

THE
IIOAB
JOURNAL

VOLUME 8 : NO 1 : APRIL 2017 : ISSN 0976-3104

SUPPLEMENT ISSUE

Institute of Integrative Omics and
Applied Biotechnology Journal

Dear Esteemed Readers, Authors, and Colleagues,

I hope this letter finds you in good health and high spirits. It is my distinct pleasure to address you as the Editor-in-Chief of Integrative Omics and Applied Biotechnology (IIOAB) Journal, a multidisciplinary scientific journal that has always placed a profound emphasis on nurturing the involvement of young scientists and championing the significance of an interdisciplinary approach.

At Integrative Omics and Applied Biotechnology (IIOAB) Journal, we firmly believe in the transformative power of science and innovation, and we recognize that it is the vigor and enthusiasm of young minds that often drive the most groundbreaking discoveries. We actively encourage students, early-career researchers, and scientists to submit their work and engage in meaningful discourse within the pages of our journal. We take pride in providing a platform for these emerging researchers to share their novel ideas and findings with the broader scientific community.

In today's rapidly evolving scientific landscape, it is increasingly evident that the challenges we face require a collaborative and interdisciplinary approach. The most complex problems demand a diverse set of perspectives and expertise. Integrative Omics and Applied Biotechnology (IIOAB) Journal has consistently promoted and celebrated this multidisciplinary ethos. We believe that by crossing traditional disciplinary boundaries, we can unlock new avenues for discovery, innovation, and progress. This philosophy has been at the heart of our journal's mission, and we remain dedicated to publishing research that exemplifies the power of interdisciplinary collaboration.

Our journal continues to serve as a hub for knowledge exchange, providing a platform for researchers from various fields to come together and share their insights, experiences, and research outcomes. The collaborative spirit within our community is truly inspiring, and I am immensely proud of the role that IIOAB journal plays in fostering such partnerships.

As we move forward, I encourage each and every one of you to continue supporting our mission. Whether you are a seasoned researcher, a young scientist embarking on your career, or a reader with a thirst for knowledge, your involvement in our journal is invaluable. By working together and embracing interdisciplinary perspectives, we can address the most pressing challenges facing humanity, from climate change and public health to technological advancements and social issues.

I would like to extend my gratitude to our authors, reviewers, editorial board members, and readers for their unwavering support. Your dedication is what makes IIOAB Journal the thriving scientific community it is today. Together, we will continue to explore the frontiers of knowledge and pioneer new approaches to solving the world's most complex problems.

Thank you for being a part of our journey, and for your commitment to advancing science through the pages of IIOAB Journal.



Yours sincerely,

Vasco Azevedo

Vasco Azevedo, Editor-in-Chief
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ARTICLE

THE RELATIONSHIP BETWEEN PSYCHOLOGICAL CAPITAL AND FINANCIAL PERFORMANCE OF EAST AZERBAIJAN PROVINCE TELECOMMUNICATION COMPANY, IRAN

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ABSTRACT

Rapid technological development in recent decades has brought about a great revolution in all aspects of human life and activities towards a knowledge-based economy and paradigm change governing the industrial economy. As a result, today, we are observing a knowledge-based economy. Such economy is based on intangible assets and intellectual capital. In this environment, intellectual capital is considered a competitive advantage these days. This article aimed to identify and determine the effect of psychological capital on financial performance of East Azerbaijan Province Telecommunication Company, Iran. The sample size consisted of 181 employees working in East Azerbaijan Province Telecommunication Company. The variables are Self-efficacy, Resilience, Optimism, and Hope. The results indicate that psychological capital has a positive, significant relationship with the financial performance. The secondary hypotheses were also verified.

INTRODUCTION

Until recently, three main capitals in a working environment were economic, human, and social capital. A successful organization was the one with each of above mentioned capitals. In recent years after the introduction of positive psychology followed by the positive organizational behavior, three mentioned capitals and experienced and professional human resources are not sufficient for the success of administrative, manufacturing, and service organizations. At the same time, positive features of employees are of great importance. The concept of psychological capital emerged with the introduction of positive psychology, positive organizational behavior and then the mixture of positive organizational behaviors and a central structure by Luthans et al. Psychological capital is a central structure which consists of Self-efficacy, Resilience, Optimism, and Hope. With the advent of the fourth type of capital in organizations, experts realized that the organizations without this capital, even if they are rich in other three types of capitals, would not be successful. The studies by Luthans et al. showed that strengthening psychological capital in organizations improve the performance by at least 10%. [1] In recent years, most empirical studies by Luthans et al. were conducted to examine the effect of psychological capital on organizational variables including job satisfaction, performance, and organizational commitment. The study concerning the effect of psychological capital on performance and job satisfaction among Chinese workers showed that psychological capital has a significant relationship with job satisfaction and performance [2]. Psychological capital is worth investigating from different aspects. First, psychological capital development, management, and investment can be one of appropriate methods in order to promote the competitive advantage of employees and organizations. Second, no empirical study has been done in Iran in this regard. Therefore, this article can be a solution to create a positive working environment in Iranian organizations. Third, psychological capital is a young one compared to other types of capital, so it can be an interesting topic for researchers. With the advent of positive organizational behavior, organizational studies were directed towards it. In this regard, the effect of positive features of employees on organizational variables is of great importance including self-efficacy, resilience, hope, and optimism. As a result, multiple studies have been conducted concerning the relationship and effect of each of above mentioned features on organizational consequences. The results show that if these positive behavioral features are located in a central structure, it would be effective in organizational consequences. This article aimed to study the effect of psychological capital on financial performance as one of key elements of organizational survival in East Azerbaijan Province Telecommunication Company, Iran.

