around the world with developing networks. Recruitment of researchers and training personnel is provided in universities with qualified students. A certain success model is required for university student entrepreneurship. Outputs of research; developing a competitive, multidisciplinary and enduring entrepreneurial university model based on entrepreneurial talent formation that can be implemented in universities in the widespread of young entrepreneurship in our country. With this model, entrepreneurship governance, dissemination of young entrepreneurship and contributing to the country's economy, discipline-based measurement and evaluation criteria of professionalism based on entrepreneurship performance in business life will be set forth. This will ensure the provision of policy instruments that will enhance the effectiveness of the entrepreneurial policies and strategies being implemented for the development of our country.

RESEARCH METHODOLOGY

As a result of the data obtained in the research, the steps of the method to be followed in order to make accurate analyzes and interpretations are very important. In this study, the method which is used as research methodology is to determine the data collection method and to develop the data collection tool, to encode the obtained data, to analyze with the determined statistical methods and to evaluate the analysis results.

DATA COLLECTION DEVELOPMENT

It is very important to select the appropriate method for collecting the data required for analysis in the research. Questionnaire, observation, interview etc. for applied researches. There are two types of data, the primary data obtained based on techniques and the data collected by others on the same / similar issues. In this study, the previous literature on entrepreneurship, entrepreneurship and entrepreneurship culture in universities have been examined and a primary data collection tool has been developed for the field which is examined by taking into account the aims and hypotheses of this study. In this study, the previous literature on entrepreneurship, entrepreneurship and entrepreneurship culture in universities have been examined and a primary data collection tool has been developed for the field which is examined by taking into account the aims and hypotheses of this study. Within the scope of the research, survey method was used as data collection tool. It has been noted that in the questionnaire design, the respondents should be clear and understandable, without commenting, to address the respondents.

In the questionnaire used in the study, 87 questions were asked about the entrepreneurial abilities of the participants and they were asked to evaluate the 7-item Likert scale with 1 = Not True and 7 = Fully correct. The questionnaire also asked 2 questions to identify the lessons that participants took in the areas of business and small business administration and business opening information. In the entrepreneurship education project sponsored by TÜBİTAK, entitled "Advanced Collecting of Entrepreneurial Individuals" in Selçuk University, the students were asked to use face-to-face questionnaires to collect answers.

Surveys were implemented on March 19, 2017. A total of 110 surveys were conducted as a result of the questionnaires conducted by interviewing the students individually. However, not all of the applied surveys contain useful data. Ten missing / incorrectly answered surveys were not considered in the analyzes, and ultimately it was decided to analyze the survey data obtained from the 100 surveys. Considering that the sample of the survey is 400 people, the 100 surveys considered correspond to a rate of 25% in the sample. With a sample error of 10%, this number is sufficient for statistical analysis. The data obtained from the questionnaires were transferred to the Microsoft Excel 2013 program on the computer environment using predetermined codes. Later statistical analyzes were made using the SPSS 20.0 statistical package program. In order to use the SPSS program, the data stored in the Excel environment is transferred to this program. After the data entry has been completed, statistical tests to be used in the data analysis have been determined.

DEFINITION STATISTICS

In this section of the workshop, the results of the frequency analysis of the questions asked by the students in order to determine the courses they have taken in the fields of business administration and small business administration and business opening information will be explained. The frequency results of the expressions related to the entrepreneurial abilities of the students participating in the survey are presented in Table 1. The overall results of the students' perceptions of entrepreneurship skills are given in Table 1 as percentages. According to these results, students did not find S45 at most 45.5%, but they found S56 at most at 69%. In addition, 33.7% of the students were unstable with respect to s76 and behaved neutrally. Evaluation of students entrepreneurial abilities. In this part of the study, the results of the analysis on the evaluations of the students' entrepreneurial abilities will be given. In this context, there are three main dimensions in the questionnaire; university (UNIV), external factors (EXTFAC) and entrepreneurship activities (ENTACT).

