

## FACTORS INFLUENCING INNOVATION OF FEMALE MANAGERS ON THEIR BUSINESS PERFORMANCE

<sup>a</sup>AMIR SAEED VADIE

*Master of International Business Management, Islamic Azad University of Zanjan, Iran*  
e-mail : <sup>a</sup>editor@ores.su

**Abstract:** Management is one of the key pillars of commercial corporations as though it could also be designated as the executive organ of the commercial corporation. In the meanwhile, the creativity and innovation of managers is of paramount prominence for the survival of any organizations, otherwise the firms would be dwindled and faded in the business arena. The purpose of the current study is to scrutinize and detect the factors influencing the innovation of female managers on their business performance in Zanjan city's companies through the implementation of the Delphi method. In terms of purpose type and qualitative-descriptive method, this study is conducted via the implementation of Applied research and Survey Research methodologies respectively. Through the utilization of comments and feedback provided by a number of female executives of Zanjan city companies, after the distribution of three rounds of Delphi surveys and analysis of the results acquired from 30 respondents, 6 cases were eventually identified and validated using Mimax software. The results of the study indicate that from the perspective of the companies' female executives partaking in the research, the exhilaration, innovation, risk appetite, assiduity and availability of expert human resources as well as tension reduction, are the six factors influencing the innovation of female managers on their business performance. In the end, according to the results obtained from the research, practical recommendations are provided.

**Keywords:** Innovation of Female Managers, Business Performance

### 1 Introduction

Management is one of the key pillars of commercial corporations as though it could also be designated as the executive organ of the commercial corporation. This pillar is in charge of the administration of the company's affairs and subsequently, according to the law, a number of duties, authorities as well as privileges and bonuses are defined for the executives appointed for this office which are essential preconditions for this cause. Albeit, the managers enjoy some benefits thanks to their position, they are subject to liability as if the decisions and actions they take deriving from their authorities and command may result in capital and financial loss of the company, in this case, the managers are the ones responsible for the compensation (Issaei Tafaroshi et al, 2013). The environments where individuals can easily express themselves play a crucial role in developing innovative ideas as innovation is rooted in people's flexibility and dynamic mind (Ozmutaf et al, 2015).

Creativity and innovation are essential for the survival of any organizations for the non-creative organizations would be dwindled and faded in the business arena through the passage of time. Even though such an organization may overwhelm an operation in which it is entangled at some certain point during its life, it will be eventually coerced to shut down or alter its system (JahanShahi et al, 2015; Villalobos Antunez et al, 2013).

In the meantime, the innovation performance could also be defined as the opportunity and right given to the female managers along with male ones in terms of professional development within the organization (Ozmutaf et al, 2015). Today, the issue of women management is one of the challenges encountered by societies and governments. This is considered as one of the criteria required for the countries' expansion and advancement, in fact, it is a criterion for development assessment, establishment of gender equity within societies, the way governments cope with women's issues and tackle the barriers they face so as to gain better opportunities. According to the latest statistics, women constitute half of the active population of the country out of which merely 16.14 per cent are in charge of economic activities and from this percentage, only 3.1% are active in managerial positions indicating that women in our country are less active in managerial positions (Karahi Moghadam et al, 2014).

### 2 Literature Review

While referring to numerous texts and references to acquire a comprehensive definition for management, various definitions

concerning it will be encountered each of which possess their respective commonalities and differences. In other words, in terms of management, a definition universally accepted and approved does not exist. Varied definitions are presented by management experts and authors according to their own different objectives and orientations as though with respect to management, it could be averred that the quantity of definitions provided for it are as many as the number of books compiled by authors concerning this matter. Some of the explanations referred to management's definition in various managerial references are as follows:

Management could be defined as a comprised science and art, coordination of leadership and control of collective activities in order to achieve the desired goals with maximum efficiency (Ansari et al, 2011).