CONCEPTUAL DEFINITION OF VARIABLES

Self-Efficacy

It is one's belief in one's ability to succeed in specific situations or accomplish a task [3]

KEY WORDS

Capital, Employment, Financial performance,

Published: 5 January 2017

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Resilience

It shows one`s capacity to recover quickly from difficulties. A set of attitudes and skills is required to increase resilience known as hardiness with three depositions namely commitment, control, and challenge [4]

Optimism

Optimists rely on general documents, have stable documents, associate their success with their internal abilities, and associate their failures with unstable and external factors [5]

Hope

As an internal force enriching the life, hope enables one to overview the status quo. Lack of hope declines the quality of life and creates disappointment and frustration [6]

Psychological Capital

Psychological capital is rooted in positive, organizational behavior and positive psychology. Luthans defines positive organizational behavior as the positive application of HR capabilities and psychological capacities which can be measured to improve the performance in today`s working environment, developed and managed. Therefore, as most of theorists in this field state, positive organizational behavior is considered a response for such achievements [7] They try to fill the gap brought about by such approaches in work environment using new attitudes. Psychological capital is the main idea of positive, organizational behavior following the important scientific criteria as follows:1.Theoretical and research foundations, 2. Measurability and a valid evaluation tool, 3. Development and training capabilities and 4. Being unique in the field of organizational behavior [8] Researchers have identified four structures for psychological capital namely self-efficacy, hope, optimism, and flexibility [8]

Psychological capital is a positive psychological development mode characterized by the following features: commitment and efforts for the success in challenging tasks (self-confidence and self-efficacy), a positive reference regarding the present and future achievements (optimism), sustainability in objectives and the consideration of essential changes for achieving the goals (hope), and stability in the face of adversity and problems for success (flexibility). Theories and studies show that hope, optimism, flexibility, and self-efficacy are correlated and form a high-level construct known as psychological capital. Empirical studies support the convergence and distinction among these four positive psychological constructs [9].

Selection and Promotion

So far, a wide range of competencies and capabilities have been introduced for employee selection and promotion by theorists and researchers which are legally defensible according to their effects on employee performance and other organizational and individual variables. Yet, these variables cannot be controlled and intervened. Psychological capital is a state which can be measured, developed, and improved in work environment, making it distinctive. Like five personality traits, central self-assessment, capabilities, and virtues, psychological features cannot be developed [10]. Therefore, they can be only used as a tool to select but improve the results [11] because they are fixed and cannot be intervened for improving and developing.

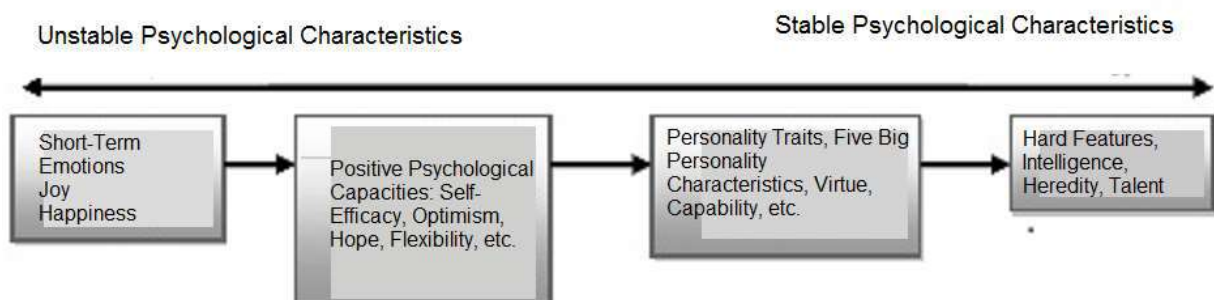


Fig.1: Relationship and Difference between Psychological Features and States (Hoveyda, Frouhar and Jamshidian, 2011: 192)

Hoveyda, Frouhar, and Jamshidian (2011) stated that although awareness concerning the psychological features associated with one's personality can be a general predictor to find an appropriate person for a given role, psychological states can be better predictors for the successful implementation of assigned task and even growth and progress. Some studies show that, compared to the demographic features, self-assessment features, personality traits, Person-Organization fit, and Person-Job fit, psychological capital have higher added value for organizational results [12] For instance, the study by Seligman among insurance sales representatives showed that optimists who failed the professional sales skills test sold more than pessimists who passed the test [13] This study is of great importance of psychological capital rather than HR (knowledge, skills, etc.) and its role in predicting the next achievement in career path. Lunenberg (2011) also pointed out that since the ones with high psychological capital are motivated to participate in behaviors helping better performance can be better choices for job promotion. Yusef and Luthans (2009) proposed that positive psychological states, unlike technical skills, need to be taken into account for hiring the managers and employees. Such skills and competencies are the prerequisites for the selection and promotion of managers and leaders because individuals with higher psychological capital welcome challenges, have motivations, have a wider horizon, can better use the information, and influence positively on the performance. Hung and Lee (2013) showed that psychological capital plays the mediating role in work capital-work success. They added that psychological capital brings about individuals to use their own cognitive resources in order to maintain their motivational energy for adaptability and adjustment during their work. Such features make individuals use their abilities and motivation in order to cope with challenges. That is why theorists and researchers support the psychological capital evaluation prior to the employment and selection. Luthans et al. (2007) pointed out that the new leader of a leading hotel facing bankruptcy in Egypt decided to change the staff. He only asked one question in the interview concerning the level of hope for the future of hotel. It resulted in the prosperity of hotel by hopeful employees that were hired after the interview. This case study shows the need for staff with high psychological capital to cope with the challenge.

Employee retention

One of the main HR management objectives is employee retention. Since retention measures are complementary to other HR management measures and processes, they alone would not lead to dramatic results even if hiring, appointment, and other personnel measures are well done. Hiring process of employees has become long, time-taking, and costly. On the other hand, official training in universities which become outdated in today's complicated environment is not sufficient for diverse and changing needs of organizations. As a result, organizations need to invest on employee training. This highlights the necessity of employee retention. In particular, today's knowledge-based employees take out a treasure of valuable experience and knowledge when they leave organizations. As a result, rival organizations easily hire other talents. Paying attention to the dimensions of psychological capital has always been one of the most important and effective factors affecting the determination of motivation, absence, and turnover. The study by Avi, Pottra, and West (2006) among engineers working in a high-tech manufacturing company showed that psychological capital has a negative relationship with the voluntary and involuntary absence from work. Avi, Luthans, and Jensen (2009) realized that individuals with low psychological capital are more prone to depression and, accordingly, turnover and job search behavior. The study by Roberts, Askyr, and Boyer(2011) showed that psychological capital declines the effect of job stress on non-citizenship behaviors. In their Longitudinal study, Avi, Versing, and Ketane (2011) figured out that psychological capital can play the role of positive emotions. It also has a positive effect on productivity by declining the employee stress. Psychological capital also has a positive relationship with job commitment and satisfaction of employees who tend to stay in organizations [14]. Luke (2011) showed that positive emotions have a positive effect on psychological capital. Psychological capital also has the meditating role in perceived job stress-job satisfaction relationship and ultimately turnover. The study by Herbert showed that psychological capital has a negative relationship with job stress and burnout. It has a positive relationship with job passion. All above mentioned issues are directly or indirectly associated with the willingness to stay in the organization. Therefore, psychological capital can directly or indirectly decline the loss in organizations by declining the adverse organizational results and increasing the optimal, organizational results as well as creating competitive advantage. It seems that psychological capital has at least three impacts: first, organizational culture and environment for creating a positive and happy working environment; second, financial and economic performance directly or indirectly; and third, physical, psychological, emotional, and behavioral effects which can lead to the increasing scope of thinking and measures according to the Ferdickson theory of creation and expansion (2004). Hence, these employees can identify and create more resources to face the upcoming challenges. This theory states that positive emotions develop thinking processes such as creativity and brainstorming, leading to the creation of resources. The process is repeated until some positive psychological aspects bring about the possibility of other positive psychological aspects in working environment [15] This is consistent with emotional contagion perspective [16] For example, this perspective proposes that something simple as

