

The Extent of the Importance of Personality Indicators of Independent Entrepreneur through using Group Analytical Hierarchy Process

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Abstract

This research begins with this question! What attributes do independent entrepreneurs have?. And, how to recognize them? Their attributes are to some extent the roots of behaviors. In this research, in regards to the variety of behavioral attributes in entrepreneurs and the scholars' research in this area and all the clear – sighted view such as risk taking propensity, innovation, independence, Thinking positivity and etc, and experts' ideas, six indicators through attributes have been selected. Through using the method of group analytical hierarchy process, prioritizing these attributes has been done in order to have a proper model to recognize entrepreneurs and turning other people into entrepreneurs. So, first, the extent of importance of nine independent successful entrepreneurs' ideas that have been selected as experts in measured. Then, through using even comparison and GAHP, the selected indicators have been priorities and the goal of research which is to recognize and prioritize the personality indicators of independent entrepreneurs has been achieved to recognize these people in the society and model their behavioral attributes in other people the comparison in this research is proportional with similar research in other countries. In all research, the indicators of innovation and risk taking propensity are the most important attributes of independent entrepreneurs and would have the first grades.

Keywords: entrepreneurs' personalities, analytical hierarchy, group analytical hierarchy.

Introduction

According to peter F. Drucker, an entrepreneur always looks for variety and innovation and utilizes them as a chance. Innovation is a tool in the hands of a entrepreneur in which the entrepreneurs use it as an evolution and variety in improving a new business and a difference in providing services. An entrepreneur is a risky person that turns the environmental threats into chance and with creative causes advance in organization.

The entrepreneurs are the main motivator force in developing the economy and through them, finding an idea effectively turns into an economical chance. So, the most important issue is to recognize these people in society (Ghazanfary et al, 2007). Entrepreneurship causes people and country full fill mend. Before a person begins a business, he should be familiar with mental attributes and personality of Entrepreneurship in order to have a successful organization. On the basis of the achieved results of monitor international institute research, the difference in the rate of economical growth in developed countries, as a result of difference in the level of their Entrepreneurship has been expressed. These results have shown that entrepreneurs in developed countries have play a key role in developing economically and socially. (Saeedi Kia, 2011). On the basis of entrepreneurs' role in economical and social growth of developed countries, finding entrepreneurs and analyzing

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the process of Entrepreneurship in according with cultural, social and economical term of country and criticizing the factors of success and failure would help a lot in full filling Entrepreneurship successfully, creating new job chances and exiting economical situation of single product in Iran. On the basis of the above cases, the necessity of finding entrepreneurs for advancement of developing countries such as Iran, it is obvious that this recent research is to specialize and prioritize the personality indicators of these people and to achieve this, it has utilized the group analytical hierarchy process.

Review of the literature

A lot of research about entrepreneurship personality attributes has been done in different countries. McClelland studies, professor of psychology in Harvard would acknowledge successfulness in most of the entrepreneurs in 1961.

Hensmark research in 2003 also shows that entrepreneurs often have special psychological attributes such as Intend independence the need to advancement and inside locus of control.

Herbert & Link surveyed 12 attributes of entrepreneurs that until 1982 were attributed to entrepreneurs in economical stability. Hasanali Aghajani and Ziba Ganjeh Khor (2010) have done a research to establish the role of entrepreneurs' psychological attributes on to the independent entrepreneurship process of Mazandaran.

In Hamid Shahband Zadeh's research (2010), personal indicators of independent entrepreneurs in according to Jennings' research have been selected and through using decision – making methods, several factors have been surveyed and a similar result to that research has been achieved.

As far as the role of entrepreneurs in economical development of countries is undeniable, but the existing results show that the educational programs in Iran have not been established in order to raise entrepreneur ship personal attributes of students (Safaei, 2009). Limited studies have been done about successful factors of entrepreneurs in Iran. In relation with personal attributes of organizational entrepreneurs, some research has been done in these years but the internal research about personal attributes of independent entrepreneurs has been a little.