### 3 Female Managers

The manager is the person responsible for the company's entire management affairs (Acca, 2009). The term "gender" is employed in various forms to help people examine the facets of work-related interactions between ladies and men. This issue has often been considered by women in order that they could enhance their social status and change the vision through which their status is regarded by the community. There are blatant differences in the structures of relationships and interpretations regarding the role of women in social and organizational activities taking the cultural components, social classes, religious beliefs as well as many other factors in various societies into consideration. Many experts, particularly in the United States and England do not believe in dissents regarding the activities of ladies and men as they maintain that the perceptions of inequality are primarily raised by women who seek to prove that they are able reconcile themselves with men (Marshall, 1998; Dorzhu & Ondar, 2018).

In the conventional division of human resources within organizations, whether consciously or unconsciously, women are marginalized as though their ascent and advancement are deemed trivial to other people and even their elevation to higher degrees is occasionally considered eccentric and intolerable since the prevailing premise is that women ought to be marginalized and they should never reach the pinnacle of their career (Wirth, 2002). Human resources are one of the most vital and precious reserves in the developing countries. Providing that these countries could train their human resources towards the promotion of their excellence and expertise, they would be able to vie with the industrialized countries. In the conventional division of the human resources in organizations, whether consciously or unconsciously, women are marginalized as though their ascent and advancement are deemed trivial to other people and even their elevation to higher degrees is sometimes considered eccentric and intolerable since the prevailing premise is that women ought to be marginalized and they should never reach the pinnacle of their career. According to the study conducted pivoting upon the latest official statistics proclaimed by Statistical Center of Iran, there is a significantly blatant difference between the economic participation rate of men and women in Iran. Based upon the results obtained in the spring of 2011, the economic participation rate in the population of 10 and higher was 38.2% throughout the whole country. The variables estimated for men and women are 62% and 14.3% respectively. On the understanding that the population aged 15 or more was assumed to be the working age, the economic participation rate would be 41.9% throughout the entire country. The variables estimated for men and women are 68.2% and 15.7% respectively. The presence of women in management arena encompasses a variety of contentions, challenges and complications in regard of which a lot of investigations is required (Ahmadi KohanAli et al, 2013; Gimadieva et al, 2017).

#### 4 The Challenges Women Face in Management Positions

Respecting this issue, Dr. Ali Asghar Saeedi (sociologist and university professor) claims that women are under greater surveillance compared to men when they are appointed to management positions as not only such deeds do not stand to reason in the society, but also, they are quite contrary to the perception commonplace amongst the public. Female managers need to be more vigilant so as to keep their position, while men do not tackle such issues. Fallacies such as the superiority of men over women in terms of managerial authorities, the tendency towards patriarchy in the appointment of managers, believing that women have developed a circumspect stance in decision-making or they are more emotional and emotive than men and so forth are among the beliefs influencing women to be in charge of management positions, while serious activities of this sedulous stratum of society could also be regarded and contemplated differently. Such vantage points manifest the point beyond the activities of female managers. A procedure which has been deliberately neglected and taken for granted. In this regard, beliefs such as women's equity, devotion of a greater deal of time to the work, women's more tolerance as well as their attention to ideals, goals and mindsets maneuver (Karahi Moghadam et al, 2014). In the past, managerial opportunities for women were limited to administrative jobs. Several studies indicate that women ought to undergo more challenges to obtain managerial positions in comparison with men. These challenges are, in fact, the obstacles women encounter during their career promotion to managerial positions. Arkan spoke of several reasons regarding the point that why women are not promoted to managerial positions. His arguments go as follows:

- Sex-Role Stereotypes
- Responsibilities a woman holds toward her family
- Low level of self-assurance in women
- Women are left out of the network created by men
- The negative attitude that senior managers hold toward female managers
- Employment Discrimination (Ozmutaf et al, 2015, 222).

In some studies, these challenges are classified into four general categories including individual, organizational, cultural and social barriers (Taqizadeh et al, 2013, 38).

#### 5 Features of Innovative Thought and Action

To examine innovation, scientists used to accentuate science and technology, while today, it is verified that science and technology are merely one of the ways to attain innovation. Innovation is a multifaceted phenomenon owing to which it is preferred as the subject of study in various branches of humanities. From behavioral sciences standpoint, the type of conduct that occurs during an innovative action performed by individuals is of prominence. From an economist point of view, economic motives and conditions facilitate the innovation touching the performance of numerous enterprises and industries. The way whereby firms and enterprises are directed is of pivotal consequence for exploiting the creative and innovative capacity of the staff from managers' vantage point. In order to investigate all these issues, the characteristics of innovation and its varieties should be identified at the outset (Keshavarz et al, 2010).