positive emotions by managers not only strengthens the positivism in managers but also increases it among the employees [17], meaning that positivism propagates in the organization through the employees especially through the leaders due their influence on employees. Therefore, psychological capital can have a positive impact on organizational environment and helps the safe organizational environment [18] This enhances the willingness to stay in organizations. In total, it seems that psychological capital is potentially capable of tolerating uncertainties, challenge, and creating positive working environment, and in general organizational attractiveness. This eventually leads to the employee retention.

HYPOTHESES

Main Hypothesis

Psychological capital is effective in financial performance.

Secondary Hypotheses

Self-efficacy has a positive effect on financial performance.

Resilience has a positive effect on financial performance.

Optimism has a positive effect on financial performance.

Hope has a positive effect on financial performance.

METHOD

This is an applied, descriptive survey because this article aimed to study the relationship among the variables. Data were analyzed using SPSS. Correlational method was employed for the data analysis and hypothesis testing in order to determine the interaction among variables. Multiple coefficient of determination (R²) is used to evaluate the model efficiency. It showed that to what extent the model is consistent with the data and what percentage of variance determines the independent variable.

Hypothesis Testing

H0: Psychological capital is not effective in financial performance.

H1: Psychological capital is effective in financial performance.

Table 1: Pearson Test for Main Hypothesis

Variable	Determination Coefficient	correlation Coefficient	Sig. level
Psychological Capital	0.26	0.52	0.00
Financial Performance			

According to [Table 1], correlation coefficient is 0.52 between psychological capital and financial performance. Therefore, at 99% confidence, null hypothesis is not verified. The alternative hypothesis states that psychological capital has a significant relationship with financial performance. The determination factor is 0.26. It means that 26% of variance of financial performance is determined by psychological capital variance.

First Secondary Hypothesis

H0: Self-efficacy has no positive effect on financial performance.

H1: Self-efficacy has a positive effect on financial performance.

Table 2: Pearson Test for the First Secondary Hypothesis

Variable	Determination Coefficient	correlation Coefficient	Sig. level
Self-Efficacy	0.24	0.50	0.00
Financial Performance			

According to [Table 2], correlation coefficient is 0.50 between self-efficacy and financial performance. Therefore, at 99% confidence, null hypothesis is not verified. The alternative hypothesis states that self-efficacy has a significant relationship with financial performance. The determination factor is 0.24. It means that 24% of variance of financial performance is determined by self-efficacy variance.

Second Secondary Hypothesis

H0: Resilience has no positive effect on financial performance.

H1: Resilience has a positive effect on financial performance.

Table 3: Pearson Test for the Second Secondary Hypothesis

Variable	Determination Coefficient	correlation Coefficient	Sig. level
Resilience	0.23	0.43	0.00
Financial Performance			

According to [Table 3], correlation coefficient is 0.43 between resilience and financial performance. Therefore, at 99% confidence, null hypothesis is not verified. The alternative hypothesis states that resilience has a significant relationship with financial performance. The determination factor is 0.23. It means that 23% of variance of financial performance is determined by resilience variance.

Third Secondary Hypothesis

H0: Optimism has no positive effect on financial performance.

H1: Optimism has a positive effect on financial performance.

Table 4: Pearson Test for the Third Secondary Hypothesis

Variable	Determination Coefficient	correlation Coefficient	Sig. level
Optimism	0.21	0.40	0.00
Financial Performance			

According to [Table 4], correlation coefficient is 0.40 between optimism and financial performance. Therefore, at 99% confidence, null hypothesis is not verified. The alternative hypothesis states that optimism has a significant relationship with financial performance. The determination factor is 0.21. It means that 21% of variance of financial performance is determined by optimism variance.

Fourth Secondary Hypothesis

H0: Hope has no positive effect on financial performance.

H1: Hope has a positive effect on financial performance.

Table 5: Pearson Test for the Fourth Secondary Hypothesis

Variable	Determination Coefficient	correlation Coefficient	Sig. level
Hope	0.20	0.37	0.00
Financial Performance			

According to [Table 5], correlation coefficient is 0.37 between hope and financial performance. Therefore, at 99% confidence, null hypothesis is not verified. The alternative hypothesis states that hope has a significant relationship with financial performance. The determination factor is 0.20. It means that 20% of variance of financial performance is determined by optimism variance.

CONCLUSION

Psychological capital is a modern and important topic in HR management and organizational behavior. As stated, psychological capital considers employee potentials and capacities. Weaknesses and problems are solved through strengthening the strong points [19]. This modern approach has a unique feature in order to create the sustainable competitive advantage in organizations. Another feature of psychological capital is that it is beyond the recognized social and human traditional capital [20]. Psychological capital has important implications for attracting, promoting, and maintaining in contemporary organizations. Along with its positive impact on various individual and organizational variables, psychological capital cannot be imitated [21], making psychological capital a sustainable competitive advantage for the contemporary organizations. In total, managers need to empower their employees by effective psychological capital management in order to effectively cope with the problems. This way, they will help convert the internal and external threats into opportunity and maximize the use of opportunities. Finally, psychological capital dimensions (self-efficacy, resilience, hope, and optimism) have a positive, significant effect on financial performance.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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ARTICLE