Table 1 shows internal and external research about recognition and prioritizing independent entrepreneurs' attributes. The first countries which performed some activities about entrepreneur ship were Germany, Britain, America and Japan (Feiz, 2007).

In order to develop entrepreneur ship in Iran and reduce the rate of failure in businesses, purposeful and long time policies about eliminating the legal obstacles of entrepreneur ship and reducing the effect of external factors in entrepreneurs' failure should be done in addition to education and improvement of entrepreneur ship skills (Arasti,& Gholami, 2010).

Table 1: The most important research about independent entrepreneurs' attributes

Range	Researcher	Year	Research topic
1	David McClelland	1961	The survey of intend success personality
2	Herbert & link	1982	The survey of entrepreneurs' attributes until 1982
3	Karland et al	1984	The kinds of attributes and classification.
4	Gifford Pinchot	1985	The comparison of independent entrepreneurs with organizational ones.
5	Baden Fuller and Stopford	1994	The recognition of new indicators of entrepreneur' personality.
6	cox, Cooper &	1994	The comparison of independent

	Jennings		entrepreneurs with organizational ones.
7	Hensmark	2003	The survey of psychological attributes.
8	Brooks R.N(Vic)	2003	The survey of five main personal model: comparative comparison among male and female entrepreneur ship.
9	Thomas	2004	classification of attributes
10	Haward	2004	The survey of effect of developing the abilities of entrepreneur shipness.
11	Christian Korunka, Hermann Frank, Manfred Lueger, Josef Mugler	2006	The survey of entrepreneur shipness of personality about recourses, environment and the process of making a living.
12	Zoo, Lynn & Lee	2007	The survey of 10 important entrepreneur shipness factors called "providing customers' services: entrepreneur shipness in sight seeing and visits.
13	Papzen, Zarafshan, Tavakoli	2008	The successful factors of rural entrepreneur ship in Mahdasht, Kermanshah.
14	Altinay & et al	2012	The effect of family history and physical conditions on to the extent of entrepreneur ship.
15	Milad Safae	2009	Evaluation and comparison of entrepreneurship personal attributes of students of different colleges in Semnan.
16	Hasanali Aghajani & Seyyed Aliakbar Hosseinzadeh Otaghsara	2010	The model of determination of effects of personal attributes on to entrepreneurship in Mazandaran.
17	Hasanali Aghajani & Ziba GanjehKhor	2010	The establishment of the role of psychological attributes of entrepreneurs on to the independent entrepreneur hipness process in Mazandaran.
18	Hamid Shahbandarzadeh	2010	The survey of entrepreneurs' personal indicators.

Statement of the Problem

The performed studies have not been able to specialize personal indicators of entrepreneurs clearly so far and as far as have introduced a lot of factors, but not considered prioritization or besides consideration, a proper scientific method has not been utilized. Or in addition to utilizing a proper scientific method, these attributes have not been selected according to Iranian culture and society. A wrong assumption is that all who have passed entrepreneur hipness majors should research about this area. But, it has been proved in industrial countries that manager especially industrial managers are the best people for research in this way and increase the number of entrepreneurs in organization on the other side, a lot of complexity in psychological. Dimensions has caused that there aren't any introduced public attributes of carefulness, in fluency and enough value because they are mostly. Sings not cause and factor of entrepreneur hipness (Aghajani, Hosseinzadeh, 2010).

