Investigating the Relationship between Employees' Entrepreneurial Personality and Degree of Innovation in Small and Medium Enterprises (SMEs),((Case Study: Employees of Small and Medium Industrial Companies of Semnan Province))

Zahra Esmaili¹, Younos Vakil Alroaia²*

¹ Department of Management, Semnan Branch, Islamic Azad University, Semnan, E-Mail: s.z.esmaily@gmail.com
² Assistant Prof., Department of Management, Semnan Branch, Islamic Azad University, Semnan, Iran, P.O.B: 35145-179

ABSTRACT

A look at economic and social systems of many developed and advanced countries of the world shows that creating and supporting small and medium enterprises is one of the basic priorities in countries' economic development plans. The aim of this study is to analyze the relationship between employees' entrepreneurial personality and innovation in small and medium enterprises. Due to the large size of the statistical sample, 384 were selected. The present study is descriptive in terms of its methodology and it is correlational in terms of research type. The results indicated a significant relationship between employees' entrepreneurial personality and degree of innovation in small and medium enterprises. These is because entrepreneurial personality factors (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) and human resources (as independent variables), (87/60) explain employees' degree of innovation in small and medium enterprises (SMEs) (as the dependent variable). The results of the test are generalizable to all the employees of small and medium enterprises with a 95% confidence level.

KEYWORD
entrepreneurial personality, innovation, small and medium enterprises (SMEs), Semnan Province

INTRODUCTION

Today, enormous challenges are facing mankind in various fields, all of which focus on the development of science, technology, innovation and entrepreneurship. In this regard, developed countries resorted to new approaches in the field of economy and national development over the past decade, which has been referred to as knowledge-based development and economy. Knowledge development and economy with the global view is the most appropriate and safest route facing the country in order to achieve comprehensive and sustainable development and to achieve the goals set out in Vision 1404 in the coming years and its formation in Iran needs creation, maturing and establishing dynamic interaction between the national systems of science, technology, innovation and entrepreneurship (Nemati, 2013; pp. 46-64).

On the other hand, in today's knowledge-based societies, the scope of the impact of entrepreneurship is very large, so that it includes change in social values to rapid economic growth and factors such as employment, development of knowledge and technology, identification and development of new markets, organization and effective utilization of resources, encouraging investment and increase of wealth in society. In general, entrepreneurship is a new technical-economical phenomenon that has revolutionized the world of economy and industry with its amazing consequences in recent decades (ibid, 2013, pp. 46-64). Therefore, efforts to create entrepreneurship in the organizational aspect is valuable and interesting since it creates value for the staff's services and includes products and outcomes of the organization (Mardani Givi and Ebrahimi, 2007, Jordi et al., 2007).

In fact, entrepreneurship is a complex, multi-layered and parallelogram concept that has an interdisciplinary nature and affects different areas in the community (Anochin and Schultz, 2009; Johnson et al, 2006). In other words,
entrepreneurship is the process of innovation and exploiting opportunities with great efforts and persistence along with taking economic, social, and psychological risks that takes place with the incentive of financial gain, need for achievement, personal satisfaction and independence (Hisrich, 1985). It is the subject that can be verified in the studies conducted by Richard Cantillon (1730), John Baptiste (1803), Kason (1982), Karland (1984); Jean-Baptiste Say (1803), Joseph Schumpeter (1934), Ahmadpoor Dariani and Moghimi (2006), Alfredo De Massis, Federico Frattini, Emanuele Pizzurno and Lucio Cassia (2015), Francine Schlosser (2015). In fact, today organizations cannot overcome organizational problems with few numbers of creative and entrepreneurial people, or implementing a few small projects. They must provide the conditions so that all people have the entrepreneurial spirit within the organization. To achieve this goal within the organization, a separate and specialized sector that has entrepreneurial skills and ability should be created in the organization. In addition, according to a new study conducted in this regard, the importance of product innovation in small and medium enterprises (SMEs) or companies, especially product innovation in family firms versus non-familial firms can be understood. In this study, it was also seen that how much attention is paid to product innovation among small and medium enterprises (SMEs). Alfredo De Massis, Federico Frattini, Emanuele Pizzurno and Lucio Cassia (2015) explored product innovation in family vs. non-family firms with a view to exploratory analysis and the results show that family firms are different from non-family companies with regard to product and organizational innovation strategies and the innovation process. Also, Francine Schlosser (2015) identified and differentiated the key personnel of the owners and employees of small and medium enterprises.