These dimensions are grouped underneath as follows:

Tablo 1: Ana-Alt Boyutlar

Main Factor	Sub Factor	Question number
University	Incentive System (T)	45,49,62,83
	Status (S)	38,71,77
	Place (Y)	37,52
	Culture (K)	13,68,85
	Faculty (F)	12,63,64
	Agent Representatives (AT)	41,82
	Policy (P)	33,51,69
	Experience (T)	26,36,56,65,74,75,78
	Defined Role, Identity (TR)	24,46,60,61,67
	Technology (TEK)	66,84
External Factors	Industry (SK)	5,15,30
	Government Policy (HP)	73,76
Entrepreneurial Activities	Resources And Skills (KB)	3,11,21,22,23,29,31,32,44,58,59
	Primary Abilities (AY)	2,7,14,19,24,34,50
	Dynamic Abilities (DY)	6,8,10,16,18,28,47
	Performance (PER)	17,35,40,43,48,53,55,57,79,81
	Learning Process (ÖS)	1,9,20,39,42,54,70,72
	Organizational Knowledge (ÖBB)	4,25,80,86,87

The mean-standard deviations of the expressions in the main and sub-dimensions expressed in Table 4 in this section and the reliability of the scales will be examined. The reliability of the data collection tool in studies is very important for assessing the research results. Different methods are used for reliability in practice. Reliability of the scale studied in this study was investigated by internal consistency method. The scales above the Cronbach Alpha value of 0.70 examined by the internal consistency method according to general acceptance are reliable. So the variables that make up the scale are internally related.

Tablo 2: Reliability Coefficients of Data Collection Tool Scales

Ölçek	Ölçüm Aralığı	Factor Number	Cronbach Alpha
UNIV	7' Likert Scale (1 to7)	34	0,767
EXTFAC	7' Likert Scale (1 to7)	5	0,795
ENTACT	7' Likert Scale (1 to7)	48	0,854

Structural information and reliability coefficients of the scales used in the study are presented in Table 5. According to this, the University scale, which is composed of 34 items and the External Factors scale and the Entrepreneurship Activity scale, which consists of 48 items, which are evaluated with 7 Likert scale, are reached as the result. Reliability coefficients (Cronbach Alpha) of all three scales were higher than 0.70. The evaluations of university students' entrepreneurial abilities according to their importance ranking are presented in Table 6 below:

Table 6: Evaluation of University Dimensions

University Scale	Ave.	SD
S56	6,54	1,05
S69	6,27	1,19
S52	6,07	1,39
S71	6,00	1,17
S67	5,99	1,25
S77	5,97	1,60
S68	5,87	1,29
S26	5,70	1,52
S38	5,62	1,25
S84	5,61	1,51
S13	5,56	1,75
S83	5,49	1,44
S49	5,37	1,48
S45	5,32	1,65
S66	5,28	1,49
S64	5,27	1,32
S12	5,27	1,68
S65	5,10	1,24
S63	5,08	1,55
S82	5,04	1,53
S51	5,01	1,46
S46	4,89	1,82
S24	4,49	1,61
S78	4,44	1,92
S33	4,20	2,07
S37	3,94	1,93
S62	3,77	1,76
S41	3,69	2,03
S36	3,59	1,83
S75	3,34	1,99
S60	3,32	1,88
S61	3,20	1,61
S85	2,85	1,76
S74	2,52	1,76
UNIV	**4,99**	**0,58**

Notify: (i) n=71; (ii) Scale means 1 = Not True and 7=True (iii) According to Friedman's two-way Anova test (χ^2 = 720,647: p <.001), the results are statistically significant.