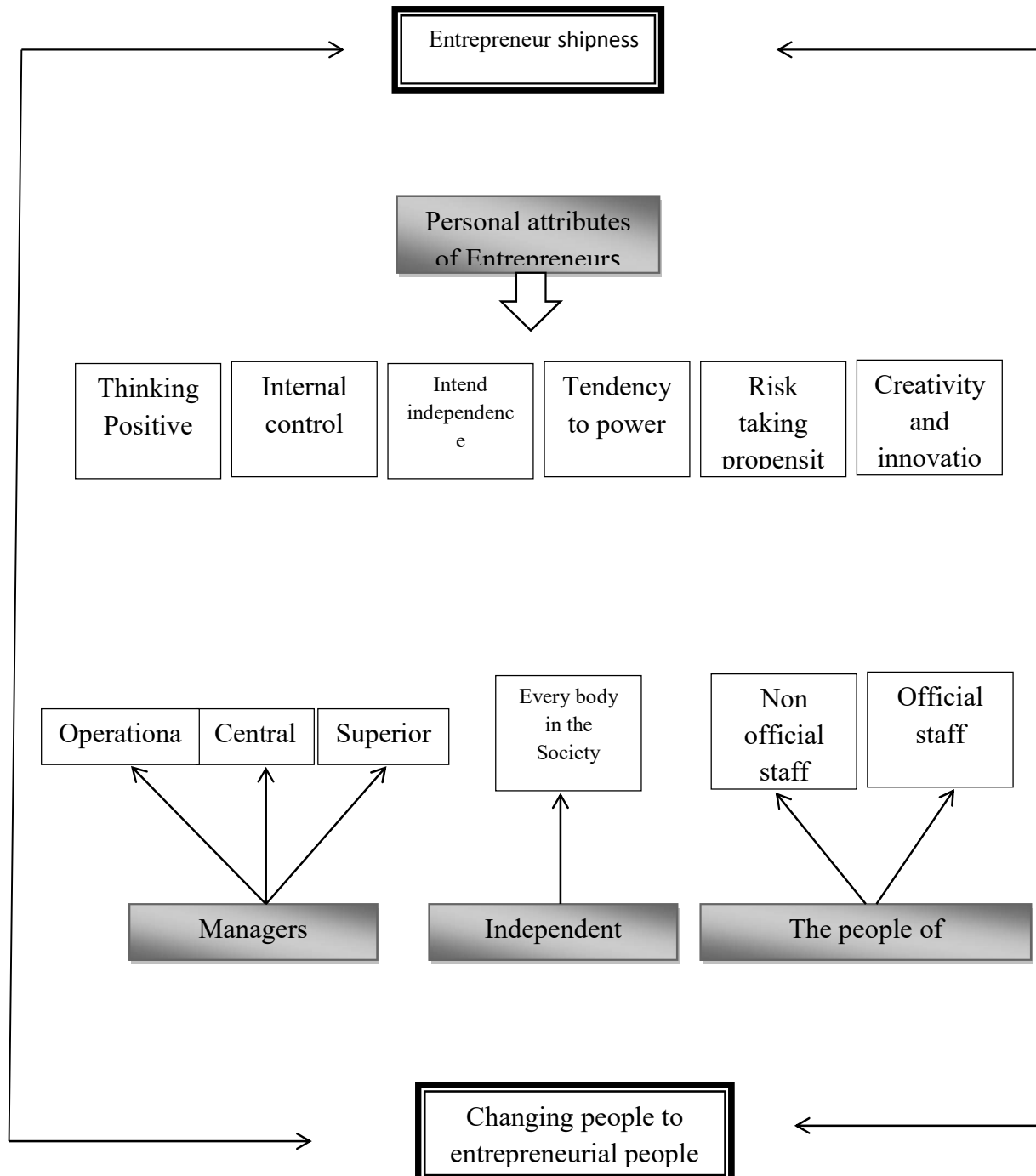
So, in this study, the researcher is to find this question that to some extent, personal indicators on the basis of Iran's society can have an effect on to entrepreneurs personalizing?

With responding to this question, there is a proper model to turn all people to entrepreneurs in education centers and managers of industries in educational centers and managers of industries and the effectiveness of education in entrepreneurship will be increased.

Conceptual model

As it is observed in chart 1, in this research, prioritizing the most important personal indicators of independent entrepreneurs in Iranian society such as creativity and innovation, risk taking propensity, tendency to the power, intend independence, inside control, thinking positive have been attributed.

Chart 1: speculative frame work of research



Methodology

The recent research is applicable on the basis of purpose because of being performable and on the basis of nature and method is descriptive – analytical. It is descriptive because in the method of descriptive research, the researcher describes real and exact attributes of a situation and tries to report everything without interference or mental induction in order to achieve exact results (Khalili & Daneshvari, 1999). And it is analytical because it has structural data.