Also, in order to create an entrepreneurial character among manufacturing and industrial enterprises to enhance innovation in small and medium enterprises, a sense of entrepreneurship can be created and strengthened that how decision making and planning, schedules and time should be managed for an entrepreneurial project to start a small business. Accordingly, the importance and urgency of the problem arises from the fact that since small and medium enterprises (SMEs) act according to a small business and independently, they can strengthen entrepreneurial character among their employees to increase the rate of innovation. The main objective of this study was to analyze the relationship between employees' entrepreneurial character and level of innovation of small business in small and medium industrial companies in Semnan province.

RESEARCH BACKGROUND

Ahmadi et al. (2011) investigated the relationship between personality factors and entrepreneurship as a study on the staff of Dade Varzi Sedad Copany. Personality factors such as conscientiousness, extroversion and openness have a positive relationship with organizational entrepreneurship, while there is a significant negative correlation between the personality dimension of neuroticism and agreeableness with organizational entrepreneurship (pp. 1-21).

Raeisi et al. (2007) investigated the relationship between personality traits of managers and entrepreneurship in health organizations affiliated to Tabriz University of Medical Sciences. The research findings have shown a significant direct correlation between personality traits of managers and organizational entrepreneurship (r = 0.65 and 0.01> P). From among the personality traits, the absorption of opportunities for the organization had the greatest impact on organizational entrepreneurship (F = 23.17 and 0.01> P). Overall, they stated that managers' personality traits have a significant positive relationship with organizational entrepreneurship and training opportunistic personality traits among manager is necessary to promote entrepreneurship in hospitals and health centers.

Mehregan and Ack (2007) studied the effect of personality traits on employees' entrepreneurship, creativity and innovation in Islamic Azad University. Their research results indicate that the two variables of creativity and innovation have a significant difference in the two personality types under study and their entrepreneurial level is not different. Therefore, we can conclude that type of personality under study affected their creativity and innovation to the extent that the rate of occupational creation and innovation is greater in extroverts, but they didn't affect entrepreneurship.

Nemati (2013) examined the entrepreneurial personality characteristics of students at public universities in Tehran. The findings of this study indicate that top students are in a poor condition in the aspects of risk-taking, thought fluid and challenging and they are in a strong condition in the aspects of locus of control, the need for achievement, pragmatism and visionary and also they are in a very strong condition in the tolerance of ambiguity and students' overall entrepreneurial spirit has been evaluated to be in a strong position.

Other results show that there is a strong difference between both male and female students on the enjoyment of risk-taking, visionary and challenging and the spirit of entrepreneurship in general. There was a significant difference between the students of different educational levels only on the enjoyment of the characteristic of the need for achievement and there was a significant difference between the total number of top students of different academic fields on the enjoyment of the characteristics of thought fluid, tolerance of ambiguity, visionary and challenging. Their results also showed that there is a significant difference between the total numbers of top students of different universities in the enjoyment of the characteristic of ambiguity tolerance (pp. 46-64).

In a case study on the industries of Garmesar city, Javidnia and Vakiloroaya (2011) investigated the entrepreneurial success indices in developing industrial units using the (MCDM) technique. The results of final ranking showed that the factor of "Innovation, creativity, idea" is the most important factor among factors. Also the factor of "doers of deeds" is the least important factor in entrepreneurial
success in the development of the industrial sector of Garmser city.

