

Effects Of Gender Diversity On The Growth Of The Firms In The Incubators⁷³

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Abstract

Factors affecting the growth of the firms are usually divided into three groups. These are factors related firms, factors related entrepreneurial, and industry – related factors. Gender diversity is a entrepreneurial – based factor. In this study we investigated the effect of gender diversity on the growth of the firms. So far, in empirical studies being male or female entrepreneurs are found to be an impact on firm performance. It appears from studies that survival probabilities of firms founded by women are lower than those firms founded by male entrepreneurs and firms which established by women entrepreneurs grow more slowly than firms established by male entrepreneurs was concluded.

To measure the impact of gender diversity on growth performance of firms we used data of business incubation firms in Turkey. Face to face interviews were conducted with companies operating in the 12 Business Incubators around the Turkey. The sample of this study is firms still active in business incubators, firms are closing left and was graduated from Business Incubators.

In the application part of the study we investigated Tobit Regression Model to measure the effect of the gender diversity on the growth of the firms. Based on findings, gender diversity was concluded to be effective on the growth of the firms in a meaningful way.

Keywords: Firm Growth, gender diversity, entrepreneurs, firm survival, incubators.

1.INTRODUCTION

Discussions of firm growth based on very old. Gibrat launched the debate on the growth of the firm with his work in 1931. According to Gibrat firm growth rates is independent of firms initial scale. Today the growth of the firms is an increasingly important area of debate. To much work has been done so far on this subject in different countries but have little or no literature on firm growth in Turkey.

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Mentioned several factors that affect firm growth. They are devoted to three main categories. These;

- Entrepreneur related factors
- Firm related factors
- Industry related factors

Which characteristics of entrepreneur, entrepreneur's age, educational level, past work experience and gender as factors affecting the growth of the firm discussed in the literature of the growth of the firm.

In this study, we will investigate the affects of the gender diversity on the growth of the firms. Until now, most of the studies concluded that gender differences affect firm performance. Companies founded by women entrepreneurs, they grow more slowly than male competitors and more likely to failure is expressed. To reveal the relationship between gender and the firm performance we carried out analyses with the firms in the business incubators around the Turkey.

In the second section of the study there is summary of the literature about the relationship between gender and firm performance. After this in the third section we estimated the Tobit Regression analysis to measure the relationship between gender and firm growth.

2. THE RELATIONSHIP BETWEEN GENDER AND FIRM PERFORMANCE

Gender of the entrepreneur founded the firm are often associated with the firm performance. The findings shows that, firms founded by women entrepreneurs demonstrates lower growth rates than male competitors. (Coad, 2009; 89).The works which observed the relationship between gender and firm growth generally concludes that founder of the firm being male or female makes performance differences..

Empirical studies shows that firms founded by women grow more slowly than firms founded by male entrepreneurs. The small firms founded by women have an important role especially in developing countries. In developing countries firms established by women are less ambitious about growth and financial performance than firms founded by men (Singh, 2001).

According to a comprehensive study made by Mead and Liedholm (1998) in the African countries; firms established by male entrepreneurs grew by 11% per annum, on the other hand firms founded by women entrepreneurs grew by 7% per annum. Study suggests that; entrepreneur's gender has a significant effect on the firms growth or survival. Chance of survival and growth of the firms established by women, other factors fixed, is lower than firms founded by male entrepreneurs. However, reasons of the higher proportion of closures for the firms founded by women entrepreneurs may be personal or other non-business. Considering only work-related reasons, does not occur any difference in closing rates.

In a study in the Dominican Republic; Firms established by men have high labor productivity, on the other hand firms founded by women have low productivity and growth rates. (Downing and Daniels, 1992; Edit, Nichter and Goldmark, 2009). Coad and Tamvada (2008) similarly have done a study for Indian firms. According to the results; firms managed by women are more likely to decline than firms managed by male entrepreneurs. Also firms founded by the women are less likely to growth. They also have concluded that the firms established by women grow more slowly among the growing firms.

Other studies examining the relationship between gender and firm performance; Catley and Hamilton (1998), McPherson (1996).

3. IMPACT OF THE GENDER DIVERSITY ON THE FIRMS PERFORMANCE

3.1. Sample of the Survey

Sample of our study are the firms in the business incubators around the Turkey. There are 12 business incubators around the Turkey. We investigated the firms which currently operat in incubators, graduated from incubators and closed. There are 466 firms in the incubators in Adana, Diyarbakır, Elazığ, Ereğli, Zonguldak, Mersin, Tarsus, Samsun, Van, Yozgat, Eskişehir and Nevşehir. We have used the 414 questioned firms as a sample in our investigation.