Population and sample size: The surveyed statistical society in this research would include all entrepreneurs in Iran and this obtained sample has been ordered on the basis of a large society and nine experts have been selected on the basis of better documents to perform even comparisons. The selection of these people has been performed according to Harker research.

Gathering Data: The required information in the history of journals, books, scientific valuable sites, thesis about entrepreneurship, official and non- official statistics, organizational documents have been obtained. The other required information. Through interview and asking questions from sample experts have been achieved.

In order to ranging indicators, even comparisons table which has been provided by a clock has been utilized. The obtained results of analysis of even comparisons and analytical hierarchy tables provide research data.

Method of the research: In this research, multi factor decision – making methods (HAP, GAHP) have been utilized. Multi decision- making attributes to specific decision such as evaluation, prioritization and etc (Khaleghi, 2010). AHP would change them into a simple form through analyzing complex problems and solve them. This method has found a lot of applications in economical and social problems and has been utilized in management issues (Ghodsipoor, 2000). This method has been invented by Thomas Saati (Asgharpoor, 2004).

Group analytical hierarchy is a subgroup of scoring compensative group of multi factor decision making. GAHP is a method in which would have a lot of advantages in personal and group decision making such as unification, frequency of process, judgment and consensus of opinion, give and take, syntax, conformation, complexity, bilateral dependency of components, hierarchical structure and measuring the issues (Azar, Rajabzadeh, 2002).

In AHP process, after determining a proportional weight of any choice, a proportional weight of any indicators in relation to the related choice is determined through using the following formula, the single weight of any of the indicators is calculated.

Proportional weight of 1 choice $\times$ proportional weight of indicator relation to 1 choice + ... + proportional weight of n choice $\times$ proportional weight of indicator relation to 1 choice = Absolute weight of indicator

In GAHP process, after determining every expert through using AHP, an even comparison among indicators by any expert is done and then these comparisons are combined and single weight of any indicator is obtained and on its basis, prioritizing is done.

Empirical Results

To specify the importance of any experts' ideas in weighting process to indicators according to a valuable factor, AHP has been utilized. Measuring the importance in this stage is done by a researcher of course, the possibility of using methods such as thinking thunder and ... also existed to determine the weight of any of the expert, but because analytical hierarchy method has more value, this method has been utilized according to there total indicator correlate specialty, personal mastery and creative thinking, evaluation and importance measuring has been performed. Table 2 shows the summary of 4 matrices of AHP to determine the weight of any expert.

The related specialty is attributed to conformity and closeness of major to the required specialty.

Personal mastery is attributed to all people's skills such as mental and physical to do business. Creative thinking is attributed to expressed ideas before and during doing business. Table3 shows single weight and attributed grade to any of the experts.

Table 2: The summary of AHP matrices to determine weight of any expense				
row	Table title	Indicator's or choice's name	Relational weight	Disconformity rate
1	Survey of weight of main indicators	Related specialty	0.084	0.03
		Personal mastery	0.705	
		Creative thinking	0.211	
2	Survey of experts weight according to related specialty	A	0.262	0.03
		B	0.156	
		C	0.213	
		D	0.153	
		E	0.028	
		F	0.058	
		G	0.036	
		H	0.074	
		I	0.020	
3	Survey of experts' weight according to personal mastery	A	0.261	0.04
		B	0.168	
		C	0.118	
		D	0.096	
		E	0.049	
		F	0.056	
		G	0.042	
		H	0.172	
		I	0.039	
4	Survey of experts' weight according to creative thinking	A	0.316	0.03
		B	0.164	
		C	0.101	
		D	0.078	
		E	0.046	
		F	0.058	
		G	0.024	
		H	0.035	
		I	0.178	

Table 3: final scoring of any of the experts		
Grade	Coefficient (wj)	Names
1	0.271	A
2	0.166	B
3	0.139	H
4	0.123	C
5	0.098	D
6	0.062	I
7	0.057	F
8	0.046	E
9	0.038	G

Determining weight of any of personal indicators

Personal attributes are mental attributes of any person which are recognized behind formats and special names. In operational definition, personal attributes of an entrepreneur attributed to grades which were given by selected experts to personal attributes such as (creativity, inside control, risk-taking propensity and etc) (Mohammadi, 2010).