Azizi and Vakiloroaya (2015) identified and ranked the personality characteristics of entrepreneurs’ success in developing production cooperatives in Semnan province, using the technique of Multiple Criteria Decision Making (MCDM). After studying literature and with the help of professors and experts in the field of entrepreneurship, 14 main indicator of entrepreneurial success in the production cooperatives were identified and then the mutual effect of each factor on each other was determined with the help of experts. Indices were classified into two groups of affecting and affected with the help of DEMATEL and the most affecting and the most affected indices of entrepreneurial success in the industrial sector of Garmser were identified. Using analysis of network process (ANP), the weights associated with each of these indicators was determined and finally using VIKOR, ranking criteria have been finalized.

In a study conducted by Panayides and Venus (2009), the effects of trust on innovativeness and performance of supply chain was examined and it was determined that trust affects innovativeness and both were identified as predictors of supply chain performance.

The effect of the variables of encouraging, freedom, fresh environment and experience on company's innovativeness in (product and process) was evaluated. The results of various studies on the effect of time on innovation suggest that enough time for participation in innovative activities is very important. On the other hand, the pressure of work has a negative effect on the creation of pro-innovation environment (Klein and Kim, 1998). However, some writers are also of the opinion that a certain level of work pressure has a positive effect on innovativeness (Amabile et al., 1996).

Amabile et al. (1996) have defined two types of work pressure: high work pressure and challenge in their study. High work pressure, especially if it is thought of as a means to control, has a negative impact on innovation. The second type that is called the challenge is a necessary element in innovation. These studies suggest that having enough time is considered as a resource for innovation, while work pressure in the form of challenge also affects innovation. Another element that shows the challenges of the business environment is the need for continuous learning and training in performing tasks. Innovativeness is closely related to the learning of organization (Alegre and Chiva, 2008).

María Moreno-Moya and Jose-Luis Munuera-Alemán (2015) addressed the differing effect of the pace of development speed of performance of new product with the approach of circuit analysis among small and medium enterprises. The results of this study demonstrate an urgent need to distinguish between the pace of development and speed of installation in today's competitive market. They also stated that the results show the key role of orientation of entrepreneurship and innovation speed for SMEs.

De Massis et al. (2015) conducted a study to investigate product innovation in family vs. non-family firms with a view to exploratory analysis. The analysis showed that family firms are different from nonfamily companies with respect to the strategy of product and organization innovation in terms of innovation process.

