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Entrepreneurial Alertness in Turkey: Human and Social Capital Perspectives[1]

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ABSTRACT

The purpose of this paper is to investigate leading individual factors that contribute to entrepreneurs' entrepreneurial alertness. The impact of human capital and structural and relational dimensions of social capital on entrepreneurial alertness is addressed. A survey is conducted on 246 business owners in Turkey and the data are analyzed with hierarchical regression. It is observed that prior knowledge and relational social capital has significant positive effects on entrepreneurial alertness. Moreover, environmental munificence perception is found to have moderating effects on the relationship between information accumulation and some individual factors such as relational social capital and market knowledge.

Keywords: Entrepreneurial alertness, human capital, opportunity recognition, social capital.
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1.0 INTRODUCTION

The number of studies acknowledging opportunity recognition as the initial stage of entrepreneurship is continually increasing; these studies (e.g. Kirzner, 1979; Venkataraman, 1997; Shane and Venkataraman, 2000; Gaglio and Katz, 2001; Ardichvili et al, 2003) contend that no entrepreneurial activity would exist without the recognition of opportunities. By focusing on cognitive aspects, opportunity recognition is defined as "an active, cognitive process (processes) through which individuals conclude that they have identified the potential to create something new that has the potential to generate economic value and that is not currently being exploited or developed, and is viewed as desirable in the society in which it occurs (i.e. its development is consistent with existing legal and moral conditions)" (Baron, 2004: 52). A review of the relevant literature (e.g. Kaish and Gilad, 1991) demonstrates that entrepreneurial alertness has widely been used to refer to the individual dynamics behind opportunity recognition. Entrepreneurial alertness is "a distinctive set of perceptual

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and information processing skills" (Gaglio and Katz, 2001:95) with which people recognize opportunities, or a set of perceptual and cognitive processes by which individuals break and/or construct a means-ends framework for certain future situations in order to create value (Li, 2004).

More recent studies attempted to take a much broader view of alertness. For instance, Tang (2007) and Tang et al. (2012) illustrated alertness as having three complementary dimensions: information accumulation (scanning and search), information transformation (association and connection), and information selection (evaluation and judgement). Scanning and search highlights the role of looking for new information in identifying opportunities, while association and connection includes reconfiguring a new framework by associating previously disparate information. Finally, evaluation and judgement refers to the assessment of whether new information represents an opportunity or not. Due to high entrepreneurial alertness, entrepreneurs can assess changes in the environment differently than other people and perceive these changes as potential opportunities. This view differs from the former in having an extensive theoretical background and a clear operationalization; in this study the term 'entrepreneurial alertness' is used to refer to this concept.

Despite the growing amount of attention to entrepreneurial alertness recently, this concept has not been studied enough to completely understand the interaction between individual and environmental dynamics. So, in order to fill this gap in literature, this study aims to investigate the impact of human and social capital on entrepreneurial alertness. Also, it aims to examine the impact of the interaction between these individual factors and environmental munificence perception on a sample of actual entrepreneurs. This paper is one of the first papers to address entrepreneurial alertness of Turkish entrepreneurs through embracing human and social capital perspectives. In this study, prior knowledge is utilized to reflect entrepreneurship-specific human capital. Both structural and social aspects of social capital are taken into account and associated with alertness for opportunities. In the analyses, environmental munificence perception is regarded as a moderating variable which could strengthen the power of the relationship between independent variable and dependent variable. Unfortunately, environmental conditions are taken as given in many studies investigating the impact of individual factors in the beginning of the entrepreneurship process; as it is assumed that external environmental conditions are similarly perceived by all entrepreneurs. However, even if they operate in the same external environment, entrepreneurs' evaluations about environmental munificence might be quite different. Thus, the inclusion of environmental munificence perception fills an important gap by explaining whether entrepreneurs' perceptions of the environment play a moderating role in their alertness to opportunities.

In this study, a survey was conducted on 246 entrepreneurs and hierarchical regression analysis was applied to data. The results show that prior knowledge and relational social capital has significant positive effects on entrepreneurial alertness. Moreover, environmental munificence perception has moderating effects on the relationship between information accumulation and some individual factors such as relational social capital and market knowledge. The overwhelming impact of relational capital on different aspects of entrepreneurial alertness argues that qualitative aspects rather than mere structural aspects of social networks might be more important in collectivist societies. This finding reveals the need for further explanations regarding institutional, social and cultural catalysts for establishment of relational capital between entrepreneur and his/her network contacts.

The study consists of six parts. After this introduction part, the second part includes theoretical background and hypotheses. The third part consists of data and methodology while the fourth part includes results and discussions. The fifth part reports conclusion and policy implications and finally, the sixth part presents limitations and suggestions for further research.

2.0 THEORETICAL BACKGROUND AND HYPOTHESES

2.01 PRIOR KNOWLEDGE AND ENTREPRENEURIAL ALERTNESS

Prior knowledge is an important indicator of entrepreneurship-specific human capital. Prior knowledge refers to an individual's distinctive information about a particular subject matter and it is acquired through idiosyncratic life experiences and education. It provides an absorptive capacity (Cohen and Levinthal, 1990) that facilitates the acquisition of additional information about markets, production processes and technologies, and triggers an entrepreneurial conjecture (Corbett, 2002). Prior knowledge allows people to gain information about unused resources, new technological developments, regulatory changes, etc. faster than their peers. This information advantage makes certain people notice the disequilibrium that produces an entrepreneurial opportunity before others can realize it (Hayek, 1945). The concept of a 'knowledge corridor' might explain the role of prior knowledge in opportunity recognition, such that, an entrepreneur's knowledge stock brings him into a knowledge corridor that affects his personal ability and attitude to comprehend, extrapolate, interpret and apply new information (Venkataraman, 1997; Roberts, 1991). Also, this existing stock of information affects his ability to see solutions when confronted with problems (Yu, 2001).