After determining the importance of people's ideas in order to providing priority of the most important personal indicators of independent entrepreneurs such as (creativity and innovation, thinking positive, inside control, intend independence, risk taking propensity and tendency to power), group analytical hierarchy process is utilized.

Holding thinking thunder meeting through web made experts more knowledgeable about the goal of the research and reduced much dispersion in ideas. Then, they were asked to express their ideas through even comparisons among different choices.

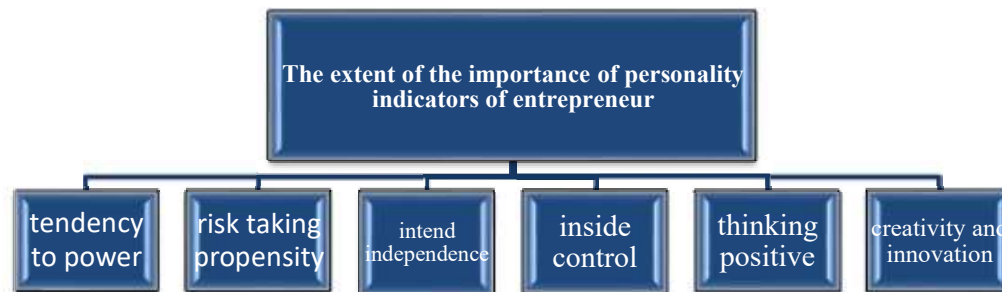


Chart 2: Proffering hierarchy process model for the extent of the importance of personality indicators of entrepreneur

In AHP, after building hierarchy, even comparisons are performed by any of nine experts about six personal indicators in relation to each other. Shown Examplimg from even comparisons are performed through one expert in Table 4 and chart 3.

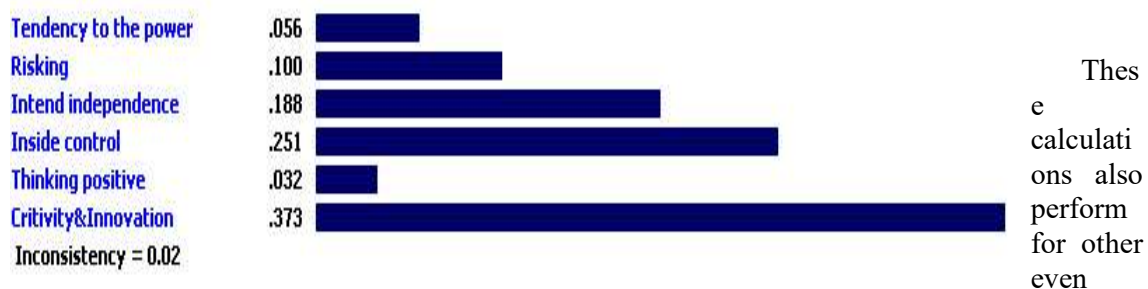
Table 4. even comparisons are performed by expert A.

Indicator Name	tendency to power	risk taking propensity	intend independence	inside control	thinking positive	Creativity and innovation
tendency to power	1	1/2	1/4	1/4	2	1/6
risk taking propensity	2	1	1/2	1/3	4	1/4
intend independence	4	2	1	1/2	7	1/2
inside control	4	3	2	1	6	1/2
thinking positive	1/2	1/4	1/7	1/6	1	1/9
Creativity and innovation	6	4	2	2	9	1

This expert believes that creativity is superior to other indicators. This table was shown to all selected experts to collect and analyze selected entrepreneurs' ideas. After experts compared different indicators together gave it to the researcher. Researcher calculates collected even comparisons of experts about superiority of different choices through following formula and any experts' idea coefficient: for e.g. about superiority of creativity indicator to tendency to expert's power (A) , number 6 has been attributed and the other eight experts know this superiority 7, 8, 4, 4, 5, 0, 6, 4 and 2.