Some of its foremost characteristics are briefly argued as follows:

1. Novelty and Authenticity; any idea, thought and notion authentic and peerless is deemed innovative. Monotonous, analogous, and mixed thoughts varying barely in terms of appearance and look are not regarded as creative ideas. On the other hand, a consistent notion encompassing the principles of reason and science which abides by such principles is designated as creative thinking as though it gives rise to problem solving or invention and innovation of a solution or an untapped discovery that leads to the production of science, tools and the like.

2. Appropriateness and Functionality; not only are not creative opinions fictitious and futile, but also with respects to dilemmas, essentials and problems they are considered as the source of profit enjoying a satisfactory percentage of advantage as if they are able to resolve a wide range of complications or requisites and in truth, its productivity level is high.
3. It ought to either solve an issue or meet the scientific and practical needs; a creative thinking should be able to provide varied solutions pivoting upon the circumstances and facilities when it comes to confronting issues and to opt for the one possessing the most positive points so as to resolve the problems or meet the scientific and practical essentials in the desired subject as though the presented solutions are not only subjective, but they are realistic and rational.
4. Durability; creative thinking should hold a relative stability and durability when it comes to practice. Instantaneous, impermanent, and superficial thoughts which do not even comprise innovation and invention are not regarded as creative opinions (Jahanshahi et al, 2015).

#### 6 The Innovation Process

Innovation is a complex process and system whose phases or sequences could vary hinging upon the circumstances and organization type. Nonetheless, the overall process of innovation in its general form embraces the phases going as follows:

Apprehending the market needs (client/user) or innovative opportunity.

Changing the existing technology or adopting the technology which meets the essentials or opportunities.

- Devising a new product or service (invention) if necessary.
- Providing technologies (and new products or services) through commercialization (Saida Ardekani et al., 2013, 139).

Schumpeter distinguished between innovation categories including new products, new methods of production, new supply sources, exploitation of new markets and ways to organize business.

However, most of the economists concentrate on the first two items. As an instance, Schumpeter maintains that the distinction between "production technology" and "product technology" is pivotal to grasp innovation. He defines the product technology and production technology as knowledges of how to create or upgrade products and how to produce products respectively. Through the same approach, the terms "product innovation" and "innovation in production processes" are also explained as the emergence of new products or their upgrades and the enhancements applied to production modes respectively (Keshavarz et al, 2010).

The innovation process merges the design, invention, development and transfer of technology with each other. In each phase, ideas and concepts are created. Yet, the innovation process fulfills when these phases lead to the exploitation and commercialization of a product in due course. The key stages of the innovation process are usually defined within the framework of a scheme for this type of organization, widely employed in innovation from 1980 on, is a more efficacious approach. Each innovation scheme usually commences with an idea that often involves some sort of a technical solution for the current or future essentials of the client. After proposing the idea, next stage is called resource search phase where ideas are fulfilled. Each idea, hinging upon its complexity, may require several days to several years of work and endeavor to flourish. This flourishing stage of the idea is called product development. Once a product is developed, its production and supply are determined subsequently and further, post development activities (product improvement, etc.) might be necessary (Nazari Zadeh, 2003).

Therefore, innovation is also defined as the desire and ability of the organization adapt or develop innovation in the form of a product, service, process or business system (Ariss et al, 2012).