Several empirical studies have shown support for the argument that prior knowledge reinforces opportunity recognition (Christensen and Peterson, 1990; Young and Francis, 1991; Gimeno et al., 1997; Shane, 2000; Davidsson and Honig, 2003; Shepherd and De Tienne, 2005; Corbett, 2007); however, there is need for further research to clarify the association of entrepreneurship-specific prior knowledge and entrepreneurial alertness. Given the theoretical notions and empirical results, the following hypothesis is proposed:
H_1: Prior knowledge is positively associated with entrepreneurial alertness.

2.02 SOCIAL CAPITAL AND ENTREPRENEURIAL ALERTNESS

Social capital is an indicator of knowledge and other resources gained through social relationships. In general, opportunity recognition is associated with two different aspects of social capital: structural and relational. In this study, the impact of these two dimensions of social capital on entrepreneurial alertness is discussed. The third dimension of social capital is the cognitive dimension which refers to "shared representations, interpretations and systems of meaning among parties" (Nahapiet and Ghoshal, 1998: 423). Although cognitive capital constitutes a powerful form of social capital, the theoretical basis of the relationship between cognitive capital and opportunity recognition in general (and entrepreneurial alertness in particular) has not been established sufficiently. Reviewing the literature for empirical research shows that many studies, some of which are seminal in this research area (e.g. Ardichvili and Cordozo, 2000; Bhagavatula et al., 2010; Davidsson and Honig, 2003; Hoang and Antoncic, 2003), relate opportunity recognition to structural and relational capital. The role of cognitive capital in opportunity recognition has been discussed in a limited number of studies (e.g. De Carolis and Saparito, 2006). In an empirical study, Liao and Welsh (2005) reported that non-entrepreneurs had higher cognitive capital than nascent entrepreneurs. So, drawing from the robust theoretical and empirical background of social capital theory, this study focuses on the structural and relational aspects of social capital.

In examining the contribution of structural social capital to entrepreneurial alertness, knowledge gained through social networks is highlighted because networks enable the flow of important knowledge required by entrepreneurs. Having a social network exposes a potential entrepreneur to a wide range of knowledge that will lead him evaluate new ideas (Hills et al., 1997; Singh, 2000). Entrepreneurs identify opportunities by actively interacting with an extensive network and executing cognitive functions. Moreover, people rarely have complete knowledge during selection and decision making due to limitations on information storing and processing abilities. Social network contacts can widen bounded rationality by allowing access to new information. During the examination of the connection between structural social capital and opportunity recognition, the breadth and density of social networks are analysed. The breadth of a network refers to the number of contacts in a network. An individual having a large network can get information and ideas from more people. In particular, knowing other entrepreneurs is positively and significantly related to being a nascent entrepreneur and

it has a positive impact since other entrepreneurs can become role models (Weber and Milliman, 1997; Arenius and Minniti, 2005).

Density is also addressed while examining a social network's structural formation. The structure of the network might be dense or hole-rich. If the network is dense, everyone knows everyone else and the individual in the centre of the network will be exposed to redundant information (Singh, 2000). People in a dense network have probably known each other for a long time and they are likely to interact frequently (Bhagavatula, 2009). A structural hole refers to non-redundant connections in a network (Burt, 1995); contrary to dense networks, hole-rich networks have fewer connections between different members of the network. The individual in the centre can have access to a much more expansive and diverse amount of knowledge without the additional social cost of maintaining a tie to every member of the network (Singh, 2000).

The results of previous studies (Birley, 1985; Koller, 1988; Christensen and Petersen, 1990; Nahapiet and Ghoshal, 1998) illustrate that networks build positive conditions for knowledge combination, the exchange of knowledge and the creation of new knowledge. Thus, the following hypothesis is proposed:
H_{2a}: Structural social capital is positively associated with entrepreneurial alertness.

Identifying a new opportunity requires tolerating significant costs in terms of time and effort, and in such a challenging situation, a potential entrepreneur needs social and emotional support. Moreover, trust developed through direct or indirect interactions with network members can motivate a potential entrepreneur to incline towards new and uncertain situations. Thus, he may be more willing to take risks and recognize opportunities that can be pursued afterwards with the help and support of other people (De Carolis and Saparito, 2006). A high level of relational capital facilitates knowledge flow through different pathways and allows access to new knowledge. First, high relational capital decreases the tendency of opportunistic behaviour thanks to the presence of trust, obedience, generosity, justice, privilege and cooperation among parties; so the exchange of knowledge among parties becomes easier and more effective (Tang, 2008). Second, if interactions between individuals increase, the number of available communication channels will also increase, and trust will emerge easily between the entrepreneur and his network contacts (Liao and Welsch, 2003). With the emergence of high trust among parties, these parties will be more willing to join interactions based on cooperation. People with high relational capital also have a valuable resource, trust, to utilize for the resolution of cooperation and coordination problems. For this reason, high relational capital based on consideration, trust and cooperation can help an entrepreneur reach important sources of knowledge. Through coordination and cooperation, the information asymmetry is overcome and entrepreneurs' entrepreneurial alertness is supported (Tang, 2008). Therefore, the following hypothesis is proposed:
H_{2b}: Relational social capital is positively associated with entrepreneurial alertness.