3.2. The Variables Used In

Totally 23 variables there were used in our analysis. 22 of this are independent variables. In accordance with literature there are entrepreneur related variables, firm related variables, industry related variables and hatchery related variables. We have made the variables categorical. For example, if a firm have grown the value is “1”, in contrary if a firm have not grown the value is “0”.

The “gender” variable created to measure the impact of the gender diversity on the firm performance is concerns us even more. “gender” variable were included in the analysis with the other variables whether there is any meaningful effect on the growth of the firm.

Table 1: Variables Used In Analysis

VARIABLE	DESCRIPTION	Number of observation	Average	Min.	Max.
	Dependent Variable				
firmgrowth	Firm Growth (%)	351	0.12	0	1
ENTREPRENEUR FEATURES					
gender	If entrepreneur is female; 1, if male; 0 (if there are both male and female partner; 0)	414	0.14	0	1
lnentage	Age of the entrepreneur(if there is a partnership the oddest partner age, logarithmic scale)	367	3.64	3	4.25
enteduuni	Education level of the entrepreneur , If a university degree; 1, if not; 0 (if there is a partnership and if one of the partner has university graduates; 1)	414	0.31	0	1
workexp	Previous working experience of the entrepreneur as a worker (year)	414	8.21	0	1
entexp	Previous experience of entrepreneurship (year)	414	5.83	0	40
manexp	Previous management experience of the entrepreneur (year)	414	6.98	0	40
FIRM FEATURES					
ortaksay	The number of the partner in the venture	414	1.24	1	4
export	The company has had an export; 1, if not; 0	414	0.10	0	1
lnempini	Initial size of the firm (logarithmic scale)	392	1.31	0	5.70
onlyloan	if the initial capital is fully loan; 1, if not; 0	414	0.26	0	1
onlyselffin	If the initial capital is fully own allowance; 1, if not; 0	414	0.26	0	1
networking	If entrepreneur has made network with the firms in the incubator or firms outside the incubator; 1, if not; 0	414	0.62	0	1
yen	If entrepreneur has made innovation; 1, if not; 0	414	0.41	0	1
marka	If firm has a trademark; 1, if not; 0	414	0.19	0	1
INCUBATION SERVICES					
buro	If entrepreneur has received one office services at least in the incubator;1, if not; 0	414	0.61	0	1
ortakhiz	If entrepreneur has received one of common services offered at least in the incubation;1, if onot; 0	414	0.64	0	1
danisman	If entrepreneur has received one of advisory services at least in the incubation 1, if not; 0	414	0.58	0	1

whenest	If the firm has been established within the first 36 months of incubation was established; 1, if not; 0	414	0.55	0	1
incubsize	The number of rash in the incubation	414	43.14	14	84
INDUSTRY FEATURES					
compete	Intensity of competition in the sector (Likert scale of 1-5)	410	3.53	1	5
sektor	If the company in the manufacturing industry; 1, if firm in the service sector; 0	411	0.81	0	1
EXTERNAL FEATURES					
ilrank	The share of the city's GNP per capita In the Turkey's GNP per capita (%)	414	1.51	0.59	2.07
cycle	If firm has experienced already a crisis 1, if not; 0	414	0.76	0	1

3.3. The Model

3.3.1. Tobit Model

Using Tobit model the growth equation will be estimated. (Tobin, 1958). In this model the continuous observation of the values and discrete changes in the values of zero is governed by the same stochastic process. So decisions of both growth and to continue the activities affected by the same set of exogenous variables. Tobit Model assumes that businesses closing as a corner solution. All these assumptions makes Tobit model such a statistically restrictive method. (Karaöz ve Albeni, 2010).

3.4. Empirical Findings

To bring out how gender diversity affects the growth of firms firmgrowth variable was taken as the dependent variable and gender variable was included in the analysis together with all other independent variables. Tobit regression was estimated for this purpose. There is a high correlation between incubation services, buro, danisman and ortakhiz variables. So they were made separately for the regression analysis. The entrepreneur features workexp, entexp and mangexp variables in the same way were taken separately in the analysis to put forward the individual contributions of each variables.

gender variable was included in the analysis as independent variable to measure the affect of the gender differencies on the growth of the firms. If the entrepreneur is women "1" was given as a value. On the other hand if the entrepreneur is male "0" was given as a value. (if there is both women and male partner "0" was given as a value)

We have 351 data belonging to firms for growth datas.74 144 of these firms has grown but 207 of them has not grown.

Table 2: Grown Firms (Categorical)

fg01 (grown, not grown, categorical)	Number	%
0 (not grown)	207	58.97
1 (grown)	144	41.03
Total	351	100.00

74 NOTE: We have not reached historical information of some companies. So there is no evidence about growing of this firms. For that reason This is why the 351 firms were used.