Today, virtually the entire nations throughout the world are seeking to ascend their productivity level and boost their economic status in the wake of creativity and innovation. One of the chief grounds for the soaring importance of creativity and innovation is the emergence of competition amongst the developing countries. Through the utilization of creativity and

innovation techniques, we will be able to reach our goals efficiently and effectively along with enjoying a developed and leading society. Creativity and innovation are prerequisites for the excellence and advancement of an organization or society and knowledge of its techniques is an indispensable essential for the managers, students, researchers and enthusiasts of this field. (Siadat et al, 2013). In general, the grounds for the prominence of innovation within an organization as well as the essentials for taking heed of it could be summarized in the following figure:

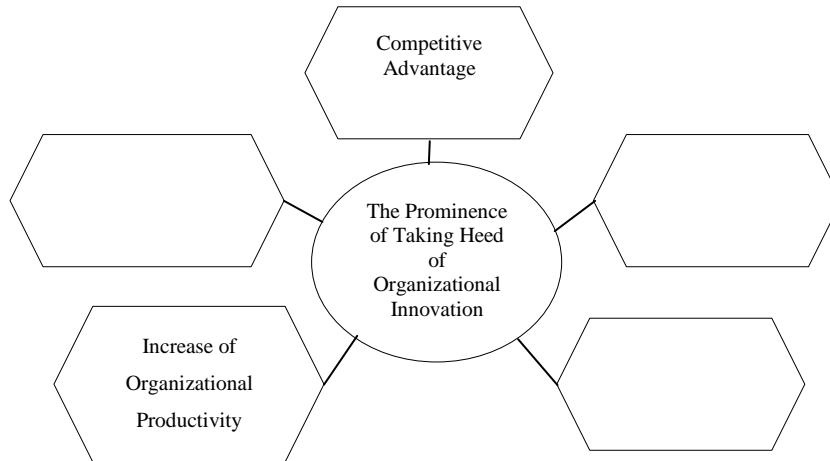


Fig 1. The Prominence of Taking Heed of Organizational Innovation (Siadat et al, 2013, 76)

**7 Descriptive Statistics**

**7.1 Age of Respondents**

Table 1 displays the frequency distribution of respondents participating in the Delphi group based upon age category. As it could be observed, 2 of the respondents (5.7%) are under 25 years old, 7 of them (20%) are in the age range of 25-30, 22 of the respondents and participants in the Delphi group (62.9%) are in the age range of 30-40 and 4 of them (11.4%) are over 40 years old. Therefore, the majority of the respondents are in the age range of 30-40 whose frequency distribution as a diagram is displayed in Fig. 1

Table 1. Frequency Distribution of Respondents Based on Gender

Cumulative Percentage	Percentage	Frequency	
5.7	5.7	2	Under 25
25.7	20.0	7	25-30
88.6	62.9	22	30-40
100.0	11.4	4	Over 40
	100.0	35	Total

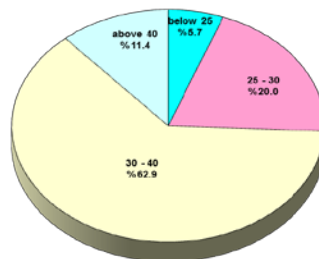


Fig 1. Frequency Distribution of Respondents Based on Age

**7.2 Career Experience**

The second enquiry of the questionnaire was concerning the respondents' career experience. The frequency distribution of respondents based on their career experience is manifested in table 2. The career experience for 9 of the respondents (25.7%)

is under 5 years and 3 of them enjoy career experience range of 5-10 years. Moreover, 17 (48.6%) and 6 (17.1%) of them hold 10-15 and over 15 years of career experience respectively whose frequency distribution as a diagram is displayed in Fig 2. The majority of the respondents possess 10 to 15 years of vocation experience.

Table 2. Frequency Distribution of Respondents Based on Career Experience

Cumulative Percentage	Percentage	Frequency	
25.7	25.7	9	Under 5 Years
34.3	8.6	3	5-10
82.9	48.6	17	10-15
100.0	17.1	6	Over 15
	100.0	35	Total

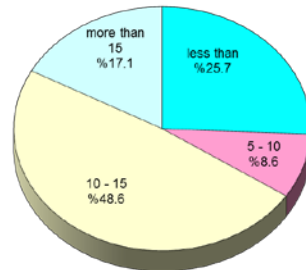


Fig 2. Frequency Distribution of Respondents Based on Career Experience

**7.3 Education Level**

The frequency distribution of respondents based on their education level is shown in table 2. As it could be observed, 24

(68.6%), 9 (25.7%) and (5.7%) of the respondents hold bachelor's, master's and doctoral degrees respectively whose frequency distribution as a diagram is displayed in Fig. 3