2.03 THE MODERATING ROLE OF ENVIRONMENTAL MUNIFICENCE

The presence of favourable environmental conditions is expected to play a moderating role on the relationship of entrepreneurial alertness with aforementioned individual factors—human capital and social capital. Previous studies reported numerous potential causes for increased entrepreneurial activity. Cited influences have included fewer regulations, free markets and fewer barriers to entry, the availability of financial resources, the availability of education and consultancy services, positive social acceptance of entrepreneurship, low business start-up costs, the ease of starting and/or closing a business, and the protection of property rights (El-Namaki, 1988; Evans and Leighton, 1989; Pennings, 1982; Dana, 1987; Dana, 1990; Casson, 2003; Cuervo, 2005; Stenholm et al., 2011). Turkey has some characteristics that might be seen as obstacles to entrepreneurial activities. For instance, Turkey's economic freedom score is 64.9, making its economy the 64th freest in the 2014 Index of Economic Freedom (http://www.heritage.org/index/country/turkey). There are various indicators included in this index that range from investment freedom to labour freedom. Also, according to World Bank statistics, Turkey is ranked 69th in ease of doing business and 93rd in starting a business

(http://www.doingbusiness.org/rankings). This ranking is based on a comparison of 189 countries. Besides corruption, lack of sufficient infrastructure, and intellectual property protection problems, political and macroeconomic instabilities are the major obstacles to entrepreneurial activities in Turkey (Akın, 2010). On the other hand, there are also facilitators of entrepreneurship, such as supportive activities of KOSGEB (Small and Medium Enterprises Development Organization) and policies conducted to improve the investment environment.

Environmental munificence perception could be described as the perception of various economic, financial, socio-cultural and institutional factors that affect initiating and conducting entrepreneurial activities. In other words, if a person thinks that current government policies and socioeconomic conditions facilitate entrepreneurial activities, and that he/she can access financial and nonfinancial support, he/she has high environmental munificence perception (Gnyawali and. Fogel, 1994). The relationship of entrepreneurial alertness to individual factors is anticipated to be stronger when environmental munificence perception is high; people will be more likely to notice unique knowledge and process various types of knowledge effectively in positive circumstances. Such an environment raises an individual's awareness for idiosyncratic knowledge accumulated through life experiences and social relationships. It also facilitates the internalization and integration of new information into their current knowledge framework. On the other hand, entrepreneurs operating in negative circumstances may discount, ignore, or even reject new information that conflicts with their current knowledge framework, instead of using this information to pursue opportunities. A favourable environment balances ambiguity by providing entrepreneurs with channels that include clearer information. Financial support and a positive attitude from society regarding entrepreneurship may also urge entrepreneurs to use new knowledge by diversifying or distributing uncertainty and risk (Tang, 2008). Thus, the following hypotheses are proposed:

H_3: Environmental munificence perception will positively moderate the relationship between prior knowledge and entrepreneurial alertness; such that prior knowledge is more positively related to entrepreneurial alertness of entrepreneurs who perceive higher environmental munificence.

H_{4a}: Environmental munificence perception will positively moderate the relationship between structural social capital and entrepreneurial alertness; such that structural social capital is more positively related to entrepreneurial alertness of entrepreneurs who perceive higher environmental munificence.

H_{4b}: Environmental munificence perception will positively moderate the relationship between relational social capital and entrepreneurial alertness; such that relational capital is more positively related to entrepreneurial alertness of entrepreneurs who perceive higher environmental munificence.

Figure 1 summarizes the conceptual model.

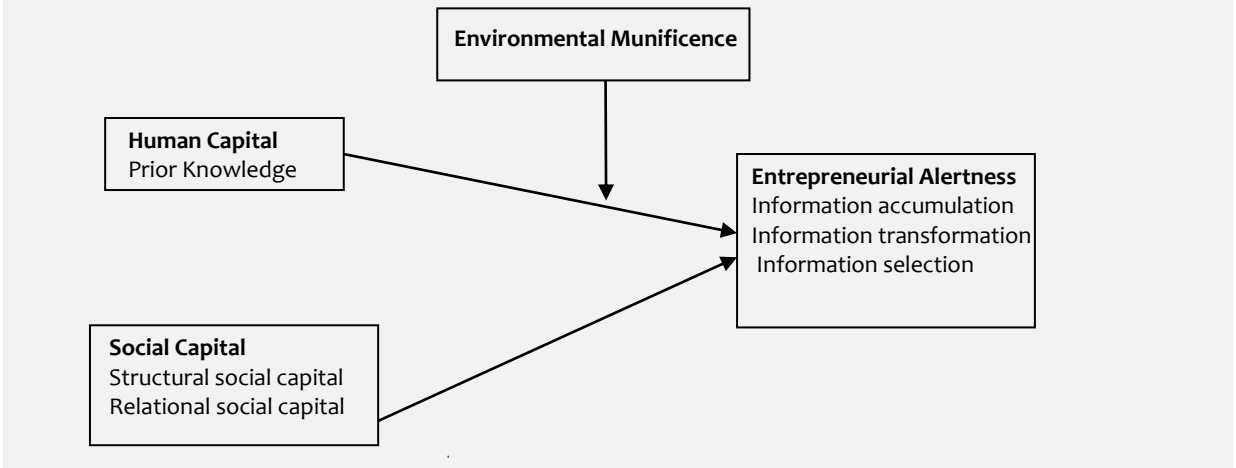


Figure 1: Antecedents of entrepreneurial alertness and the moderating effect of environmental munificence

