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# Role of Environmental Factors on Establishment of Small and Medium Enterprises(SMEs): Case of Mazandaran Province of Iran

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Abstract: Wealth, job creation and also technological advancements are three important factors of attention to entrepreneurship and in some societies, it is believed that, an entrepreneurial revolution is compulsory. The goal of this research is to determine and explain the effects of five environmental variables on establishment of small and medium enterprises in Mazandaran Province of Iran. According to the definition that Global Entrepreneurship Monitor (GEM) offered, a population of 1511 entrepreneurs and a sample of 291 have selected. Data collection instrument was a questionnaire including some standard questions with reliability of 0.77. The results stated that, these five environmental variables were explained establishment of small and medium enterprises' processes and everyone were affected under the above process directly and indirectly. Based on the re- sults, the most direct effect was related to Governmental and Legal Incentives variables (0.68), Economic Circumstances (0.56), Value and Social Prestige of Entrepreneurs in Society (0.53), prior acquaintance with entrepreneurs (0.49) and Self-employment of families and friends (0.44), respectively. Finally, it is concluded that how the managers of the province should consider these environmental variables to have the most optimal results regarding SMEs.

**Key words:** Environment • Small and Medium Enterprises (SMEs) • Entrepreneurship

#### INTRODUCTION

Entrepreneurship is the identification and utilization of opportunistic ideas in order to create and develop small companies [1]. In other words, it is defined as a process in which an entrpreneur starts a small and new economic activity [2]. Also, it is the process of persuing the opportunities without paying attention to available resources [3]. In conclusion, entrepreneurship is the process of identification, creation and uti- lization of opportunities by means of converting the new ideas into commercial and profitable productions and services that are useful for the society [4].

Entrepreneurs have important roles in moving the economic wheels of the countries and also they are the origin of great industrial, production and servicing revolutions [5]. En- trepreneurs are the pioneers of commercial successes in the society and they play an

important role in leadership, management, job creation, competition, productivity, establishing new com- panies and also economic growth. Nowadays, these revolutions are much more important than industrial revolution. Some researchers believe that entrpreneurship is the symbol of attempt and success in commercial affairs [6]. Three reasons of paying attention to entrepreneurship are job and wealth creation and also development of state-of-the-art technologies. These will lead to productivity, job and also social welfare [7]. entrepreneurship is the production of contact of personal characteristics of entrepreneurs with an environment which they interact with [8].

Although so many researches regarding the establishment of entrepreneurial companies [9], the effective factors on success and failure of entrepreneurial process [10-14], in- heritancy of entrepreneurship [15], personal characteristics of entrepreneurs [16],

demographic and psychological factors that affecting entrepreneurship process [17] and etc have been done, but, the effect of environmental factors on enrepreneurship process needs further careful study. To do so, the present research will determine and identify the role of five important environmental factors of entrepreneurship and self-employment of relatives and the family, social value and social prestige of entrepreneurs in society, governmental and legal incentives, prior acquaintance with entrepreneurs and the effective economic situations on establishing small and medium size companies in Mazandaran province of Iran.

Literature Survey and Hypotheses: Studies regarding the establishment of entrepreneurial companies and their performances on different businesses such as advanced technologies, production and also small businesses [18, 9, 19] showed that the environment has an important effect on companies' performances [20, 21]. So many researches have done regarding the effective factors on success and failure of entrepreneur-ship process [10-14]. All these factors are categorized into three groups of entrepreneurs' personal char- acteristics, entrepreneurial companies' characteristics and also the external environment. Ex- ternal environment is the base for two other factors [22]. Lerners and Haber di- vided the effective factors on the success of entrepreneurial companies into four groups of entrepreneurs' personal characteristics, governments' financial and consulting supports, envi- ronmental attraction of the companies' location and diversity of the offered services [23]. Wagner and Sternberg categorized the effective factors on entrepreneurship process and the establishment of entrepreneurial companies into three categories of macro, micro and personal characteristics of entrepreneurs. They also concluded that these factors and their sub-categories have different effects on entrepreneurship process at regional, na- tional and international level [16]. External environment includes different factors such as domestic and national policies [10], quality of public man- agement [24, 25], personal and public security, militarism, family, society, culture [26, 27], market, technology, physical environment, global and economics, industrial relations' system [11, 22, 28], government, political factors, legal factors, family, competition, culture, economic factors, techno- logical growth centers [29-36] and etc. Guidelines, atti-tudes, quality of general management and public services that offered to entrepreneurs were always the most important challenges of entrepreneurial activities [37, 38, 24, 25, 39,