STUDDING DIFFERENT MISCIBLE GAS INJECTION INTO SOUTHWESTERN IRAN'S OIL RESERVOIRS USING ECLIPSE 300

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ABSTRACT

Background: Fractured reservoirs are always considered poor candidates for enhanced oil recovery. This is due to the complexity in predicting the efficiency of fractured reservoirs. The gas injection method may significantly increase the oil recovery factor. One of the important mechanisms for enhancing the extraction from fractured reservoirs is miscible gas injection. The aim of this paper is to study miscible gas injection into oil reservoirs with Eclipse 300 application. **Methods:** In this study, miscible injection of gasses including methane (CH₄), Carbon dioxide (CO₂) and Solvent are discussed under different scenarios such as different injection rates, different injection charges, different combinations for the solvent gas, as well as the completion method of the injection well with Eclipse-300. **Results:** An analysis of the Minimum Miscibility Pressure (MMP) using software PVTi revealed that the Solvent gas having the lowest miscibility pressure (4808 PSIA) and CO₂ having the highest miscibility pressure (14670 PSIA) occurred in the first contact. **Conclusion:** Therefore, the solvent is the most appropriate gas for miscible injection into oil reservoirs due to its low miscibility pressure, higher oil production and lower gas production.

INTRODUCTION

Iran is an oil-rich country whose economy is largely oil-dependent. As such, EOR methods are necessary to ensure increased efficiency in the extraction of oil [7]. Notably, the Iranian oil reservoirs are quickly being depleted, which calls for the use of EOR projects in the exploitation of the oil. Besides, the use of other traditional and inefficient oil extraction methods has made nearly 10 billion barrels of crude oil non-recoverable [1] [7].

In the light of these inefficiencies, miscible gas injection is the recommended method for EOR from reservoirs in Iran. It will significantly increase the extraction rate; thus ensuring the effective parameters for optimum injection mode, which includes injection pressure, injection flow, duration of injection, composition of the injected gas are necessary for the intended process. The method, therefore, shows that engineering science-based sustainable exploitation prevents waste of national assets [4].

In initial stages, the production from an oil reservoir is normally done based on the natural energy of the reservoir itself. This means that from the beginning, the energy required to guide the fluid into the wells is supplied by mechanisms governing the reservoir [3]. These include:

1. Water propulsion
2. Gas-cap expansion
3. Gas solution propulsion
4. Gravity drainage
5. Combined mechanism

Furthermore, oil production range, except in certain cases, is not very appropriate for each of these mechanisms. Therefore, oil producers sought to use EOR methods to extract higher oil volumes based on economic aspects.

Accordingly, method of developing an oil field was divided into four stages as follows:

1. Initial recovery or the natural production from the reservoir
2. secondary recovery
3. tertiary harvest
4. ultimate recovery

Miscible gas injection is one of the main EOR methods. It is increasingly being used globally to produce more oil. According to published reports, the injection of CO₂ in the continental of America and miscible injection in Alaska has increased oil recovery significantly [4]. Today it is well known that miscible gas injection greatly increases oil production and is effective in recovery of oil that is hardly produced naturally.

KEY WORDS

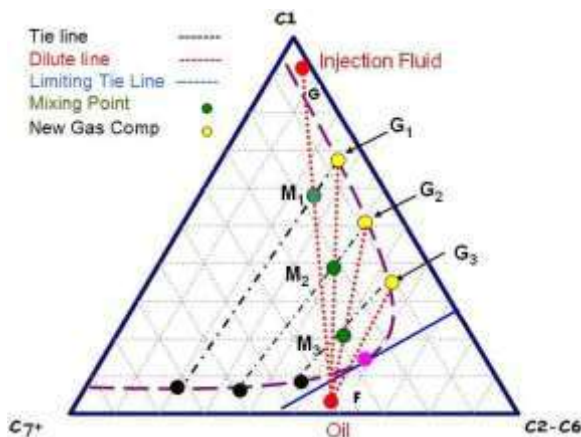
Simulation, miscible gas injection, oil reservoirs

Received: 8 October 2016
Accepted: 20 December 2016
Published: 15 January 2017

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Theoretical principles

The mechanism of mixing two fluids includes multiple stages of displacement and mixing. The cost of miscible displacement is reduced through injection of a rich gas or diluting the injected LPG by natural gas. The fund aspect of this process is to determine the maximum amount of dilution while maintaining the miscible mode. To understand the displacement and mixing stages, the composition of oil and gas is taken into consideration as in the form of compounds with three virtual components. However, in general, this method does not have a high degree of accuracy [2]. The uncertainty on accuracy stems from the assumption that oil and gas could be separately converted to virtual components through an appropriate method so that the general properties of oil and gas can be predicted using corresponding virtual components well but it is hardly concluded that virtual components of the oil are quantitatively the same as those of the gas. Notably, the more the difference between the properties of three virtual components of the oil and those of three virtual components of the gas, the lower the accuracy of results to determine the miscibility conditions will be. In addition, during the mixing process the quality of components between the reservoir fluid and the injected fluid changes [2]. As such, to determine the miscible conditions using triangular diagrams, it is assumed that virtual components of oil and gas are completely identical and no quality change occurs during the process of mixing. The assumption is the major weakness of studies



conducted based on triangular diagrams. However, it should be acknowledged that triangle diagrams are very useful for understanding the theme and overall conclusions clearly. In [Fig. 1], the fuzzy triangular diagram is shown as an example [2].

Fig. 1: Fuzzy triangular diagram.

The flooding process may occur in three ways:

1. Miscibility in the first contact (First contact) by injecting liquids gasses such as NGL
2. Condensate miscibility or miscibility by rich gas injection.
3. Evaporative miscibility or dry gas injection at a high pressure

Each point within the triangular diagram represents a specific combination of virtual components C1 (methane), C2-C6 (intermediate components that often include ethane, propane, hexane. . .) and C7 + (heptane and heavier hydrocarbons). Through experiments the ACB curve could be plotted in the specified pressure and temperature [See Fig. 1], so that concentrations in which the fluid is broken into two phases at the equilibrium state, as well as single-phase fluid concentrations are determined [3]q. The ACB curve is, in fact, the boundary separating the single-phase and two-phase modes. The BC curve indicates the concentrations of saturated gas (Dew Point Curve) and the AC curve indicates concentrations of saturated liquid (Bubble Point Curve). The saturated liquid concentration is connected to the saturated gas concentration by Tie Line in the equilibrium state [3].