3.0 DATA AND METHODOLOGY

The population of this study is composed of the owners of 1,488 private industrial businesses registered to the Gaziantep Chamber of Commerce. The province of Gaziantep has a strategic position in terms of trade in the southeast of Turkey and it has recently become one of the most industrialized cities in Turkey. In 1968, Gaziantep was nominated as a city having priority in development and in the 1970s one of the first Industrial Regions in Turkey was established in Gaziantep. Thanks to this, the economy of the city has evolved from agricultural to industrial (Alkin et al., 2007; Uyan, 2009). The industrial businesses in Gaziantep are among leading entrepreneurial firms in Turkey and they contribute a great extent to the growth of the Turkish economy. According to statistics published by the Turkish Patent Institute, in 2013 Gaziantep was ranked 10th in terms of the number of patent applications and 12th in terms of patent registrations in Turkey. Also, regarding industrial design applications, Gaziantep was ranked 2nd with 5,079 applications while Istanbul was ranked 1st with 17,703. For total number of designs registered, Gaziantep was 2nd with 5,133 registered designs after Istanbul (17,833) (http://www.tpe.gov.tr/TurkPatentEnstitusu/statistics/). These results might be attributed to some attempts of the Gaziantep Chamber of Industry to raise the innovative capacity of its members. For example, it started the Innovation Valley Gaziantep project in 2006 and various supportive services (e.g. press conferences, panels, foundation of Innovation Library of Gaziantep, etc.) were provided to businesses (http://inovasyonvadisi.com/default.asp). Thus, Gaziantep might be considered one of the most innovative cities in Turkey. In order to obtain a sample of entrepreneurs taking active roles in the administration of businesses in the city, a list of firms is obtained from the website of the Gaziantep Chamber of Commerce and a simple random sample of 305 firms is drawn from this population (Saunders et al., 2003). All owners in these firms were asked to participate in the survey; 254 agreed to participate, resulting in a return rate of 83%. Eight of the question forms are not incorporated into analysis due to a lack of required information. Therefore, a total of 246 completed question forms are included in the final analysis.

The dependent variable, entrepreneurial alertness, is measured with 15 items rated on a 5 point Likert scale, ranging from strongly disagree to strongly agree (Tang, 2008). In order to measure prior knowledge, a 6 item Likert scale (not at all/ a great amount) is used (Chung, 2004). Social capital including both structural and relational aspects is measured with 9 items (Tsai and Ghoshal, 1998; Liao and Welsch, 2005). Environmental munificence perception is measured with 6 items, four of which are taken from Liao and Welsch (2005) and the other two are developed by researchers. The items for social capital and environmental munificence perception are also rated on a 5 point Likert scale (strongly disagree/ strongly agree).

Education and business ownership experience are generally addressed in studies examining the beginning of the entrepreneurship process; so they are incorporated into analyses as control variables. The inclusion of these variables should reduce confounding effects due to entrepreneurs' differences in demographic characteristics (Reynolds, 2000). Although formal education was not found to have impact on entrepreneurial alertness (e.g. Tang et al., 2012; Tang, 2008), it was positively related to the likelihood of starting a new business (Arenius and Minniti, 2005) or identifying opportunities (Davidson ve Honig, 2003; Arenius and De Clerq, 2005). So, in this study education level is included and the respondents are asked to report their highest formal education degree ranging from primary school to postgraduate.

An individual who owned a business before the current one has business ownership experience. Although the relationship between business ownership experience and entrepreneurial alertness has not directly been addressed sufficiently, the results of some studies might be enlightening. Ucbasaran, Westhead and Wright examined the relationship between this experience and opportunity recognition in many studies. For instance, Westhead et al. (2009) and Westhead et al. (2005) reported that experienced entrepreneurs identified more opportunities, but entrepreneurs who had owned more than 4.5 businesses, however, identified fewer opportunities. Drawing from these findings,

respondents are asked to report whether they have ever found / buy/ inherit a firm on their own or with others except for this firm (yes/no).

Since the scales used in this study are all originated in another language and culture, it is necessary to conduct exploratory factor analysis to support the validity of the scales in the Turkish context. Exploratory factor analysis with varimax rotation is employed to assess the discriminant validity of the dependent and independent variables. They all load cleanly on separate factors and the resulting dimensions have acceptable cronbach alpha values ranging from 0.83 to 0.93.

Prior knowledge divides into two dimensions called 'market knowledge' and 'product/technology knowledge'. Market knowledge is used to describe an entrepreneur's knowledge regarding the market, industry and customer problems, while product/technology knowledge is used to describe knowledge about current products and technologies and new product/technology development methods. Social capital is observed to be composed of three dimensions; namely, 'breadth of network', 'perceived density of entrepreneurs in network' and 'relational capital'. Breadth of network represents the wideness of an entrepreneur's social network and his tendency towards expansion. Perceived density of entrepreneurs in network represents the perceived frequency of other entrepreneurs among family members, friends and relatives within an entrepreneur's network. Relational social capital refers to the depth of relationships built within an entrepreneur's network contacts. It also reflects his trust in these contacts and his confidence in getting support from these people when needed. Environmental munificence results in one-dimensional factor structures each. Entrepreneurial alertness results in three dimensions as expected; the dimensions are named using the original dimensions of the scale used: information accumulation, information transformation and information selection.

4.0 RESULTS AND DISCUSSIONS

Demographic data can be summarized as follows: There are 241 male and 5 female entrepreneurs in the sample. While 47.6 % of entrepreneurs have high school degree, 43.1% have bachelor's degree and only 1.6 % have postgraduate degree. 39% of entrepreneurs have prior business ownership experience. Entrepreneur's firms operate in different industries ranging from textile to construction, food and beverage to chemistry. Regarding time of operation, 15.9 % have been operating for less than 5 years; 23.6 % for 6-10 years; 15.9 % for 11-15 years; 16.7 % for 16-20 years and 22.4 % for 21 years or more. 17.5 % of firms have 1-9 employees, 56.9 % have 10-49 employees and only 4.1 % have more than 250 employees.