The students who participated in the research do not find 25 expressions about the entrepreneurial talents in the university dimension but they do not find it correct. According to this, the first three statements that students most perceive about university entrepreneurship talents are S56, S69 and S52, respectively. On the other hand, it is S33, which is the least accurate expression of students regarding their university-wide entrepreneurial abilities. In addition, the expression that is not true at all is S74. The evaluations of entrepreneurship ability of the participating students in terms of external factors are presented in Table 7 according to their importance order:

Table 7: Evaluation of External Factors of Students

External Factors Scale	Ave.	SD
S30	6,09	1,32
S15	5,56	1,74
S73	4,35	1,71
S5	3,78	2,00
S76	3,72	1,55
EXTFAC	**4,59**	**0,85**

Notify: (i) n=71; (ii) Scale means 1 = Not True and 7=True (iii) According to Friedman's two-way Anova test ($\chi2 = 720,647$: p <.001), the results are statistically significant. Notify: (i) n=95; (ii)

The students who participated in the research find 3 expressions about the entrepreneurial talents in terms of external factors and 2 expressions do not find it correct. Accordingly, S30 has been the most accurate expression of students regarding their entrepreneurial abilities in terms of external factors. On the other hand, in terms of external factors, in terms of entrepreneurship skills, the expression that students find least correct is S73. In addition, the expression that is not found correctly is S76. The evaluations of entrepreneurship skills of entrepreneurship activities of the students participating in the survey are presented in Table 8 below in order of importance:

Table 8: Evaluation of the Entrepreneurship Activities by the Students

Girişimcilik Faaliyetleri Ölçeği	Ort.	SS
S17	6,40	1,22
S10	6,23	1,39
S9	6,13	1,43
S42	6,12	1,28
S31	6,06	1,42
S20	6,01	1,16
S43	5,94	1,38
S22	5,92	1,37
S16	5,92	1,37
S29	5,91	8,34
S44	5,88	1,31
S81	5,88	1,17
S19	5,77	1,54
S23	5,64	1,54
S8	5,57	1,48
S47	5,56	1,25
S53	5,56	1,51
S32	5,49	1,34
S18	5,45	1,43
S40	5,38	1,65
S80	5,27	1,55
S48	5,26	1,21
S28	5,19	1,45
S59	5,16	1,27
S7	5,12	1,52
S70	5,10	1,56
S87	5,09	1,62
S14	5,08	1,54
S11	5,05	1,54
S86	5,05	1,41
S79	5,04	1,58
S55	4,99	1,66
S2	4,95	1,79
S57	4,81	1,69
S21	4,70	1,79
S39	4,62	1,89
S50	4,49	1,77
S25	4,40	1,43
S24	4,38	1,63
S6	4,29	1,88

S1	4,23	2,12
S4	4,14	1,74
S35	4,06	2,02
S58	3,99	2,17
S72	3,65	1,60
S54	3,58	1,79
S34	2,86	1,71
S3	2,42	1,77
GIRFAL	**5,05**	**0,70**

Notify: (i) n=71; (ii) Scale means 1 = Not True and 7=True (iii) According to Friedman's two-way Anova test ($\chi2 = 720,647$: $p < .001$), the results are statistically significant. Notify: (i) n=95; (ii)

The students who participated in the research find that the entrepreneurship skills are correct in terms of entrepreneurial skills, but they do not find it correct. According to this, the first three expressions that students find most right regarding entrepreneurship activities in terms of entrepreneurship skills have been S17, S10 and S9. On the other hand, in terms of entrepreneurial activities, it is the S35 which is the least accurate expression of students regarding their entrepreneurial abilities. Also, the expression that is not true at all is S3.