Reservoir fluid composition, injection fluid composition, temperature and pressure are determining parameters in the miscible injection process. In oil reservoirs, temperature could be assumed to be constant. The relationship between concentration and pressure is shown in the triangular diagram in [Fig. 2](Whitson, 2001).

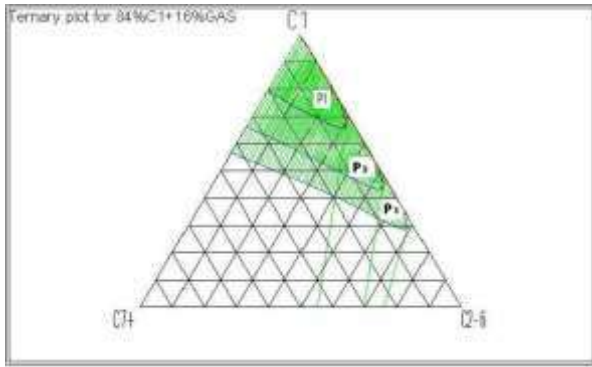


Fig. 2: Effect of pressure at the triangular diagram ($P_1 > P_2 > P_3$).

The tie line that is tangent to the critical point is called the critical tie line. When the concentration of the fluid reservoir and injected fluid is converted to three virtual components, the points representing the fluids could be easily determined on the triangular diagram. In the following figures, point G represents the gas and point F represents the fluid. When these points occur on both sides of the critical tie line, miscible displacement of reservoir fluid occurs through gas injection into the reservoir after repeated contacts between two fluids. Evaporative miscibility that represents miscible displacement with dry gas injection at a high pressure is shown in [Fig. 3]. Condensate miscibility that represents miscible displacement with rich gas injection is shown in [Fig. 4].

Fig. 3: Miscible displacement with dry gas injection at a high pressure (evaporative miscibility).

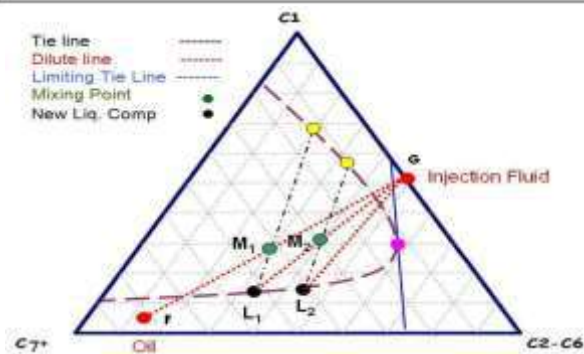
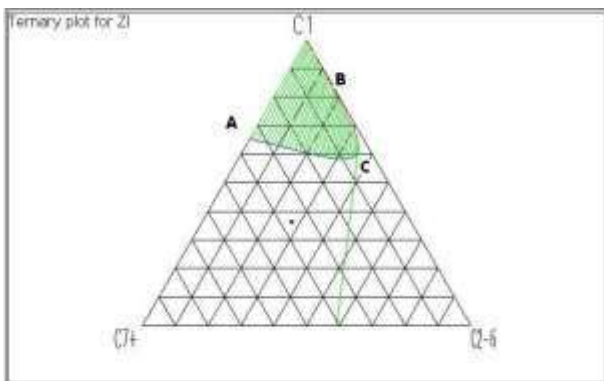


Fig. 4: Miscible displacement with rich gas injection (condensate miscibility).

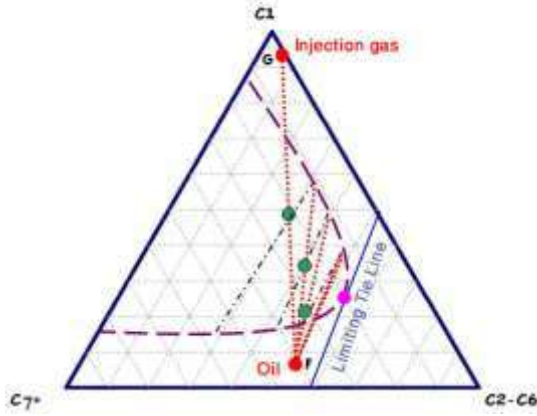


Fig. 5: shows the state where the injected fluid and reservoir fluid do not form a phase and miscible displacement will never occur.

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[Fig. 6] represents a condition in which the reservoir fluid and the injected fluid are so much close together in terms of composition that during the injection in the first contact the injected fluid and the reservoir fluid form a phase and miscible displacement will occur.

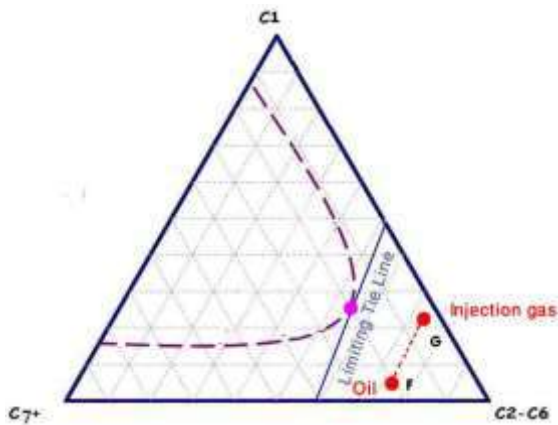


Fig. 6: Miscible displacement with the first contact between the injected gas and oil.

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Describing oil miscible process using gas injection

The mechanism of oil displacement by injecting gas that is enriched through successive contacts with oil and ultimately becomes miscible with oil reservoir is just as the displacement of a phase with a soluble phase (such as displacement of reservoir oil with LPG).

The oil recovery rate in this mode is much higher than that in other modes of displacement. The increase in the rate of oil recovery in this mode is because of the displacement of the oil existing in the reservoir. In miscible displacement, in initial contacts except for small areas of oil in pores, the remaining oil is displaced. Small areas of oil remaining are displaced through a continuous passing of fluid as well [6].

The reservoir fluid with dark surface A and the injected gas with light-colored surface D are shown in Figure 7. When gas moves to the oil reservoir, it evaporates the intermediate components in the remaining oil, and in this way, it is enriched (gray areas B and C). Higher levels intermediate components in the enriched gas causes the gray area becomes darker.