Table 1 presents the correlation matrix with the means and standard deviations of the variables in use. Hierarchical regression analysis is used to measure direct and moderating effects of independent variables on dependent variable. First, each dimension of entrepreneurial alertness is taken separately as the dependent variable and regressed against independent variables. Then total entrepreneurial alertness score is regarded as the dependent variable. In all equations, control variables are entered before independent variables to partial out their effects from the relationships of principal interest. To minimize correlations between independent variables and their interaction terms, the independent variables and moderators are mean-centered (Aiken and West, 1991) before the computation of interaction terms. After mean-centering, the variance inflation factor (VIF) estimates in the full model discounted the multicollinearity among them. Betas, incremental change in R^2 resulting from the addition of variables, and F-test based on the statistical significance of the change in R^2 are used as indicators for supporting or rejecting the hypotheses.

Table 1: Means, standard deviations and correlations

	Mean	S. D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Education	2.40	.64	1											
2. Business ownership experience	.39	.49	-.159*	1										
3. Market knowledge	3.82	.57	-.041	.096	1									
4. Product and technology knowledge	3.55	.82	.048	.028	.523**	1								
5. Relational capital	3.98	.58	.066	-.051	.263**	.244**	1							
6. Breadth of network	4.13	.58	.200**	-.128*	.351**	.307**	.569**	1						
7. Entrepreneurs in network	3.70	.90	.012	-.037	.373**	.372**	.444**	.429**	1					
8. Environmental munificence	3.57	.91	.193**	-.034	-.023	.047	.247**	.150*	.177**	1				
9. Information accumulation	4.00	.64	.270**	-.048	.220**	.297**	.429**	.374**	.248**	.266**	1			
10. Information transformation	3.78	.73	.145*	-.014*	.358**	.464**	.445**	.384**	.440**	.132*	.586**	1		
11. Information selection	3.92	.59	.138*	-.063	.245**	.219**	.323**	.294**	.250**	.226**	.498**	.488**	1	
12. Entrepreneurial alertness (total)	3.89	.55	.217**	-.045	.344**	.416**	.489**	.429**	.397**	.238**	.824**	.884**	.760**	1

N=246 *p< .05 **p<.01

Table 2, 3, 4 and 5 summarize the regression results.

Table 2: Hierarchical regression analysis results regarding information accumulation

Variables	Model 1 (β)	Model 2 (β)	Model 3 (β)	Model 4 (β)	Model 5 (β)
Education	.270***	.261***	.225***	.200**	.220***
Business ownership experience	-.006	-.031	.013	.009	-.009
Market knowledge		.130	.027	.047	.108
Product / technology knowledge		.175**	.133*	.132*	.091
Relational social capital			.354***	.319***	.315***
Breadth of social network			.103	.107	.043
Density of entrepreneurs in social network			-.006	-.019	-.032
Environmental munificence				.098*	.103*
Market knowledge x env. munificence					-.130
Product / tech. knowledge x env. munificence					.107
Relational capital x env. munificence					-.230**
Breadth of network x env. munificence					.021
Entrepreneurs in network x env. munificence					.037
R^2	.073	.163	.285	.303	.343
Adjusted R^2	.065	.149	.264	.279	.305
F	9.481***	11.640***	13.459***	12.740***	9.217***
ΔR^2	.073***	.090***	.122***	.017*	.040**

Durbin-Watson: 1.797 *p<.05 **p<.01 ***p<.001

Table 3: Hierarchical regression analysis results regarding information transformation

Variables	Model 1 (β)	Model 2 (β)	Model 3 (β)	Model 4 (β)	Model 5 (β)
Education	.166	.149*	.127*	.127*	.138*
Business ownership experience	.013	-.032	.019	.019	.025
Market knowledge		.225**	.087	.087	.100
Product / technology knowledge		.326***	.253***	.253**	.240**
Relational social capital			.321***	.321**	.350**
Breadth of social network			.038	.038	.047
Density of entrepreneurs in social network			.147**	.147**	.141**
Environmental munificence				-.001	-.020
Market knowledge x env. munificence					-.020
Product / tech. knowledge x env. munificence					.045
Relational capital x env. munificence					.018
Breadth of network x env. munificence					.058
Entrepreneurs in network x env. munificence					-.013
R^2	.021	.252	.376	.376	.380
Adjusted R^2	.013	.239	.358	.355	.345
F	2.588	20.121***	20.337***	17.719***	10.837***
ΔR^2	.021	.231***	.124***	.000	.004

Durbin-Watson: 2,021 *p<.05 **p<.01 ***p<.001

Table 4: Hierarchical regression analysis results regarding information selection

Variables	Model 1 (β)	Model 2 (β)	Model 3 (β)	Model 4 (β)	Model 5 (β)
Education	.121*	.120*	.098	.073	.077
Business ownership experience	-.053	-.082	-.050	-.053	-.068
Market knowledge		.209**	.130	.149	.157
Product / technology knowledge		.080	.044	.043	.044
Relational social capital			.211**	.177*	.154
Breadth of social network			.067	.071	.045
Density of entrepreneurs in social network			.035	.023	.014
Environmental munificence				.097*	.113*
Market knowledge x env. munificence					.017
Product / tech. knowledge x env. munificence					.007
Relational capital x env. munificence					-.121
Breadth of network x env. munificence					-.009
Entrepreneurs in network x env. munificence					.004
R^2	.021	.097	.162	.182	.194
Adjusted R^2	.013	.082	.137	.154	.148
F	2.584	6.409***	6.527***	6.542***	4.255***
ΔR^2	.021	.076***	.065***	.020*	.012