Now, collective superiority of these two choices is calculated through the following formula.

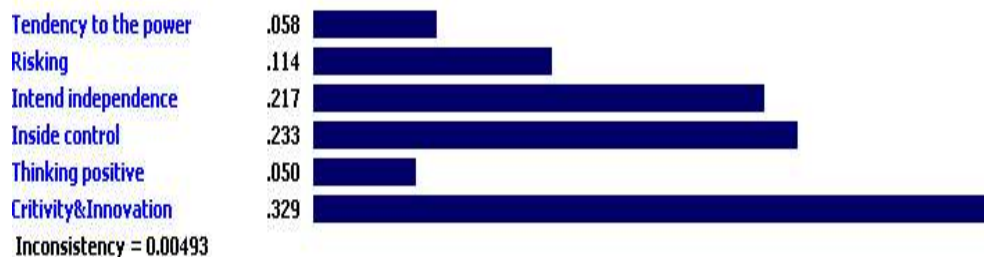
$$a'_{ij} = \left(\prod_{l=1}^k a_{ijl}^{w_l} \right)^{\frac{1}{\sum_{l=1}^k w_l}}$$

Chart 3: The result of even comparison of expert A (exit software EC)

comparisons in order to abstains even comparisons including nine experts (group comparisons). Showing result the calculations in Table 5 and chart 4.

Table 5. abstains even comparisons including nine experts

Indicator Name	tendency to power	risk taking propensity	intend independence	inside control	thinking positive	Creativity and innovation
tendency to power	1	0.4412	0.2482	0.2525	1.1792	0.2142
risk taking propensity	2.2665	1	0.4730	0.4506	2.6002	0.3138
intend independence	4.0290	2.1142	1	0.8878	4.6138	0.5630
inside control	3.9604	2.2193	1.1264	1	4.7456	0.6395
thinking positive	0.8480	0.3846	0.2167	0.2107	1	0.1828
Creativity and innovation	4.6685	3.1867	1.7762	1.5637	5.4705	1

**Chart 4: weight of indicators (exit software EC)****Determining priority of any of the personal indicators**

In analytical hierarchy process, the extent of conformity in decision can always be calculated and whether it is good or bad can be justified. The accepted limit of incompatibility in any systems depends on the decision. But, Saati generally suggests that if decision's incompatibility maker is more than 0.1, decision- maker should revive in his judges (Ghodsipoor, 1999). Incompatibility rate shows relational deviation of K is judges in relation to the group's judges. If this rate is less than 0.1 it is mentioned that people's judges are close to the group and incompatibility rate generally make person specify people whose ideas are distant from the group. In this analysis, the extent of incompatibility of decision making matrices was calculated and because their value was less than 0.1, the compatibility of system was approved.

After determining the weight of any indicators, choices are compared together through group analytical hierarchy process and EC software and their grade specified.

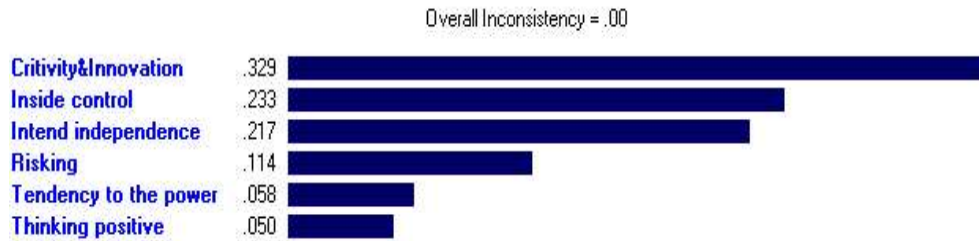


Chart 5: prioritizing indicators on the basis of weight (exit software EC)

Discussion and Conclusion

One of the most important strategies in developing entrepreneurs' hipness in different societies is personal attributes strategy. Personal attributes strategy formed to raise entrepreneurs to string then a series of entrepreneurial personal attributes in people. The most important attributes in recent research have also been accepted such as creativity and innovation, inside control, intend to independence, risking, tendency to power and positive thinking. People who have these attributes can be recognized by prioritizing these personal indicators. Also, a proper mode belongs to other people to be entrepreneurs and make advancement and economical development of their society.

although analytical hierarchy process is utilized broadly, through studying the topic of literature It was clear that using this method has not been performed in prioritizing independent entrepreneurs' personal indicators yet. The most innovation in building a decision making model is to determine the important factors for that decision.