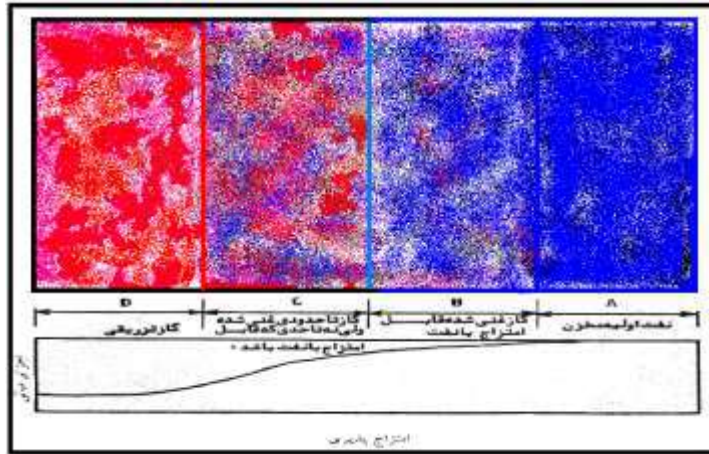


Fig. 7: Miscible gas injection process.

Small areas of oil that remain after the passage of gas in the reservoir are shown in area B. Since oil in these areas is highly similar to the miscible gas dark passing over it in terms of combination, after a while, the residual oil of area B moves with the gas. The speed of oil in this area is lower than that of the miscible fluid surrounding the oil, because oil viscosity in this area has increased due to mass transfer. In area C the two phases passing along each other are not miscible yet; thus the residual oil of this area does not move with gas. However, the evaporation of lighter components of oil causes a decrease in the volume of the oil. Finally, the ultimate residual shown in area D is very heavy, because its intermediate components have already been evaporated by gas [5].

MATERIALS AND METHODS

In this project, a simulation model has been implemented in two phases as follows:

First stage: Obtaining MMP of injected gasses including methane (CH₄), carbon dioxide (CO₂) and solvent in the first contact and in multiple contacts using software PVTi

Second stage: Examining miscible injection of methane (CH₄), carbon dioxide (CO₂) and solvent under different scenarios including different injection pressures, different injection flows and various injection compositions for the solvent gas as well as the completion method of the injection well using Eclipse-300

The results achieved in this study are graphically compared to those when the reservoir is in a natural state. Moreover, the best injection mode is select and introduced.

Examining miscible injection in the model using E-300

Description of the Model:

1. Phases in the model are formed from 3 phases of oil, gas, and water.
2. The system of Field was considered for the units of data in the model file.
3. In E300, the Adaptive Implicit (AIM) solving equations were selected.
4. The Equation of state used in the model was Soave-Redlich-Kwong (SRK) equation of state

This model is composed of 13 components which are shown by Comps key used for combined simulation.

Table 1: Combined simulation

Component name	Mole fraction
H ₂ S	0.57
CO ₂	0.63
C ₁	6.3
C ₂	2.09
C ₃	2.14
IC ₄	0.72
NC ₄	1.92
IC ₅	1.218

NC5	1.59
C6	2.56
C7+	42.4
C14+	28.5
C25+	9.3

Geological properties of the reservoir

The properties are defined in Section GRID of the data file.

Model dimensions:

1. The model has 24 cells in the direction of X, 25 cells in the direction Y and 12 cells in the direction Z.
2. The number of layers is 12, and the total number of grids is 7200.
3. The maximum amount of porosity in grids (7, 14, 9) is 0. 229879 and the minimum porosity in grids (1 3 17) is 0. 02.
4. The amount of NTG for the whole model is one.

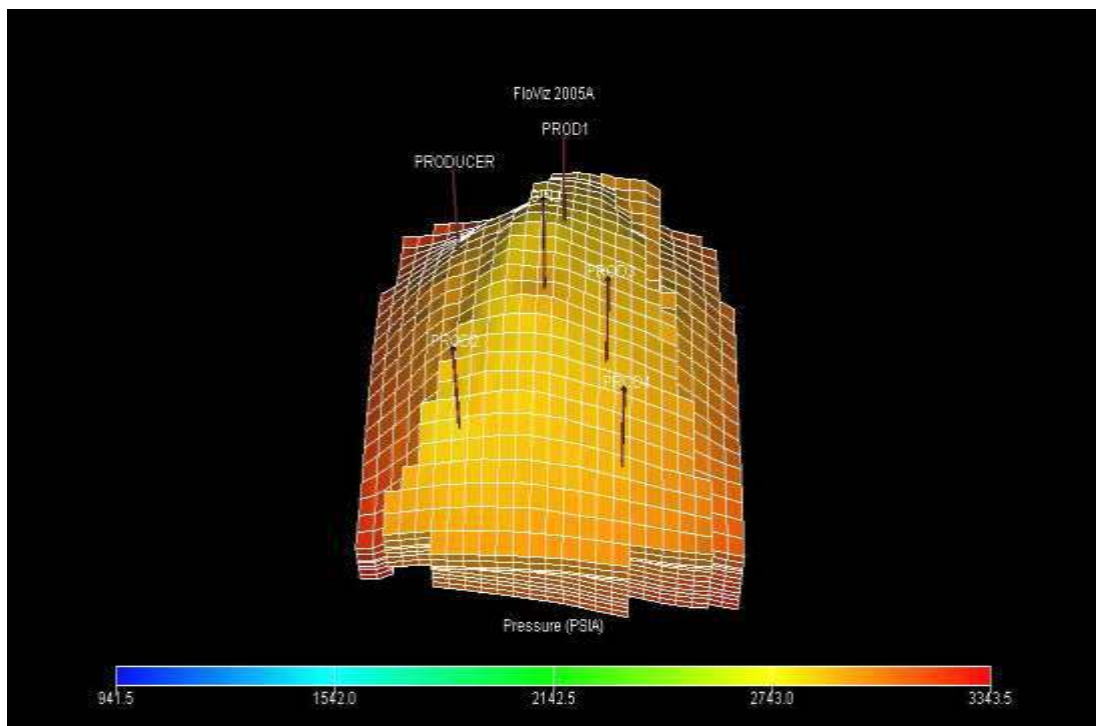


Fig. 8: 3D view of gridding of the model .

Reservoir engineering studies

1. The initial reservoir pressure at a depth of 7000 feet is 3035.7 PSIA.
2. Reservoir temperature at the gas-oil contact surface is 140 degrees Fahrenheit.
3. Water-oil and gas-oil contact surfaces are to the depth of 8200 and 7000 feet respectively.
4. The capillary pressure at water-oil and gas-oil contact surfaces is zero.
5. Bubble point pressure has been reported 1961 PSIA.