Francine Schlosser (2015) identified and differentiated the key personnel of the owners and employees of small and medium enterprises. This research has been done through interviews with 14 pairs of entrepreneurs and key employees of small and medium Canadian firms. Another study conducted by Alain Fayolle and Benoit Gailly (2015) investigated the impact of entrepreneurship education programs on entrepreneurship attitudes and intentions with backwardness and persistence approach. Their research results indicate that the positive effects of entrepreneurship education programs (EEPs) are significant, because those who have not been exposed to or have been exposed to entrepreneurial programs for a short time were weak. On the other hand, those students who have already been significantly exposed to entrepreneurship education programs (EEPs) have gained significant outstanding results from the interaction of entrepreneurship education programs.Block et al. (2015) also examined the issue of how risk attitudes differ among different groups of entrepreneurs. Their research results showed that given the opportunity for entrepreneurs, more willing to risk for entrepreneurs is necessary. Moreover, those who are motivated through the creative process have greater risk tolerance than other entrepreneurs. Teeffelen (2014) conducted a study as changing students’ priorities to acquire or establish entrepreneurship based on the theory of threshold. According to the research background of personality characteristics, the conceptual model of the study is shown in Fig. 1.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>entrepreneurial activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuability</td>
<td>Doing tasks before any enforcement or occurrence of possible changes in trade, manufacturing and services</td>
</tr>
<tr>
<td>Understanding</td>
<td>Identifying environmental opportunities, to launch the necessary resources to create opportunities</td>
</tr>
<tr>
<td>Patient</td>
<td>Various and frequent activities to remove barriers</td>
</tr>
<tr>
<td>researcher</td>
<td>Consultation with experts and professional for guidelines and to search for the information needed by customers and suppliers, marketing and communication to gain information</td>
</tr>
<tr>
<td>interested to work with high quality</td>
<td>The desire for production, sales and service of high quality product, and product comparisons with competitors</td>
</tr>
<tr>
<td>Committed and responsible</td>
<td>Efforts to complete the work, full acceptance of responsibility and to complete obligations on time and in line with workers and work for timely completion and customer satisfaction</td>
</tr>
<tr>
<td>Performance oriented</td>
<td>Finding ways to speed up carrying out economic activities in a better manner</td>
</tr>
<tr>
<td>Programmer</td>
<td>Coordinating activities according to the schedule</td>
</tr>
<tr>
<td>Solving the problem</td>
<td>Understanding new ideas and designing innovative solutions</td>
</tr>
</tbody>
</table>
This study aims to investigate the relationship between SME employees' entrepreneurial character and level of innovation. Independent variables of the study are attitudes or personality traits of entrepreneurs including: (need for achievement, internal locus of control, risk taking, tolerance for ambiguity, thought fluid, visionary, pragmatism, challenging), and the dependent variable is SME employees' level of innovation in Semnan province. Accordingly, the conceptual model is shown in Figure 1. However, the variables in this study as well as the conceptual model are based on a study by Nemati (2013), who assessed entrepreneurial personality traits of students at public universities in Tehran.

**RESEARCH METHODOLOGY**

The study is based on the data extracted from a standard questionnaire of entrepreneurs' personality traits that contains 95 questions and each question has four options and the mean, the minimum and maximum scores of the questionnaire can be calculated. In other words, any individual's entrepreneurship score is the sum of the scores of all the questions. Data needed for hypothesis testing was collected using different sources. Information related to theoretical discussions and literature has been collected using library resources and scientific databases and foreign and local papers. The data collection was also done using documents and records in this study.

1. Materials and Methods: This study is an applied research and due to the fact that the current situation will be described, it is descriptive research and also because this study examined the relationship between entrepreneurial character and the innovation level of SMEs' employees, it is correlational.
2. Population: The population consisted of all the employees of small and medium enterprises (SMEs).
3. Sample and sampling method: Using the Krejcie and Morgan table, 384 people were selected as the sample size.
4. The validity and reliability of measurement instruments:

   A. **Validity:** questions of the questionnaire were evaluated in terms of validity through content validity and comments and guidance of supervisors and consultant. In addition, the experts in the field of SMEs employees’ entrepreneurship and innovation level were asked to comment on the questionnaire and then its ambiguities were resolved indicating the acceptable validity of the test.

   B. **Reliability:** In this study, Cronbach's alpha was used to determine the reliability of the test. A pre-test was conducted to evaluate the reliability of the questionnaire. First, 30 questionnaires were distributed and gathered in the target population and then the data was imported and reliability (Cronbach's alpha) was calculated using SPSS software. Usually, an alpha amount of less than 0.6 indicates poor reliability, between 0.6 to 0.8 shows acceptable reliability, and above 0.8 indicates high reliability. It is clear that if the number id close to 1 it is better (Sakaran, 2002, p. 385).
Thus, according to the results obtained in tables (2) and (3) for Cronbach’s coefficient to determine the validity and reliability, it can be said that the questions of the questionnaire have the required validity and reliability for assessing the data, because the test coefficients for each of the variables is greater than the above figure.

**DATA ANALYSIS**

Overall, in this study we sought to examine and analyze the relationship between entrepreneurial character and innovation level of small and medium enterprises' (SMEs) employees. At this point, based primarily on data from the questionnaire, demographic characteristics of the population have been studied. The hypothesis is then tested.