Table 1: Entrepreneurial Capabilities

Frequency (%), 1= Not True, 7= True								S45	4,1	5,1	4,1	8,2	27,6	19,4	31,6
İfade	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**S46**	4	9	9	14	16	20	28
S1	13,1	7,1	18,2	15,2	16,2	9,1	21,2	**S47**	1	0	4	19	14	36	26
S2	4	7	9	22	13	13	32	**S48**		2	3	21	33	21	20
S3	42,3	18,6	18,6	5,2	4,1	5,2	6,2	**S49**	1	4	9,1	11,1	22,2	21,2	31,3
S4	7	13	18	13	18	21	10	**S50**	4	7	20	15	22	12	20
S5	17,2	11,1	19,2	20,2	8,1	8,1	16,2	**S51**	1	5	5	22	29	17	21
S6	9	10	16	18	18	12	17	**S52**	3	3	3	5	7	27	52
S7	1	5,1	15,2	15,2	18,2	21,2	24,2	**S53**	2	4	5,1	13,1	13,1	24,2	38,4
S8	2	1	4,1	16,3	19,4	19,4	37,8	**S54**	19,2	13,1	21,2	16,2	15,2	11,1	4
S9	3	0	3	4	12	21	57	**S55**	3	3	16,2	10,1	23,2	22,2	22,2
S10	4	1		5	12	17	61	**S56**	1	2		2	5	21	69
S11	2	4	12	14	25	19	24	**S57**	8,1	6,1	10,1	14,1	27,3	13,1	21,2
S12	4,1	2	8,2	11,2	22,4	12,2	39,8	**S58**	17,2	10,1	12,1	16,2	11,1	12,1	21,2
S13	5,1	4,1	7,1	15,3	14,3	11,2	42,9	**S59**	1	3	6,1	21,2	28,3	23,2	17,2
S14	4	5	5	19	23	23	21	**S60**	24	13	23	14	10	11	5
S15	6,1	2	5,1	11,1	15,2	16,2	44,4	**S61**	18,2	22,2	20,2	20,2	9,1	2	8,1
S16	1	2	4	7	17	25	44	**S62**	11,2	12,2	20,4	23,5	17,3	5,1	10,2
S17	1	3,1	1	3,1	8,2	17,3	66,3	**S63**	2	2	11,2	19,4	22,4	22,4	20,4
S18	1	3	8	13	25	21	29	**S64**		3,1	6,2	15,5	32	17,5	25,8
S19	3	0	7,1	4	22,2	18,2	45,5	**S65**		1	11,5	18,8	29,2	20,8	18,8
S20	0	1	4	6	16	27	46	**S66**	2	4	5	14	25	20	30
S21	7	3	17	15	20	18	20	**S67**		2	4	3	13	35	43
S22	2	2	5	6	12	29	44	**S68**	1	1	3	8	8	41	38
S23	4	2	6,1	7,1	21,2	21,2	38,4	**S69**	1	1	1	3	7,1	28,3	58,6
S24	6,1	8,2	10,2	19,4	28,6	21,4	6,1	**S70**	2	5,1	14,1	11,1	22,2	23,2	22,2
S25	3	8,1	15,2	23,2	30,3	14,1	6,1	**S71**	1		4	5,1	20,2	27,3	42,4
S26	4,1	2,1	5,2	7,2	14,4	35,1	32	**S72**	8,1	14,1	28,3	22,2	9,1	15,2	3
S27	1	1	4	14	21	27	32	**S73**	6,1	10,2	18,4	17,3	20,4	16,3	11,2
S28	3,1	3,1	6,1	16,3	18,4	34,7	18,4	**S74**	45,5	17,2	13,1	7,1	7,1	8,1	2
S29	2	6	9	19	21	26	17	**S75**	24,2	17,2	16,2	12,1	13,1	11,1	6,1
S30	3	1	1	8	8	27	52	**S76**	9,2	12,2	20,4	33,7	10,2	10,2	4,1
S31	2	2	7	8	9	22	50	**S77**	3	1	5,1	3	12,1	16,2	59,6
S32	0	4	7,1	11,1	26,3	26,3	25,3	**S78**	8,2	3,1	17,5	18,6	21,6	8,2	22,7
S33	18,4	15,3	8,2	12,2	19,4	7,1	19,4	**S79**	2	6,1	6,1	18,4	24,5	24,5	18,4
S34	29,3	19,2	16,2	14,1	14,1	6,1	1	**S80**	3	1	6,1	16,2	22,2	23,2	28,3
S35	12,1	12,1	16,2	17,2	13,1	11,1	18,2	**S81**		1	2	12,2	19,4	24,5	40,8
S36	19,4	14,3	14,3	25,5	8,2	6,1	12,2	**S82**	1	6,3	8,3	17,7	18,8	30,2	17,7
S37	12,1	14,1	17,2	14,1	22,2	10,1	10,1	**S83**	1	3,1	5,1	22,4	14,3	19,4	34,7
S38	1	2	1	14,1	18,2	35,4	28,3	**S84**	2	1	7,1	8,1	23,2	22,2	36,4
S39	10,1	7,1	10,1	21,2	17,2	14,1	20,2	**S85**	31,6	20,4	18,4	9,2	9,2	8,2	3,1
S40	2	5	6	12	19	27	29	**S86**	1	3	11,1	21,2	20,2	28,3	15,2
S41	17,2	21,2	12,1	16,2	12,1	9,1	12,1	**S87**	1	8,1	11,1	11,1	27,3	18,2	23,2
S42	1	0	4	3	11	30	51								
S43	2	2	2	7,1	10,1	33,3	43,4								
S44	1	1	5	6	20	27	40								