Conditions of production and injection wells in the model

Table 2: Place of production and injection wells

Wells	Location	Location	Location
Production 1	CENTER	13	8
Production 1	CENTER	7	20
Production 1	CENTER	16	16
Production 1	CENTER	17	21
PRODUCER	CENTER	6	8
Gas injection	CENTER	12	13

Types of injection gasses in the model

In this study, methane (CH₄), carbon dioxide (CO₂) and solvent were selected. The initial solvent composition was 60% of CH₄ and 40% of C₃H₈.

Control mode for production wells

Control mode conditions for production wells were as follows:

1. Oil production with initial discharge of 3000 bbl/day
2. Bottom hole pressure: 250 PSIA

Control mode for injection wells

Control mode for injection wells was based on gas injection rate of 10000 Mscf /day and bottom hole pressure of 6000 PSIA in the initial state. In addition, the injection takes place in the first to sixth layers.

Economic conditions of production and injection wells in the model

Economic constraints to production and injection wells include:

1. Maximum water cut is 0.6 STB/STB
2. Maximum GOR is 20 MSCF/day
3. Minimum oil production is 250 STB/day

Miscible gas injection in Iran’s hydrocarbon reservoirs

In fractured Hydrocarbon reservoirs, fractures have more permeability than the matrix. Accordingly, the production from fractures will be higher than that of the matrix. For example, a well within a thickness of 10 feet that has been gridded in a carbonate fractured reservoir carbonate produces oil with a flow of 3000 barrels per day, while the same production will be achieved in a non-fractured reservoir that has been gridded with a thickness of 1000 feet. The difference is only due to the presence or absence of fractures in the reservoir.

Iranian oil reservoirs have a very special state than other reservoirs in the world. In Iran, there are about 74 oil reservoirs in drought areas. Of these, 24 reservoirs have gas caps and the remaining ones are undersaturated (without gas cap). The slope of oil pressure in Iran’s oil reservoirs varies between 0.276 (psi/ft) and 0.366 (psi/ft). Formation volume factor, Bo varies from 1.314 (bbl/STB) to 2 (bbl/STB). The amount of gas solved in oil, GOR, in the range of 640 (SCF/bbl) 640 to 3497 (SCF/bbl). The lightness of oil varies from 19.1 API to 48.4 API. Oil viscosity varies between 0.3 cp and 2.5 cp 5/2.

Only about 10% of Iran's reservoirs are sandstone and 90% are carbonate reservoirs. Some reservoirs are thin and some are thick. Some of the reservoirs have strong aquifer while in some aquifer is inactive. Yet, for miscible gas injection, usually light gasses such as methane, strong gasses such as LPG, non-hydrocarbon gasses such as carbon dioxide and nitrogen are considered.

In Iran, all gas injection projects that have been done using the immiscible injection method to stabilize the reservoir pressure (injection of dry gas in the gas cap). The only case of miscible gas injection is the gas injection project in Ramshir reservoir that has been in operation for about 15 years. However, this reservoir is too small compared to other reservoirs in Iran, and therefore it has been set as a pilot plant. Miscibility conditions have been set to be provided in the reservoir by NGL gaseous liquids. Hence,

examining miscible gas injection in Iran's carbonate reservoirs is among the first projects of miscible gas injection in carbonate reservoirs in the world.

The evaluation of miscible gas injection in Iran's carbonate reservoirs entails an analysis of the following basic questions:

- What criteria are there for miscible gas injection into Iran's oil reservoirs?
- What type of gas should be considered for miscible injection in Iran's oil reservoirs?
- Which Iranian oil reservoirs are appropriate for miscible gas injection?
- How much will the amount of oil recovery be by miscible gas injection?
- What effect will size and shape, fracturedness, heterogeneity of rock in terms of porosity and permeability, slope of building, nature of gas and oil, temperature and pressure conditions and saturation in the reservoir have on the efficiency of miscible injection in Iran's oil reservoirs?

Obviously, answers to the above questions help clarify the method for miscible gas injection into Iran's oil reservoirs, which is promising as a secondary production of oil.

In this study, the model was run for 24 years from 2007 until 2031 and the results were evaluated

RESULTS

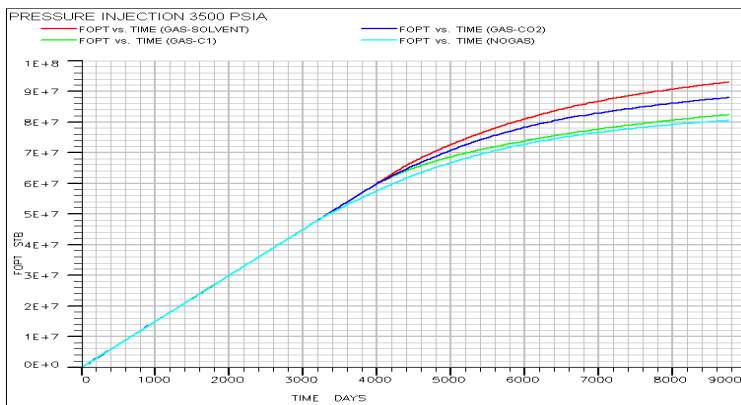
Research scenarios

The first scenario

In the first scenario, methane (CH₄), carbon dioxide (CO₂), and Solvent were injected into the reservoir at a pressure of 3500 (PSIA).

The injection process requires that the minimum injection pressure be higher than the reservoir pressure, which is 3035 (PSIA). Therefore, the minimum pressure of 3500 (PSIA) was selected to enhance the recovery of oil by injection of solvent, CO₂, and C₁.

As could be seen in the diagrams, the higher level of oil production (FOPT) and the lower amount of gas production (FGPT) were respectively under the effect of solvent injection higher than CO₂ and CO₂ injection higher than CH₄.



FOPT diagram of the first scenario at 3500 (PSIA).