Table 3. Frequency Distribution of Respondents Based on Education Level

Cumulative Percentage	Percentage	Frequency	
68.6	68.6	24	Bachelor's Degree
94.3	25.7	9	Master's Degree
100.0	5.7	2	Doctoral Degree
	100.0	35	Total

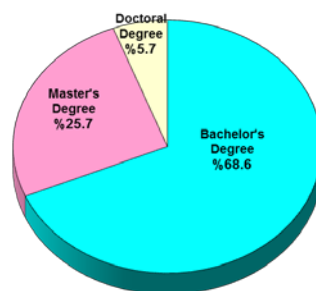


Fig 3. Frequency Distribution of Respondents Based on Education Level

**7.4 Implementation of Delphi's First Round**

As it was declared earlier, One of the methods employed for group knowledge acquisition is the Delphi technique, a structural based process for predicting and helping decision-making during surveys, data collection and eventually group consensus. Albeit the previous studies were always in dearth of a theoretical framework for the Delphi technique, with regards to the large number of studies conducted, reaching a simple theoretical framework is straightforward. A group comprised of 35 experts with different expertise, age and education partook in this research. In two rounds of questionnaire distributions, their opinions regarding the factors influencing the innovation of female managers on their business performance were gathered. In the first questionnaire, initially, the 20 factors which seemed to affect innovation of female managers were presented to the members of the Delphi group on a 5-degree scale to which they were asked to assign a score according to their importance. These comments were finally summed up and, after initial calculations, were re-submitted to the group members during the second-round questionnaire so as to determine the importance.

The consensus among the group members concerning the factors in the first round

Via the utilization of Kendall correlation coefficient, the consensus amongst the group members concerning the effective factors was calculated. Kendall rank correlation (Kendall's tau coefficient) coefficient is a statistic used to measure the ordinal association between two measured quantities. This coefficient is employed when we encounter more than two sets of ranks and we are pursuing to fathom the extent to which the ranks given by m arbitrator to n agent, individual, or object are agreed upon.

The formula of this coefficient is as follows:

$$W = \frac{SS_2}{\frac{1}{12} m^2 (n^3 - n)}$$

In this formula, ss2 is the sum of squad ranks, m is the number of arbitrators and members of the group, and n is the number of factors or objects ranked. Kendall's tau coefficient was computed via SPSS software. Table 4 shows the correlation coefficient as

well as other statistics. As it could be beheld, 35 experts commented on the factors influencing the innovation of female managers on their business performance. The experts' Cohen's kappa coefficient on the factors equals 0.188 which is considered to be weak given the range 0 to 1. As a matter of fact, it could be uttered that the experts partaking in the study did not hold a potent and decisive consensus on the factors influencing the innovation of female managers on their business performance. Besides, the calculated Chi-square for the average rankings of the investigated factors equals 125.351, with 19 as degrees of freedom at the probability value of 0.001. Hence, it could be asserted that the ranks obtained from the Delphi group's comments on the factors influencing the innovation of female managers on their business performance in the first round were significant and the computed ranks and preferences are different from the viewpoint of Delphi group members. The average ranks of the factors in the first round is manifested in Table 4.

Table 4. Statistics Related to Kendall Correlation Coefficient in the First Round

35	Quantity
0.188	Kendall Correlation Coefficient w
125.351	Chi-square
19	Degrees of Freedom
0.000	Significance Level

In Table 5, the average ratings of the factors influencing the innovation of female managers on their business performance in the first round of polls from the Delphi group is displayed. As it could be discerned, the ranking of the top 10 factors is as follows: the leading factor according to the standpoint of Delphi group members in the first round belongs to the exhilaration of female managers with an average rating of 16.2 and the ownership-centricity factor is ranked second with an average rating of 13.6. Furthermore, the average ratings for the 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> rankings are 13.07, 12.29, 12.04, 11.97, 11.37, 11.36, 10.61 and 10.24 respectively.