Correlation Analysis

The relationship between the university, external factors and entrepreneurial activities that make up the 3 dimensions of work in this department will be examined. To test the established hypotheses, we used the output of correlation analysis and regression analysis.

H_0: Dimensions of University and External Factors are statistically insignificant in explaining the Entrepreneurial Activity Variable.

H_1: The dimensions of the University and External Factors are statistically significant in explaining the Entrepreneurial Activity Variable.

Tablo 3: Girişimcilik Yetenekleri Boyutları Korelasyon Analizi

		UNIV	EXTFAC	ENTACT
UNIV	Pearson Correlation	1		
	p			
	N	99		
EXTFAC	Pearson Correlation	,542(**)	1	
	p	0		
	N	98	99	
ENTFAC	Pearson Correlation	,764(**)	,563(**)	1
	p	0	0	
	N	99	99	100
** Correlation is significant at the level of 0.01				

According to Table 9, there is a positive relationship between university and external factors which are independent variables. Furthermore, since the correlation coefficients between the variables are smaller than (0,542) 0.7, it can be said that there is no multiple relation between the independent variables. Accordingly, the variables are suitable for regression analysis. Moreover, there is a positive, meaningful relationship between the independent variables, university and external factors, and dependent variable entrepreneurial activities.

Regression Analysis

The model of working in this part of the study will examine whether the dimensions of university and external factors influence the entrepreneurial activities. In this context, a multiple regression model will be tested, in which the dimensions of university and external factors are independent variables and the dimension of entrepreneurial activities is also a dependent variable.

H_0: Dimensions of University and External Factors are statistically insignificant in explaining the Entrepreneurial Activity Variable.

H_1: The dimensions of the University and External Factors are statistically significant in explaining the Entrepreneurial Activity Variable.

Table 10: University, Dimensions of External Factors-Entrepreneurship Activities Relationship Anova Table

	Sum of Squares	Degree of Freedom (df)	Squares Average	F	p
Regression	31,022	2	15,511	77,941	,000(a)
Residual value	18,906	95	0,199		
Total	49,929	97			
a Independent Variables: (Fixed), University, External Factors					
b Dependent Variable: Entrepreneurial Activities					

When the ANOVA table in Table 10 is examined, it is decided that the hypothesis H0 is rejected since the F-value is 77,941 and the p-value is 0,00. The regression model thus created is statistically significant. It is statistically possible to estimate the Entrepreneurship Activity variable with at least one of the variables University and External Factors.