40]. Koop et al showed that commercial environment is an important factor in entrepreneurship's success [39]. Buame and also Kallon showed that general attitudes and social values can be incentives to the entrepreneurial activities. Commercial, Banking and companies laws and also business ethics in different jobs such as cab drivers, managers, police officers, army personnel, teachers, etc, all related to environmental factors entrepreneurship [10, 38]. Trust and confidence among entrepreneurs is an important factor in establishing entrepreneurial compa- nies [41, 42]. Environmental factors on success and failure of entrepreneurship process can be categorized into four subgroups of macro economic factors [with variables including growth of Gross Domestic Product (+), income distribution (+), competi- tion (+) and legitimacy (+)], quality of public management factor [with variables including legal framework (+), proper and fair management (+), systematic corruption (-), giving service to society (+), political representative (+/-), criticism and openness(+/-) and global and regional integration (+/-)], social and cultural values and attitudes' factor [with variables including mo-tivation of seeking for benefits (+), risk taking (+), individualism (+), social wealth (+/-) and capitalism (+)] and infrastructures' factor [with variables including physical (+), interpersonal (+) and institutional (+)]. Based on time and location limitations, each of these variables have positive (+), negative (-) and simultaneous (+/-) effects on success and failure of entrepreneur-ship process [22]. Malek determined five environmental factors of communication's infrastructure, investment and growth centers, technological development, sufficient number of skilled human resources and government regulations which affect independent entrepreneurship process. Moghimi emphasized on a number of environmental variables and indicated that an improper system of compensation in the society is an important barrier for entrepreneurship process [30]. Jamshidi showed that the environmental factors with 13 sub-categories have an effect on entrepreneurship process [29]. Global Entrepreneurship Monitor (GEM) stated 16 environmental factors of financing, government policies, government plans, instruction and education, research development transfer, commercial and servicing infrastructure, market's open space, physical infrastructure, social and cultural norms, opportunities of starting business, knowledge and capabilities of starting business, entrepreneur's social image, idea's ownership rights, support of women for starting business, attention to high growth busi- nesses and interest to innovation as

which effective national situations entrepreneurial activities [43]. There is a positive correlation exists between country's eco-nomic growth and levels of entrepreneurial activities; and also, policies and entrepreneurship's capacity reinforcement have the greatest effect on levels of entrepreneurial activities [7]. Zahra believed that each environment will foster a combination of different activities related to innovation, establishment and reconstruction of the company [44]. In today's world with rapid technological advancements and also great competitions, the abil- ity of companies to manage environmental changes and their timely reactions to these changes are one the most important factors of companies' success [45]. Based on the above literature, the present research will investigate and examine the following hypotheses:

**Hypotheses:** Five environmental factors of 1-entrepreneurship and self-employment of relatives and the family, 2-social value and social prestige of entrepreneurs in society, 3-governmental and legal incentives, 4-prior acquaintance with entrepreneurs and 5-the effective economic situations have significant effects on establishing small and medium size companies in Mazandaran province of Iran.

### MATERIALS AND METHODS

**Sample:** Statistical population consists of 1511 people who starts at least one company in Mazan- daran province of Iran in which they can be called personal and independent entrepreneurs [43]. Sampling methods consist of simple and categorized random sampling and 291 people were selected as the sample of the study. 94 percent of the sample are men in which 72 percent are under the age of 40, 81 percent have more than 15 years of experience and 69 percent have education less than undergraduate level.