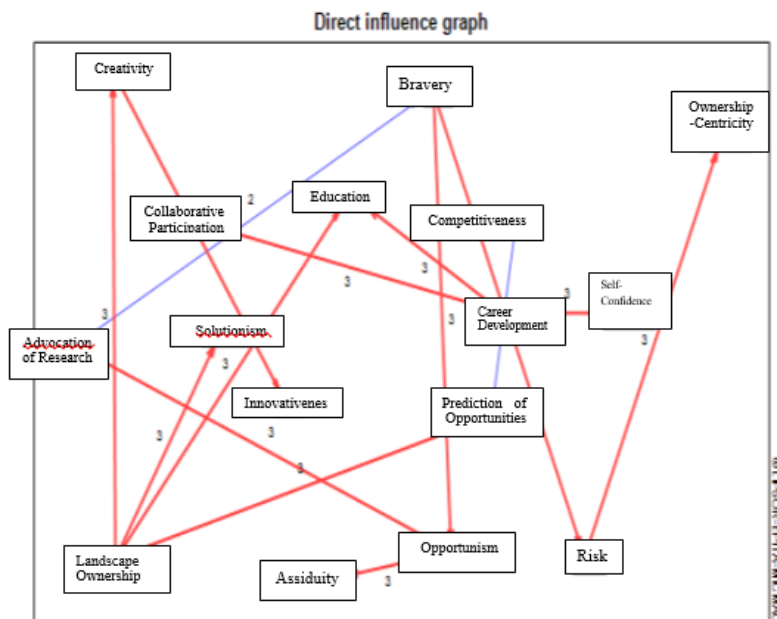
Also, the 5 factors having moderate ranks are as follows: The 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup> and 15<sup>th</sup> rankings belong to the factors thoughtfulness with an average rating of 10.21, opportunism with an average rating of 9.54, bravery with an average rating of 9.20, solutionism with an average rating of 9.00 and collaborative participation with an average rating of 8.84 respectively.

collaborative participation with an average rating of 8.84 respectively.

Ultimately, the 5 factors having less importance compared to other factors are as follows: The 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> rankings belong to the factors high level of communication with an average rating of 8.71, education viability with an average rating of 8.49, creativity with an average rating of 8.46, prediction of opportunities with an average rating of 8.33 and assiduity with an average rating of 6.46 respectively.

Table 5. Average Ratings of Factors in the First Round

Ranking	Average Rating	Factors
1	16.20	Exhilaration
2	13.60	Ownership-Centricity
3	13.07	Advocation of Research
4	12.29	Peacefulness
5	12.04	Landscape Ownership
6	11.97	Risk Appetite
7	11.37	Care for Career Development
8	11.36	Innovativeness
9	10.61	Competitiveness
10	10.24	High-Level of Self-Confidence
11	10.21	Thoughtfulness
12	9.54	Opportunism
13	9.20	Bravery
14	9.00	Solutionism
15	8.84	Collaborative Participation
16	8.71	High-Level of Communication
17	8.49	Education Viability
18	8.46	Creativity
19	8.33	Prediction of Opportunities
20	6.46	Assiduity



Weakest influences .....  
 Weak influences \_\_\_\_\_

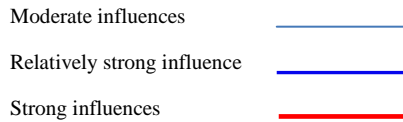


Fig 4. The Plan of the Foremost Direct Influence of the Variables (The Source of The Researcher's Calculations)

As it could be perceived, The Landscape Ownership variable directly influences the prediction of opportunism, solutionism, education viability and exploration. Moreover, the care for career development variable directly influences risk appetite, bravery, education viability, high-level of self-confidence and

collaborative participation. In fact, the two cores affecting the implemented structural model are care for career development and landscape ownership, both of which influence the other variables.