1. **Kolmogorov-Smirnov test**: To test the hypothesis, Kolmogorov-Smirnov test was used. The results showed that according to the test statistics (sig) for all the variables as shown in Table 7 and also to the comparison with the critical value at the error level of (5%), it was observed that the test statistic (H0) is located in the rejection area. As a result, it can be argued that the data are normally distributed.

Tab. 4. Kolmogorov-Smirnov test to study the normality of questionnaire data - dependent variable

<table>
<thead>
<tr>
<th>Source: research findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab. 4. Kolmogorov-Smirnov test to study the normality of questionnaire data - dependent variable</td>
</tr>
<tr>
<td>Innovation.of. employees.Yit</td>
</tr>
<tr>
<td>Normal Parameters,a,b</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
</tr>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Negative</td>
</tr>
</tbody>
</table>

a. Test distribution is Normal. b. Calculated from data.

**Resource: research findings**

Tab. 5. Kolmogorov-Smirnov test of independent variables

<table>
<thead>
<tr>
<th>Source: research findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab. 5. Kolmogorov-Smirnov test of independent variables</td>
</tr>
<tr>
<td>Internalcontrol,center</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
</tr>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov Z</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
</tr>
</tbody>
</table>

a. Test distribution is Normal. b. Calculated from data.

**Resource: research findings**

2. **Results of the main hypothesis testing**: The main hypothesis of the study: there is a significant relationship between the entrepreneurial character and innovation level of employees in small and medium enterprises (SMEs).
Tab. 6 shows the results of regression testing of the hypothesis of the study, which states that there is a significant relationship between the entrepreneurial character (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) and innovation level of employees. The coefficient of determination of the regression test set forth in Table 5 shows that among the variable of entrepreneurial personality (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging), human resources (as independent variables) explain 60/87% of innovation level of employees in SMEs (the dependent variable).

Tab. 7. The results of the Spearman correlation coefficient in the model of the main hypothesis

Log.(Inoxit) = -16.371 + .231 Log. (X1it) - .317 Log. (X2it) + .400 Log. (X3it) + .205 Log. (X4it) - .076 Log. (X5it) + .650 Log. (X6it) + .583 Log.(X7it) + .208 Log.(X8it) + Uit

a. Dependent Variable: Innovation.of.employees.Yit

Resource: Research findings

Tab. 6. coefficients of the model obtained from regression test of the main hypothesis
**Resource: research findings**

According to the results of the Spearman correlation coefficient in the model of the main hypotheses in Table 7, it can be said that the calculated correlation coefficient and significance level are confirmed and the correlation between entrepreneurial character (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) and innovation level of employees is significant. The null hypothesis is rejected and the research hypothesis is confirmed. In other words, we can say that there is a significant relationship between entrepreneurial character (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) and innovation level of employees at 5% error level. The results of the test can be generalized to all employees with 95% confidence level.

Tab 8 shows the results of (ANOVA) test for the model of the main hypothesis of the study, which shows that the results of regression tests are significant at the 95% confidence level. 5% error level and by comparison with significance level (Sig = 0.000).

Interpreting the results of the main hypothesis: Tab 5 to Table 8 show the statistical description of the main hypothesis. According to the above table, it can be said that the test statistics for the independent variables is less than test error or 5% at the significance level (Sig). Therefore, given that the level of 5% error level is considered for this study, this variable is significant and the main research hypothesis is confirmed and the independent variables have a significant effect on the dependent variable. In other words, there is a significant relationship between entrepreneurial character (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) and innovation level of employees in SMEs. The second column in the table above shows the correlation coefficient (.876) that is the square of the correlation coefficient or the coefficient of determination (the amount of variation in the dependent variable that can be explained by regression analysis). In addition, the standard error of estimation measures the distribution of points around the regression line in two-dimensional space and the larger the value of this index, the greater the distribution of points around the regression line will be. The results of the test can be generalized to the entire study population with a 95% confidence level.