**Data and Measuring Criteria:** The required data were measured using a standard questionnaire which consists of 13 questions with 1-5 interval based on Likert criteria [22]. Furthermore, factor analysis with KMO=0.79 and 75 percent have used in order to decrease the variance determination into five factors. The designed questionnaire was given to the sample group in the first session of meeting and also they become acquainted of how to fill out the forms. The given questionnaire was collected in second, third or fourth session of meeting with the sample group.

Validity: In order to validate the research criteria, component extractions trend of measured vari- ables of literature survey and then, localization have been done using experts' opinions and a preliminary sample [46-48]. Therefore, the evaluation of the two characteristics of content validity of measuring criteria was based on qualitative judgement. In other words, the present questionnaire has content validity, because, the components of the measured variables were taken from literature survey and the structure of the questionnaire was understood by the sample. To do so, the designed questionnaire was given to 11 professors and experts as a pretest and then, after correcting and balancing some contents, it is offered to 31 people in the preliminary sample in order to make final corrections and get assurance of the relevancy of the contents to the subject that it is going to be investi- gated. At last, the final questionnaire was designed and applied for collecting data. In addition, the GFI=0.96 criterion that is one of the criteria for measuring reliability was calculated as more than 0.90.

Reliability: One of the various methods of determining the reliability is to measure the internal consistency [49] using Alpha-Cronbach coefficient [50, 51]. The mentioned method is used in different researches [52]. Although the minimum accepted amount for this coefficient is 0.7, but the amounts of 0.6 and also 0.55 are acceptable, too [53, 54]. The reliability of the present research was measured as 0.77. Furthermore, the Friedman test showed that the respondents replied to questions correctly and also, they understood the difference among questions.

#### **RESULTS**

Structural Equations Model of the Effective Environmental Fac- Tors on the Process of Establishing Small and Medium Size Com- Panies: In this section, the structural equations model of the five variables which determine the process of establishing small and medium size companies will be offered using LISREL software. It should be mentioned that, in order to fit the structural equations model, NFI, GFI and RMSEA are the most famous fitting criteria among all other measuring tools [55] and they can determine the fitness of the structural equations model adequately. RM SEA  $\leq$  0.10 showed that this model has an acceptable fitness with the real world data [56]. In the present research, RMSEA, GFI, AGFI, NFI and NNFI were estimated as 0.03, 0.96, 0.88, 0.94 and 0.83, respectively. Thus, the research model has an adequate

Table 1: Direct Variables and Coefficients of Structural Equations Model

							Acceptance/Rejection of the Relations		
Unobserved	Observed			Standard	Non-Standard	Acceptance/Rejection of			
Variable	Variables	Abbreviation	T-Value	Coefficients	Coefficients	the Whole Model	Direct	Indirect	Degree of Effectiveness
E= Process of	Self-employment of	E,	6.36	0.44	0.89	RMSEA=0.03	Acceptance	Acceptance	Fifth
Establishment of families and friends						GFI = 0.96			
Small and	Value and Social Prestige	$E_2$	7.92	0.53	1.01	AGFI=0.88	Acceptance	Acceptance	Third
Medium Size	of Entrepreneurs in Society					NFI=0.94			
Companies	Governmental and	$E_3$	10.08	0.68	1.58	NNFI=0.83	Acceptance	Acceptance	First
	Legal Incentives variables					The Whole Model is Acceptable			
	Prior acquaintance with	$E_4$	7.16	0.49	0.71		Acceptance	Acceptance	Fourth
	entrepreneurs								
	Economic Situations	$E_s$	8.32	0.56	1.07		Acceptance	Acceptance	Second