Durbin-Watson: 1.924 *p<.05 **p<.01 ***p<.001

Table 5: Hierarchical regression analysis results regarding entrepreneurial alertness (total)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5 (β)
Education	.184**	.174***	.148**	.133**	.144**
Business ownership experience	-.013	-.047	-.004	-.006	-.014
Market knowledge		.191**	.082	.094	.120
Product / technology knowledge		.204***	.152***	.151***	.134**
Relational social capital			.297***	.276***	.279***
Breadth of social network			.067	.069	.045

Density of entrepreneurs in social network			.065	.058	.049
Environmental munificence				.060	.059
Market knowledge x env.					-.042
Product / tech. knowledge x env.					.052
Relational capital x env.					-.101
Breadth of network x env.					.026
Entrepreneurs in network x env.					.005
R^2	.047	.241	.388	.396	.406
Adjusted R^2	.039	.228	.369	.376	.373
F	5.964**	18.992***	21.332***	19.282***	12.108***
ΔR^2	.047**	.194***	.146***	.009	.010

Durbin-Watson: 1.953 *p<.05 **p<.01 ***p<.001

The results of hierarchical regression analyses show that of the two control variables, only education had a significant contribution to the variance of information accumulation and total entrepreneurial alertness.

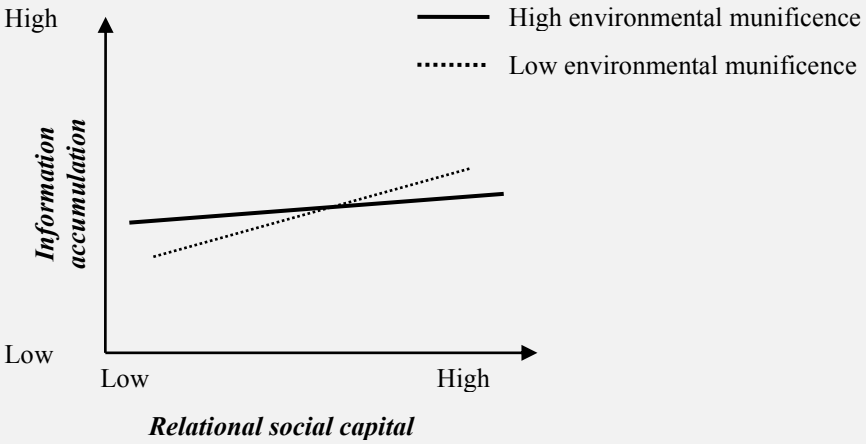
H_1 predicts that prior knowledge is positively related to entrepreneurial alertness. As expected, prior knowledge has differing positive impacts on dimensions of entrepreneurial alertness (see Model 2 in Table 2, 3, 4 and 5 for betas[4]- β(product / technology knowledge)=.18** for information accumulation; β(market knowledge)=.23**, and β(product/technology knowledge)=.33*** for information transformation; β(market knowledge) =.21** for information selection; β(market knowledge)=.19** and β(product/technology knowledge)=.20*** for total entrepreneurial alertness). Hierarchical F tests confirm that the predictive power is significantly stronger after prior knowledge was added (ΔR^2=.09*** for information accumulation; ΔR^2=.23*** for transformation; ΔR^2=.08*** for selection; ΔR^2=.19*** for total entrepreneurial alertness). Therefore H_1 is supported. The findings state that entrepreneurs' general market knowledge and specific product/technology knowledge contribute to alertness.

H_{2a} predicts positive relationship between structural capital and entrepreneurial alertness, while H_{2b} predicts positive relationship between relational capital and entrepreneurial alertness. As shown in Model 3 in Table 2, 3, 4 and 5, although the addition of social capital significantly contributes to explanatory power (ΔR^2=.12*** for accumulation; ΔR^2=.12*** for transformation; ΔR^2=.07*** for selection; ΔR^2=.15*** for total alertness), the coefficient of only one dimension- perceived density of entrepreneurs in network- is significant (β=.15** for information transformation). So H_{2a} is partially supported. This finding suggests that perceived density of entrepreneurs in social network leads the entrepreneur to associate different types of information in a creative way. On the other hand, all β coefficients of relational capital are significant (β=.35*** for accumulation; β=.32*** for transformation; β=.21** for selection; β=.30*** for total alertness). Therefore H_{2b} is fully supported. The findings indicate that relational capital is a strong antecedent of all dimensions of alertness.

Turning now to the moderation effects, as presented in Model 5 in Table 2, 3, 4 and 5, the addition of interaction terms contributes only to the variance of information accumulation (ΔR^2=.04**). Moreover, it is observed that the relation of accumulation to market knowledge and relational capital is influenced by environmental munificence perception. H_3 and H_{4a} predict positive moderating effect of environmental munificence, but the findings show that the beta coefficient of the interaction factors regarding market knowledge and structural capital are not statistically significant. Therefore H_3 and H_{4a} are rejected. Contrary to expectations, relational capital is found to be more positively associated with information accumulation when entrepreneurs perceived the environment more negatively (β=-.230, p<.05). Thus, H_{4b} is rejected. This impact is illustrated in Figure 2 below.

[4] * p<.05, **p<.01, ***p<.001

Figure 2: The interaction between relational social capital and environmental munificence on information accumulation



To summarize, one interaction factor is significant merely in information accumulation equation. Also, except for this equation, the models excluding interaction factors are more parsimonious. When the models having the highest explanatory power are considered; relational capital and product/technology knowledge appear to be the most important independent variables contributing to entrepreneurial alertness. Moreover, environmental munificence has weakening (or negative) moderating effect in terms of the impact of relational capital on information accumulation.