**Resource: research findings**

Tab 8 is the results of (ANOVA) test, the coefficient comparison of the coefficients' mean in the sample relating to the main hypotheses.
resources and then analysis is done according to the type of data using SPSS software (SPSS19) through vector regression method (by determining estimation method).

The model used is as follows:

\[
Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \beta_8 X_{8it} + U_{it}
\]

\[
\log(\text{IEInx}) = \beta_0 + \beta_1 \log(X_{1it}) + \beta_2 \log(X_{2it}) + \beta_3 \log(X_{3it}) + \beta_4 \log(X_{4it}) + \beta_5 \log(X_{5it}) + \beta_6 \log(X_{6it}) + \beta_7 \log(X_{7it}) + U_{it}
\]

\[
\log(\text{Inox}) = -1.6371 + 0.231 \log(X_{1it}) - 0.317 \log(X_{2it}) + 0.400 \log(X_{3it}) + 0.205 \log(X_{4it}) - 0.076 \log(X_{5it}) + 0.650 \log(X_{6it}) + 0.583 \log(X_{7it}) + 0.208 \log(X_{8it}) + U_{it}
\]

Thus, according to the results of the test of the estimated model or the results of regression model for the equation of entrepreneurial character (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatism, challenging) on innovation level of employees in small and medium enterprises (SMEs) as the dependent variable, it can be seen that the significance level of F-statistics (prob (F-statistic)), indicating that the regression is significant, is equal to 0.0000 and suggests that the model is significant at the confidence level of 95%. The adjusted coefficient of determination (R2) is equal to 0.831, which signifies that the about 80/76% of the variation in the dependent variable is explained by the independent variables.

1. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (internal locus of control) is equal to (+0.231). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (internal locus of control), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

2. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (balanced risk taking) is equal to (-0.317). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the less the coefficient of (X1t), or the coefficient of independent variable (balanced risk taking), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

3. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (ambiguity tolerance) is equal to (+0.400). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (ambiguity tolerance), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

4. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (thought fluid) is equal to (+0.205). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (thought fluid), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

5. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (visionary) is equal to (+0.076). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (visionary), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

6. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (pragmatism) is equal to (+0.650). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (pragmatism), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

7. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of the independent variable (challenging) is equal to (+0.583). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (challenging), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.
variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (pragmatism), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

8. As Table 6 shows, the coefficient of variable (X1t) or the coefficient of independent variable (need for achievement) is equal to (+0.208). Thus, according to t-statistics as well as the significance level of the variable (Sig= 0.000), the results indicate the significance of this variable in the final model of research at the error level of 5%. In addition, these findings show that the greater the coefficient of (X1t), or the coefficient of independent variable (need for achievement), the greater the coefficient of innovation level of employees in SMEs will be, because the coefficient or slope is significant and positive in the equation. As a result of hypothesis (H1), the hypothesis is confirmed, because this relationship is significant in linear estimate equation.

**DISCUSSION AND CONCLUSION**

Overall, the results of the present study is comparable with some studies related to the subject of the present study, i.e. investigating the relationship between entrepreneurial character and employees' level of innovation in small and medium businesses.

The results of the study by Ahmadi et al. (2011) showed that personality factors such as conscientiousness, extroversion and openness have a positive relationship with organizational entrepreneurship; while, there is a significant and negative relationship between the personality dimension of neuroticism and agreeableness with organizational entrepreneurship. The results of the study are consistent with the results of this study and the hypothesis testing of the present study in order to explain the relationship between entrepreneurial character's factors (need for achievement, internal locus of control, risk taking, ambiguity tolerance, thought fluid, visionary, pragmatic, challenging), human resources (independent variable) and the level of innovation of employees in SMEs.