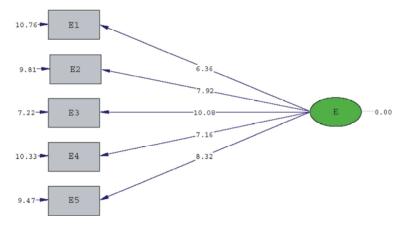


Fig. 1: Structural equations model of the relationship among five observed variables and unobserved variable of the process of establishing small and medium size companies (T-Value)

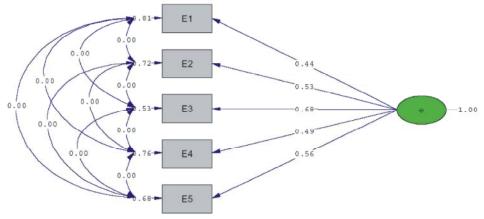


Fig. 2: Structural equations model of the relationship among five observed variables and unobserved variable of the process of establishing small and medium size companies (Standard Coefficients)

level of fitness, because, RMSEA is less than 10 percent and GFI and NFI are greater than 90 percent. Furthermore, the five observed variables can determine 88 percent of the main unobserved variable of the process of establishing small and medium size companies, directly and indirectly.

The relationship among six observed organizational variables and unobserved variable of the process of establishing small and medium size companies are shown in Figures 1, 2 and 3. In structural equations, variables have direct and indirect determining relationships. As it is shown in t-value diagram, in both direct and indirect

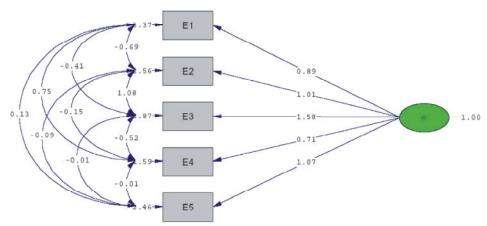


Fig. 3: Structural equations model of the relationship among five observed variables and unob- served variable of the process of establishing small and medium size companies (Estimated (Non- Standard) Coefficients)

section, all relations were acceptable, because, none of them were marked red. In two other diagrams, direct and indirect standard and estimated (non-standard) regression coefficients of structural equations model were offered and further explanations about observed and unobserved variables, direct standard and non- standard coefficients and t-value of structural equations were given in Table 1.

As it is seen in Table 1 and also Figures 1, 2 and 3, all direct and indirect relations among observed variables of the process of establishing small and medium size companies in Mazandaran province of Iran were acceptable, because, based on LISREL software outputs, none of their t-value coefficients were marked red. Therefore, all direct and indirect relations of structural equations should add to the equations. The general structural equations model of the interactive relations among variables (direct and indirect effects) is as follows:

According to Figures 1, 2 and 3 and based on standard coefficients (Direct relations), structural equations model which determines the role of environmental factors on the process of establishing small and medium size companies is defined as:

$$E = (0.44E_1 + 0.53E_2 + 0.68E_3 + 0.49E_4 + 0.56E_5)$$
 (2)

Furthermore, based on non-standard coefficients (Indirect relations), structural equations model which determines the role of environmental factors on the process of establishing small and medium size companies is defined as:

$$E = (0.89E_1 + 1.01E_2 + 1.58E_3 + 0.71E_4 + 1.07E_5)$$
 (3)  
(Direct Effect of the five variables)

$$E_1 = (-0.69E_1 \times 1.01E_2) + (-0.41E_1 \times 1.58E_3) + (0.75E_1 \times 0.71E_4) + (0.13E_1 \times 1.07E_5)$$
 (4) (Indirect effects of entrepreneurship and self-employment of relatives and the family)

$$E_2 = (-0.69E_2 \times 0.89E_1) + (1.08E_2 \times 1.58E_3) + (-0.15E_2 \times 0.71E_4) + (-0.09E_2 \times 1.07E_5)$$
 (5) (Indirect effects of social value and social prestige of entrepreneurs in society)

$$E_3 = (-0.41E_3 \times 0.89E_1) + (1.08E_3 \times 1.01E_2) + (-0.52E_3 \times 0.71E_4) + (-0.01E_3 \times 1.07E_5)$$
(6)