The first control variable of this study suggests that entrepreneurs' information accumulation behaviour and total degree of entrepreneurial alertness is positively related to their formal education level[5]. As reflected in the conceptualization, information accumulation is the most systematic and structured aspect of alertness for opportunities; so this finding is actually congruous with the widespread view that formal education makes individuals gain the ability to think and search for information systematically. Thus, education could still be regarded as an important antecedent of entrepreneurial alertness, independent from other related antecedents such as entrepreneurship-specific human capital. Historically, there has been a disagreement regarding the effect of education on entrepreneurial alertness and the number of identified opportunities. Although some previous studies reported no connection at all (Tang, 2009; Tang et al., 2012; Gonzalez and Husted, 2011), others maintained that education is positively related to the number of opportunities identified (e.g. Ucbasaran et al., 2008) and the likelihood that a person would identify new opportunities (e.g. Davidson ve Honig, 2003; Arenius and De Clerq, 2005; Arenius and Minniti, 2005; Rodriguez et al., 2010). In line with the latter group, this study highlights that in Turkey education can provide information complementary to previously unavailable information, and the integration of current and new information strengthens the ability to notice opportunities.

The second control variable—business ownership experience—is not found to be significantly related to entrepreneurial alertness. This finding seems to contradict with some previous results in the literature, which reported that entrepreneurs having ownership experience—experienced entrepreneurs—identified more opportunities (Ucbasaran et al., 2006; Westhead et al., 2009), more innovative opportunities (Ucbasaran et al., 2006) and more clearly defined opportunities with richer content (Baron and Ensley, 2006) than inexperienced entrepreneurs. Also, previous studies found that entrepreneurs reporting longer durations of prior business ownership experience were more likely to engage in innovative activities than their less experienced peers (Robson et al., 2012). Studies highlighting the impact of entrepreneurs' changed attitudes following previous business ownership, and the subsequent effect on initiating later entrepreneurial activities should be addressed as well

[5] See Table 3 Model 6 for β=0.220, p<.001, and Table 6 Model 4 for β=0.148, p<.01 respectively.

(Ucbasaran et al., 2010; Schutjens and Stam, 2006). In this study, the lack of data regarding the similarities between entrepreneurs' former business (if applicable) and their current business in terms of industry and/or market, or the performance (success or failure) of former business (if applicable) may have been influential on results. Including this data might contribute to understanding the association between prior ownership experience and entrepreneurial alertness, since prior entrepreneurship-related experiences can influence entrepreneurial intentions (Krueger, 1993). In general, the degree of similarity between an entrepreneur's prior experience (e.g. industry and task experience) and their current situation is anticipated to affect opportunity alertness. This similarity might lead to the discovery of opportunities by offering variations of a very similar idea or it might hinder the discovery of new ideas by causing them to see 'more of the same' (Rerup, 2005). Hence, rather than assuming that prior experience contributes to alertness for and discovery of new opportunities, a more detailed analysis will be needed.

Human capital variables, namely market knowledge and product/technology knowledge, appear to contribute positively to information accumulation, transformation, selection and total entrepreneurial alertness. However, when the other independent variables are incorporated, market knowledge lost its relative power while product/technology knowledge still has an important association with information transformation and total alertness[6]. Some results might be inferred from this finding with respect to 'connecting the dots' and creativity. Product/technology knowledge represents a specific knowledge about current products/technologies in a market and includes information on how to develop new products or technologies. This knowledge supports information transformation and connecting unrelated information creatively; entrepreneurs having this knowledge are good at processing all the information they have—both information accrued in the past and recently obtained information—to discover entrepreneurial opportunities. People who don't have this knowledge might accrue new information, but they would be unable to associate it with existing information. In Turkey, there is great need for highly qualified individuals with a profound knowledge of products, processes and technologies in a specific industry. Many organizations (e.g. KOSGEB) take part in training people for entrepreneurship, but the content of their education programs is quite preliminary and general. Due to the fact that the findings of this study indicate that product/technology knowledge is very important for creativity, technical education at vocational schools and on-the-job employee training in industrial businesses must be improved.

Despite the contributions of social capital to the explanation of entrepreneurial alertness, only one dimension of structural capital—perceived density of entrepreneurs in the social network—has a significant coefficient in information transformation. This is strongly consistent with the findings of a previous study (Rodriguez et al., 2010) reporting that individuals with an entrepreneur in their network are more likely to recognize business opportunities than others who aren't connected to an entrepreneur.

5.0 CONCLUSION AND POLICY IMPLICATIONS

In Turkey, entrepreneurs have to overcome financial, bureaucratic or social difficulties during the entrepreneurial process. Direct observations of both successes and failures can enlighten potential entrepreneurs and empower them to integrate pieces of information more creatively. Also, as a notable finding of this research, relational social capital appears to be the most important variable to explain entrepreneurial alertness, since all beta coefficients are statistically significant even after all independent variables were entered into equations. This illustrates the superiority of relational capital over structural capital in explaining alertness to opportunities in the relevant population. The national cultural characteristics of this population might provide some cues. First, Turkish national culture has long been described as being high in collectivism (Hofstede, 1980; Pasa et al., 2011) and social associations such as family, kinship and friendship have a crucial role in shaping social processes. Hence,

[6] See Table 3 Model 3 for β=.253, p<.001, and Table 5 Model 3 for β=.152, p<.001 respectively.

this finding is consistent with the national cultural values of Turkey. Second, characterized by political and economic instabilities and financial crisis, the rapidly changing socio-economic environment in Turkey makes relational capital much more important compared to developed countries. In such an unstable environment, potential entrepreneurs have to rely heavily on personal acquaintances for the information and support that is required to undertake entrepreneurial activities. Thus, Turkish entrepreneurs rely heavily on social networks to increase their awareness of potential opportunities.