To answer research question, nine successful entrepreneurs' ideas with different degrees has been utilized. In this research, first, every expert's weight was determined by analytical hierarchical process and three total indicators such as personal mastery, correlate specialty and creative thinking. Then through studying topic of the literature and studying entrepreneur's cultural and social conditions in Iran and obtaining experts' ideas, six issues of entrepreneurs' personal indicators selected and after performing group analytical hierarchy process and even comparisons by any experts, weights of any of six personal indicators were determined and then prioritized. The above products indicates this reality that creativity and innovation have the first grade, inside control, the second grade, intend to independence, the third grade, risking, the forth grade, tendency to power, the fifth grade and positive thinking the sixth grade all analysis has been performed by expert choice software. During performing any of these stages in this process, rate of incompatibility was surveyed and approved.

To receive entrepreneurial stand more and the rightness of this research, table 7 shows a confirmative study of the research with previous research. The most valuable research in previous years is Jennings research to prioritize entrepreneurs' personal indicators.

As table shows, three indicators- tendency to success, fear of failure and tendency to welfare which were components of important personal indicators in entrepreneurs, are considered less today and indicators- inside control and positive thinking have been attracted more. So, in this research, three indicators have been omitted and two indicators, inside control and positive thinking have been studied. Of course, the main reason of differences among inside and outside researches are because of the difference in education and social conditions and cultural differences.

Table 7. confirmative study of the research with previous research			
rang	Indicator Name	Ranking to research result	Ranking to research Jennings
1	tendency to power	5	7
2	risk taking propensity	4	3
3	intend independence	3	5
4	Creativity and innovation	1	2
5	inside control	2	—
6	thinking positive	6	—
7	Intend success	—	4
8	Fray from bankrupt	—	1
9	Intend welfare	—	6

As far as this research was really performed to determine entrepreneurs' personal indicators, C and I experts used the research results and weights and grades were on company's board and in the hands of managers of the company.

Creativity and innovation are the most important factor to create entrepreneurial personality, so, thunder- thinking meetings and creating an atmosphere to utilities peoples' inside talents and create creative ideas is very important.

According to this research and similar researches in other countries, entrepreneur's personal attributes in countries are different according to cultural, social and economical conditions and on the basis of the extent of private sector activity especially in the related country. So, to create entrepreneurial culture and entrepreneurial attributes in any countries, the performed research should be utilized in the same country and other countries' researches should not be generalized.

While some of entrepreneurial attributes in people are weak, education and counseling both can both eliminate weaknesses and get people ready to enter into an entrepreneurial world and should be performed according to people's attributes.

It is better that investors and governmental organizations invest in this research according to mentioned personal indicators and governmental organizations should have more resources to develop economically and hold seminars to know entrepreneurs and train other people. As far as universities can play a key role to develop entrepreneurship, establish and create a proper atmosphere to improve entrepreneurship.

So using different methods can be applied to the results of this research and other similar researches and help develop economically.

It is preferable that all investors in human force selection system utilize entrepreneur' factors.

Also, in this research, it is recommended to complete researches in this field on to subjects such as the following issues:

- All independent entrepreneur' personal indicators with a little importance should be classified and scored by phase logic to select more important indicators an atmosphere with less risk.

- The same as this research and through these personal attributes, phase logic should be utilized and the obtained results should be compared with the research results.
- Organizational entrepreneur' personal indicators should be recognized according to Iran's society and scored by different combinational, group analytical hierarchy and phase logic.
- In the future researches, entrepreneurs' conditions such as gender, age, number of children and etc should be studied.
- The comparison of inside researches findings with outside researches and survey of the reason of differences should be done in countries.

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