(Indirect effects of governmental and legal incentives)

$$E_4 = (0.75E_4 \times 0.89E_1) + (-0.15E_4 \times 1.01E_2) + (-0.52E_4 \times 1.58E_3) + (-0.01E_4 \times 1.07E_5)$$
(7)

(Indirect effects of prior acquaintance with entrepreneurs)

$$E_5 = (0.13E_5 \times 0.89E_1) + (-0.09E_5 \times 1.01E_2) + (-0.01E_5 \times 1.58E_3) + (-0.01E_5 \times 0.71E_5)$$
(8)

(Indirect effects of the economic situations)

**Hypotheses Test:** Based on the directional nature of the research hypotheses, the minimum acceptable observed ratio of the Binomial tests for  $H_0$  hypotheses is 0.70. In spite of these, ratios of 0.60 and 0.55 are also acceptable [53, 54]. Thus, in the following tables, observed probabilities of more than 0.70 means that

Table 2: Binomial Test Results of the five variables

	Level of	Test	Observed			Statistical	Research
Test Results	Significance	Probability	Probability	Frequency	Set	Hypotheses	Hypothesis
Acceptance of Hypothesis 1	0.000	0.70	0.46	135	2 ≤	H0= Hypothesis of	entrepreneurship and self-
			0.54	156	2 <	ineffectiveness and	employment of relatives
						H <sub>1</sub> = Hypothesis of	and the family
Acceptance of Hypothesis 1	0.000	0.70	0.30	99	2 ≤	effectiveness on the process	social value andsocial prestige
			0.70	192	2 <	of establishing small and	of entrepreneurs in society
Acceptance of Hypothesis 1	0.000	0.70	0.47	138	$2 \le$	medium size companies in	governmental and legal incentives
			0.53	153	2 <	Mazandaran province of Iran	ı
Acceptance of Hypothesis 1	0.000	0.70	0.30	96	2 ≤		prior acquaintance with entrepreneurs
			0.70	195	2 <		
Acceptance of Hypothesis 1	0.000	0.70	0.11	33	2 ≤		economic situations
			0.89	258	2 <		

Table 3: Correlation (level of 0.01), Statistics and reliability of the five variables

	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$	Average	Standard Deviation	Alpha if the variable is deleted
$X_1$ = entrepreneurship and	1	-	-	-	-	2.13	0.68	0.74
self-employment of								
relatives and the family								
Level of Significance	0.000	-	-	-	-			
X <sub>2</sub> = social value and	0.11	1	-	-	-	2.295	0.63	0.75
social prestige of								
entrepreneurs in society								
Level of Significance	0.051	0.000	-	-	-			
X <sub>3</sub> =Legal and	0.26	0.43	1	-	-	2.32	1.16	0.74
governmental incentives								
Level of Significance	0.000	0.000	0.000	-	-			
X <sub>4=</sub> prior acquaintance	0.39	0.22	0.28	1	-	2.33	0.48	0.75
with entrepreneurs								
Level of Significance	0.000	0.000	0.000	0.000	-			
X <sub>5</sub> =Economic Situations	0.26	0.28	0.38	0.27	1	3.39	0.95	0.76
Level of Significance	0.000	0.000	0.000	0.000	0.000			

the  $H_0$  hypothesis is acceptable. If the observed probability was less than 0.70 and the level of significance was greater than 0.05, then the  $H_0$  hypothesis is acceptable.

It is observed that all five variables of entrepreneurship and self-employment of relatives and the family, social value and social prestige of entrepreneurs in society, governmental and legal incentives, prior acquaintance with entrepreneurs and the economic situations have signif- icant effects on the process of independent entrepreneurship. Furthermore, Based on Friedman test, importance rates of the five variables were estimated as 2.40, 2.79, 2.75, 2.65 and 4.41, respectively. The results are shown in Table 2.