Environmental munificence has negative moderating effect on the relationship between relational capital and information accumulation. If the environment is perceived positively, the positive impact of relational capital on the search for information decreases. In other words, relational capital becomes much more important for entrepreneurs to obtain new information in non-munificent environments. This finding highlights that entrepreneurs behave rationally in non-munificent environments and they attempt to benefit from their network connections by relying on these contacts to get new information.

By integrating human and social capital perspectives and environmental munificence perception, this study has improved our theoretical understanding of the initial stage of entrepreneurship—entrepreneurial alertness. The role of human capital variables on entrepreneurs' alertness is displayed clearly in hierarchical regression analysis results. Education, which is typically considered general human capital, is regarded as a control variable in analyses and, as indicated by its statistically significant impact, future models designed to explain alertness for opportunities should include education as a dependent variable and consider its contribution. Also, entrepreneurs' specific knowledge about current products/technologies and development methods proves to be an important stimulus for entrepreneurial alertness. Thus, studies investigating the antecedents of opportunity identification in high-technology industries should pay particular attention to the potential contribution of this variable. The overwhelming impact of relational capital on different aspects of entrepreneurial alertness argues that the qualitative aspects of social networks might be more important than structural aspects in some contexts, such as collectivist societies. This finding implies the need for further explanations regarding the effect of institutional, social and cultural catalysts on the establishment of relational capital among entrepreneurs and their network contacts. Also, the moderating effect of environmental munificence perception implies that perceptions about one's environment might indirectly influence entrepreneurs' information search behaviours. Entrepreneurs must have access to up-to-date and valid information to make connections between different types of information and select good opportunities. Thus, when considering the initiating role of information flow in alertness, environmental munificence perception should also be evaluated. All of these findings suggest that the dynamics and underlying processes of seeking information about potential opportunities might be slightly different than simply associating/connecting information and evaluating/selecting useful opportunities. In other words, distinct groups of variables might support different aspects of entrepreneurs' alertness for opportunities.

The results of this study are helpful for policy makers, potential and current entrepreneurs, education institutions and business managers who want to foster entrepreneurship. Based on the finding that social capital in general and relational social capital in particular contributes to Turkish entrepreneurs' alertness for opportunities, policy makers should become aware of the crucial role of social relationships when initiating entrepreneurial activities. Future or nascent entrepreneurs should be encouraged to recognize new opportunities through education programmes on building social networks, nurturing trust-based relationships within their networks and getting maximum benefits from networking. In this context, governments should aim to build a social infrastructure which enables mentoring and other business network relationships among future, nascent and experienced entrepreneurs. Especially in non-munificent circumstances, cooperation through networking will allow access to new and valuable information about potential opportunities. Entrepreneurs who desire to grow their business and embark on new entrepreneurial activities should also evaluate the quality of their relationships with network contacts and nurture these relationships constantly.
Academic and commercial educational institutions that wish to provide information about initiating and sustaining new ventures to potential or future entrepreneurs might benefit from the results of this

study when designing their education programmes. Therefore, to strengthen confidence in entrepreneurial activities and increase the discovery of new opportunities, more practically-oriented business administration and entrepreneurship programmes should be designed. Opportunity recognition should be included as a specific topic in these programmes and students should be trained to increase their awareness of potential opportunities. Additionally, internships should be conducted more effectively to lead potential entrepreneurs to access the facilities for recognizing, developing and exploiting business opportunities. Cooperation among universities, industrial organizations and associations should be considered as well. Academic programs should give students the opportunity to gain entrepreneurial abilities, meet and interact with experienced entrepreneurs. Successful entrepreneurs should be invited to lectures to share their idea generation processes and other entrepreneurial experiences.

Business managers who want to urge their workforce to be more entrepreneurial and innovative should aim to increase employees' knowledge of current markets, products and technologies because this knowledge contributes to entrepreneurial alertness by improving the ability to connect new information. Also, human resource specialists responsible for personnel recruitment should select candidates who have high product/technology knowledge and relational capital, especially for positions demanding innovative behaviour (e.g. new product development specialists).

6.0 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Despite several interesting findings that have arisen from this study, some limitations should be noted. First, due to the use of a quantitative research approach, this study might lack potential benefits that would be provided by the integration of both quantitative and qualitative approaches. Future studies should employ qualitative approaches alongside quantitative to measure some sophisticated variables, such as relational social capital, more profoundly.

Second, the number of female entrepreneurs in the sample is very limited, only five women were included. This situation prevents us from identifying potential differences between female and male entrepreneurs in the relationship between individual factors and entrepreneurial alertness. Since some previous studies reported significant differences between men and women [e.g., De Tienne and Chandler (2007) found that women and men utilize their unique stocks of human capital to identify opportunities], future studies should attempt to include more female entrepreneurs in the sample.

Third, because they have the potential to influence entrepreneurial alertness, some additional variables such as environmental dynamism, complexity and the intensity of market competition should be included in future studies. Fierce competition compels entrepreneurs to obtain new information, to take decisions quickly and to increase their entrepreneurial alertness to be innovative. Furthermore, aforementioned variables might have moderating effects on the relationship between individual factors and entrepreneurial alertness.

Fourth, the impact of industry is not taken into account. To increase the generalizability of the results, high and low-technology industries should be separated as they differ in competition tactics, creativity and innovation needs. The distinctive competitive characteristics of these industries might cause differences in the association between individual factors and entrepreneurial alertness. Finally, this study is cross-sectional in nature and is not suitable for inferring causal judgments. Longitudinal studies are needed to build causal relationships between variables.

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