The results of the study conducted by Raisi et al. (2007) showed a significant direct correlation between personality traits of managers and organizational entrepreneurship. From among the personality traits, the absorption of opportunities for the organization had the greatest impact on organizational entrepreneurship. Overall, they stated that managers' personality traits have a significant positive relationship with organizational entrepreneurship and training opportunistic personality traits among manager is necessary to promote entrepreneurship in hospitals and health centers.

The results of the study by Mehrregan and Ack (2007) indicated that the two variables of creativity and innovation have a significant difference in the two personality types under study and their entrepreneurial level is not different. Therefore, they concluded that type of personality under study affected their creativity and innovation to the extent that the rate of occupational creation and innovation is greater in extroverts, but they didn't affect entrepreneurship.

The results of the study by Nemati (2013) indicated that top students are in a poor condition in the aspects of risk-taking, thought fluid and challenging and they are in a strong condition in the aspects of locus of control, the need for achievement, pragmatism and visionary and also they are in a very strong condition in the tolerance of ambiguity and students' overall entrepreneurial spirit has been evaluated to be in a strong position. Other results show that there is a strong difference between both male and female students on the enjoyment of risk-taking, visionary and challenging and the spirit of entrepreneurship in general. There was a significant difference between the students of different educational levels only on the enjoyment of the characteristic of the need for achievement and there was a significant difference between the total number of top students of different academic fields on the enjoyment of the characteristics of thought fluid, tolerance of ambiguity, visionary and challenging. Their results also showed that there is a significant difference between the total numbers of top students of different universities in the enjoyment of the characteristic of ambiguity tolerance.

The results of the study by Javidnia and Vakiloroaya (2011) for final ranking showed that the factor of "Innovation, creativity, idea" is the most important factor among factors. Also the factor of "doers of deeds" is the least important factor in entrepreneurial success in the development of the industrial sector of Garmser city.

The study of Azizi and Vakiloroaya (2015) identified and ranked the personality characteristics of entrepreneurs' success in developing production cooperatives in Semnan province, using the technique of Multiple Criteria Decision Making (MCDM). Final ranking of indices was done for personality indices of entrepreneurs' success in the development of manufacturing cooperatives.

The results of the study by Amabile et al. (1996) suggested that having enough time is considered as a resource for innovation, while work pressure in the form of challenge also affects innovation. Another element that shows the challenges of the business environment is the need for continuous learning and training in performing tasks. Innovativeness is closely related to the learning of organization (Alegre and Chiva, 2008).

The findings of Maria Moreno-Moya and Jose-Luis Munuera-Aleman (2015) demonstrated an urgent need to distinguish between the pace of development and speed of installation in today's competitive market. They also stated that the results show the key role of orientation of entrepreneurship and innovation speed for SMEs.

The findings of De Massis et al. (2015) showed that family firms are different from nonfamily companies with respect to the strategy of product and organization innovation in terms of innovation process.

The study results of Francine Schlosser (2015) indicated that the positive effects of entrepreneurship education
programs (EEPs) are significant, because those who have not been exposed to or have been exposed to entrepreneurial programs for a short time were weak. On the other hand, those students who have already been significantly exposed to entrepreneurship education programs (EEPs) have gained significant outstanding results from the interaction of entrepreneurship education programs.

The results of the study conducted by Block et al. (2015) also showed that given the opportunity for entrepreneurs, more willing to risk for entrepreneurs is necessary. Moreover, those who are motivated through the creative process have greater risk tolerance than other entrepreneurs.

REFERENCES
[17] Azizi, M, Vakiloroaya, Y., (2015), Identifying and ranking the success indices of personality characteristics of entrepreneurs in the development of production cooperatives in Semnan province using the technique of Multiple Criteria Decision Making (MCDM), Semnan, MA thesis of Industrial Management, Islamic Azad University of Semnan, Faculty of Humanities, Department of Industrial Management.