**Correlation, Statistics and Reliability:** The results of correlation and also reliability tests are shown in Table 3.

# DISCUSSION, CONCLUSION AND FURTHER SUGGESTIONS

Although, the variables and models are similar, limitations in time and location in the ma- jority of humanities and social science researches, especially in the field of management and entrepreneurship, lead the results to be extremely different from each other. Therefore, based on time and location situations, essential localizations should be done to be sure that the results are correct and precise. As it is mentioned in the literature, environment has an important role in establishment and

performance of companies [20, 21] and it is a base for other effective dimensions of entrepreneurship process [22]. Environment includes different variables such as government's financial and consulting sup- ports and environmental attraction of the companies' location [23] and macro economic factors and its sub-categories [16], national and lo- cal policies [10], quality of public management [24, 25], public and personal security, militarism, family, society, culture [26, 27], market, technology, physical environment, global and regional economics, industrial relations system [11, 17, 28], government, political and legal factors, family, competition, culture, economic factors, technology growth centers [29-36], guidelines, attitudes, quality of public management and govern-ment services [37, 38, 24, 25, 39, 40], commercial environment [40], general attitudes and social values [10, 38], commercial laws, business ethics, Trust and confidence among en-trepreneurs [41, 42], macro economic factors, quality of public management, social and cultural values and attitudes, interpersonal infrastructures [22], infrastructure, growth and investment centers, technological advancements, suffi- cient number of skilled human resources and government regulations, available incentive system of the society [30], financing, government policies and plans, instruction and edu- cation, research and development transfer, commercial and servicing infrastructures, market's open space, physical infrastructures, social and starting cultural norms, business opportunities, knowledge and business starting capabilities, social image of the entrepreneur, idea's ownership rights, support of women for starting business, attention to high growth businesses and inter- est to innovation [43], government policies [7]. The present research's results also admitted that the environmental factors have significant effects on the process of establishing small and medium size companies.

The objective of the present research is to determine and identify the role of effective envi- ronmental factors on the process of entrepreneurship in small and medium size companies in Mazandaran province of Iran. Findings of this research can be generalized for other provinces of Iran. Based on the performed tests, each five variables of the research have acceptable and sig- nificant effects on the process of small and medium size companies and in total, can explain and define 88 percent of these changes. Based on the results, the most direct effect was related to Governmental and Legal Incentives variables, Economic Circumstances, Value and Social Pres-tige of

Entrepreneurs in Society, prior acquaintance with entrepreneurs and Self-employment of families and friends, respectively. Furthermore, It can be concluded that, in order to develop the process of independent entrepreneurship in small and medium size companies, five environ- mental variables can be applied in the real world. To do so, the first priority should be given to governmental and legal incentives variables and other variables will be ranked respectively and based on the level of importance. As it is mentioned previously, three reasons of attention to entrepreneurship are wealth and creation and also technology development. iob Changes in today's world put entrepreneurs in the front line of technological and economic developments. Successful experiences of the majority of developed and countries developing in considering entrepreneurship development and innovative activities in economic crises management, lead managers to understand the importance of entrepreneurship and entrepreneurs. Based on the importance entrepreneurship and also the brilliant background of entrepreneurs in several countries and according to Mazandaran province of Iran's economic problems in both public and private sectors, promotion and publication of entrepreneurship concept is vital. Managers of the province can utilize and apply the results of this research regarding the effective environ- mental factors on the process of small and medium size companies to develop entrepreneurship and also create new jobs.

According to the points which mentioned in the article, the following suggestions were given for further research:

- Identification and determination of the effective biographical, psychologi- cal, group and organizational characteristics on the process of independent entrepreneurship,
- Performing the conceptual model of the present research in a different time and location and comparing its results with the present obtained results.

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