Table 11: Regression Coefficients Related to University Dimensions of External Factors-Entrepreneurship Activities

	Non-Standardized Coefficients		Standardize Coefficients	t	p	Multiple Relation Statistics	
	B	Std. Error	Beta			B	VIF
(Fixed)	0,387	0,376		1,029	0,306		
UNIV	0,782	0,09	0,656	8,728	0	0,706	1,416
EXTFAC	0,168	0,061	0,208	2,772	0,007	0,706	1,416
a Dependent variable: ENTACT							

When Table 11 is examined, these variables are statistically significant in explaining the variables of entrepreneurial activity since p values for university and external factor variables are smaller than 0.05. Furthermore, it can be determined that the VIF values in table 11 are less than 10, so there are no multiple connections between variables. Accordingly, the betting regression model can be established as follows:

ENTACT = 0,387 + 0,782 UNIV + 0,168 EXTFAC

Table 12: Dimensions of External Factors, University-Entrepreneurship Activities Relation Regression Model Summary

R	R^2	Corrected R^2	Guess Std. Error
,788(a)	0,621	0,613	0,44611
a Independent Variables: (Fixed), UNIV, EXTFAC			
b Dependent Variables: ENTACT			

The R and R2 values in Table 12 show the explanatory power of the regression model established. As a result of the regression analysis, the rate of explaining the entrepreneurial activity variables of the university and external factors dimensions was found as 61.3%. Moreover, when the coefficient tables are examined, it is seen that the biggest contributor to this explanatory variable is provided by the university variable.

REFERENCES

Atherton, A., Localised Strategies for Supporting Incubation: Strategies Arising from a Case of Rural Enterprise Development", Journal of Small Business and Enterprise Development, 13 (1), s.48-61, (2006).

BOLLINGTOFT, A. ve ULHOI, J.P., The Networked Business Incubator – Leveraging Entrepreneurial Agency?, Journal of Business Venturing, 20: 265-290, (2005).

Raguz, M. J., Letinic, S. ve Budimir, V. (2012). Assessing Science Parks' Performance: Selected European And Croatian Case Studies, Journal of International Scientific Publications: Economy & Business, Vol 6, Part 3, pp. 5-21

Roberts, E. B. ve Eesley, C. E. (2011). Entepreneurial Impact: The Role of MIT, An Updated Report, Foundations and Trends in Entrepreneurship, Vol 7, pp. 1-149

Salmi, J. (2001). Tertiary Education in the 21st Century: Challenges and Opportunities, Journal of Programme on Institutional Management in Higher Education, Vol 13, No.2, pp. 105-130

Siegel, D. S., Waldman, D. A., Atwater, L. A. ve Link, A. N. (2013). Commercial Knowledge Transfers From Universities to Firms: Improving the Effectiveness of University-Industry Collaboration, Journal of High Technology Management Research, Vol 14, s. 111-133

Slaughter, S Ve Leslie, L. L. (1999). Academic Capitalism Politics, Policies And The Entepreneurial University, The Johns Hopkins University Press, 1999, Uk

Tekin, M. (2005). Hayallerin Gerçeğe Dönüşümü: Girişimcilik. Yenilenmiş 4. Baskı. Günay Ofset: Konya.

Todorovıc, Z., William, R and Mcnaughton, P. G. (2011). Entre-U: An Entrepreneurial Orientation Scale For Universities, Technovation, Vol 31, Pp. 128-137.

Ulucan, S. (2015). Girişimcilik Eğiliminin Ve Girişimcilik Eğilimini Etkileyen Faktörlerin Analizi: Ortaöğrenimde Lise 3. Ve 4. Sınıf Öğrencileri Üzerinde Bir Uygulama. Gazi Üniversitesi Sosyal Bilimler Enstitüsü İşletme Anabilim Dalı Yüksek Lisans Tezi, Konya.

Yokoyama, K. (2006). Entrepreneurialism in Japanese and UK Universities: Governance, Management, Leadership and Funding, Higher Education, Vol 52, pp. 523-555

Yusof, M. Ve Jain, K. K. (2010). Categories Of University-Level Entepreneurship: A Literature Survey, International Entrepreneurial Management Journal, Vol 6, Pp 81-96.