Firms grow and not grow were put forward categorical with the fg01 variable. If firm has grown “1” was given, if firm has not grown “0” was given. According to the results 144 firms in the incubators has grown. The rate of the grown firms is %41.03.

132 firms of them 144 growing firms founded by male entrepreneurs. So %91 of growing firms was founded by men. Only 12 Of 144 growing firms founded by women entrepreneur. This corresponds to %9 of growing firms.

Table 3: Gender and Grown Firms (Categorical)

fg01 (grown, not grown categorical)	gender (male, female, categorical)		Total
	0 (male)	1 (female)	
0 (not grown)	182	25	207
1 (grown)	132	12	144
Total	314	37	351

Tobit regression analysis results are given in the table below. According to the result of Tobit regression anlysis gender differences has a significant affect on the growth of the firm

Table 4: Tobit Regression Analysis Results	MODEL 1		MODEL 2		MODEL 3		MODEL 4		MODEL 5	
	Coefficients	P Values	Coefficients	P Values	Coefficients	P Values	Coefficients	P Values	Coefficients	P Values
gender	-50.52	0.192	-59.55	0.123	-64.64	0.095*	-37.94	0.332	-40.99	0.294
Lnentage	-24.53	0.668	-29.27	0.608	-22.32	0.695	-81.14	0.163	-63.50	0.254
Enteduuni	-13.47	0.610	-13.78	0.600	-16.59	0.527	-11.73	0.657	-8.45	0.751
Workexp	-0.52	0.686	-0.77	0.546	-0.82	0.521				
Entexp									2.31	0.169
Mangexp							2.63	0.087*		
Ortaksay	64.25	0.002***	52.83	0.013**	57.48	0.007***	63.80	0.003***	63.84	0.003***
Export	-13.65	0.714	-14.35	0.698	-7.98	0.830	-9.18	0.805	-8.38	0.823
Lnempini	-66.24	0.000	-64.82	0.000	-67.66	0.000	-68.24	0.000	-67.66	0.000
Onlyselffin	-39.57	0.137	-45.75	0.083*	-35.84	0.177	-39.91	0.128	-37.41	0.156
Onlyloan										
Network	114.27	0.001***	107.53	0.001***	113.17	0.001***	110.37	0.001***	108.77	0.001***
Yen	83.33	0.001***	83.12	0.001***	83.37	0.001***	81.88	0.002***	80.27	0.002***
Buro	87.25	0.008***					82.35	0.013**	85.11	0.010**
ortakhiz			123.60	0.001***						
Danisman					91.92	0.002***				

Sektor	-54.75	0.085*	-51.50	0.105	-60.39	0.055**	-52.18	0.101	-52.30	0.101
Compete	5.67	0.579	1.27	0.902	3.32	0.745	4.08	0.689	4.47	0.662
Marka	89.84	0.004***	88.50	0.004***	96.83	0.002***	85.04	0.006***	85.89	0.005***
Whenest	12.16	0.642	24.37	0.353	11.77	0.651	11.79	0.651	8.89	0.735
Incubsize	0.22	0.652	0.23	0.629	0.10	0.836	0.20	0.673	0.21	0.666
Cycle1	28.42	0.317	35.70	0.204	34.41	0.221	27.31	0.335	32.46	0.256
ilrank	-38.49	0.203	-47.95	0.116	-33.06	0.270	-37.36	0.216	-42.06	0.167
Log likelihood	-1740.36		-1738.47		-1739.18		-1738.96		-1739.49	
LR chi2(18)	126.25		130.01		128.60		129.04		127.99	
Prob>chi2	0.00		0.00		0.00		0.00		0.00	
Pseudo R2	0.035		0.036		0.036		0.036		0.035	
*; %10 Significance of importance level , **; %5 Significance of importance level , ***; %1 Significance of importance level										

4. CONCLUSION

Influence of gender differences in the performance of the company has become a much discussed topic in the literature. So far, most of the studies has concluded that gender difference affects firm performance. Companies founded or managed by women entrepreneurs are growing more slowly than firms founded by male entrepreneurs was concluded in the studies. Some studies suggest the possibility of the sinking of the companies founded by women entrepreneurs is high.

According to the results of the analysis in this study (10% significance level Tobit regression analysis model, 3) the gender gap has a significant effect on firm performance.

There are 144 growing company according to our analysis. 132 of these companies was founded by male entrepreneurs. Whereas, there are only 12 growing firms founded by women among the 144 growing firms. So companies founded by men entrepreneurs are more likely to growth than firms founded by women entrepreneurs.

As a result, survival and growth of women entrepreneurs are less likely than male entrepreneurs can be said. Main reasons for this, women entrepreneurs encounter financial difficulties, women's business experience is less than and male-dominated an economy that the structure of such reasons.

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