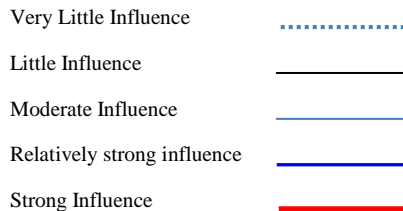
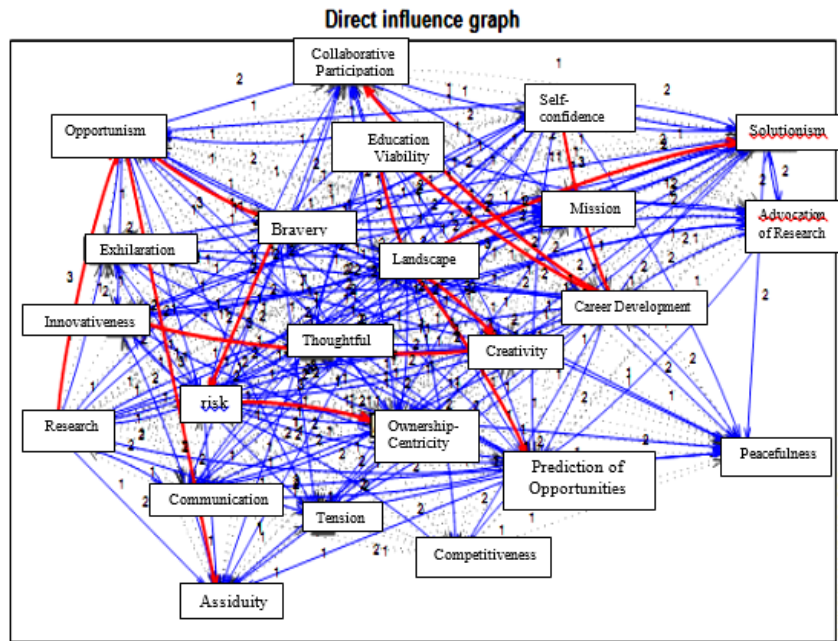


Fig 5. The Plan of Rirect Relations of All the Variables (The Source of The Researcher's Calculations)

**8 Conclusion**

In the last chapter of this study, the findings of the research were concluded and the necessary proposals were presented according to the test results of the hypotheses. At first, the findings obtained from the research literature were described and then the findings of the descriptive statistics as well as the hypothesis test were examined. The overall discussion and conclusion of this study were the other issue that was discussed in this chapter. In the following, suggestions were made according to the results of testing the hypotheses. Given that naturally any research has limitations during its implementation, the limitations of this study are described and suggestions for future research are presented.

**Literature:**

1. Azar A., Khosrovani F., Jalali R. (2013). Operations research software, structured approach to the problem. Industrial Management Institute Publications, First Edition.
2. Sayadi M., Brakshli F. (2012). Short and long term effects of the international oil sanctions on Iran's energy sector, Center

- for Strategic Research, Tehran, Research Report 155, Code Report: 11-91-5-04.
3. Alikhani H. (2005). Failure of a policy of sanctions against Iran, translated by Mohammad Motaghi Nejad, Ministry of Foreign Affairs, Tehran.
4. Felldron I., Zaidell H. (2012). International law, economic, translations Seyed Qasem Zamani, emissions of knowledge, Tehran, Sixth Edition.
5. Katoozian N. (2014). General rules of contracts, Volume IV, Press Publishing Company, Tehran, Eighth Edition.
6. Mokhtari Hashi H. (2015). The impact of international sanctions on elements of national power, with emphasis on the United Nations Security Council sanctions against the Islamic Republic of Iran, Geopolitics Quarterly, 2, Year XI, pp. 173-134.
7. Villalobos Antúnez J.V., Márceles V., Ayala T. (2013). Epistemología y Ciencia: La Hermenéutica Filosófica como crítica al Método Científico, Revista Electrónica de Humanidades, 16 (9), pp. 105-120
8. Hung H.L., Lee Y.F. (2008). Methodological and Conceptual Issues Confronting a Cross-Country Delphi Study of Educational Program Evaluation, Evaluation and Program Planning, No. 31, pp. 191-208.

9. Dorzhu Z., Ondar E. (2018). Peculiarities of the formation of parliamentarism in Tuvan peoples' republic (1921-1944), *Astra Salvensis*, Supplement No. 1, pp. 485-499.

10. Gimadieva G.I., Mingazova L.I., Sayilov G.A. (2017). General Roots, General Spirituality: Literary Interferences of Literature in the Aspect of Cultural Dialogue, *Journal of History Culture and Art Research*, 6(4), pp. 497-504.