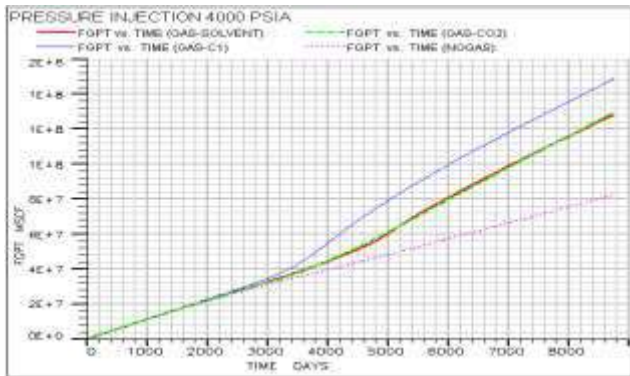
FGPT diagram of the first scenario at 3500 (PSIA).

The second scenario

In the second scenario, first the injection of methane (CH₄), carbon dioxide (CO₂) and solvent took place at a pressure higher than the first scenario in injection pressure of 4000 (PSIA). The results were presented as diagrams and compared to the case when the reservoir was in the natural discharge state. The results showed that oil production (FOPT) slightly increased for CH₄, but no change was observed for Solvent and CO₂ compared with the pressure of 3500 (PSIA) in the first scenario. Gas production rate (FGPT), for CH₄, CO₂, and Solvent increased compared to the 3500 pressure (PSIA) in the first scenario.



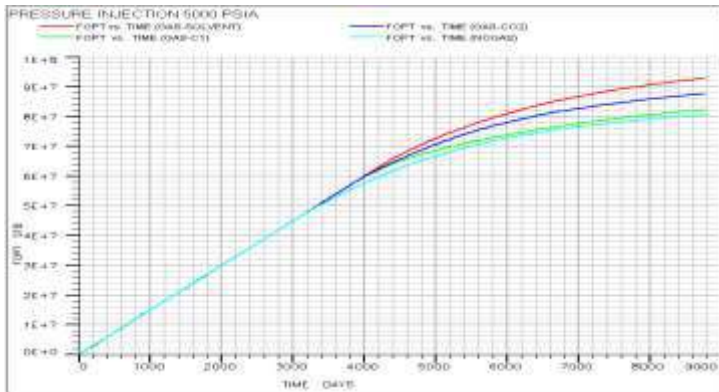
FOPT diagram of the second scenario at 4000 (PSIA).



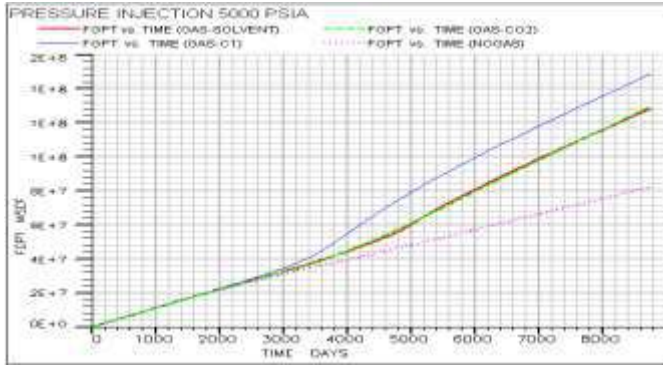
FGPT diagram of the second scenario at 4000 (PSIA).

The third scenario

In the third scenario, injection of methane (CH₄), carbon dioxide (CO₂) and Solvent took place at the injection pressure of 5000 (PSIA) which was higher than the MMP. The results showed that oil production rate (FOPT) and gas production rate (FGPT) did not change compared to the pressure of 4000 (PSIA) in the second scenario.



FOPT diagram of the third scenario at 4000 (PSIA).



FGPT diagram of the third scenario at 4000 (PSIA).

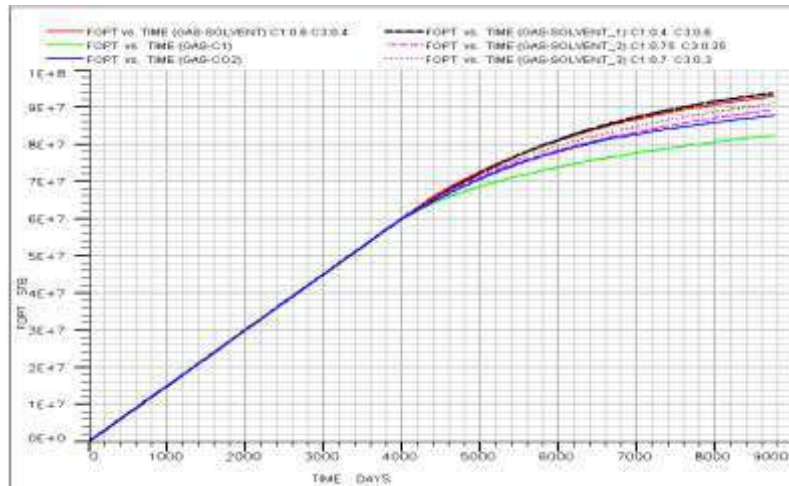
The fourth scenario

The fourth scenario includes the Solvent injection modes passed through a variety of gas compositions including methane and propane, compared to the initial Solvent composition equal to 60% of CH₄ and 40% of C₃H₈. The results are presented in [Table 3].

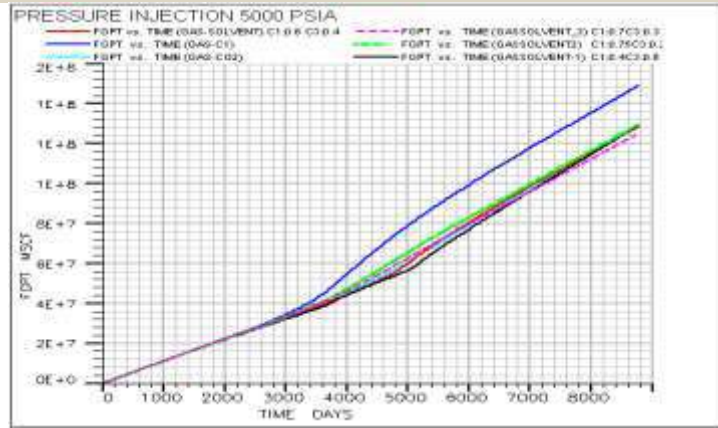
Table 3: Different compositions of Solvent

Solvent	CH ₄ %	C ₃ H ₈ %
First mode	0.75	0.25
Second mode	0.7	0.3
Third mode	0.4	0.6

In examining Solvent injection with different compositions it could be concluded that if the percentage of propane (C₃H₈) in Solvent (gets richer) increases, oil production rate increases because the injection combination of oil and gas are closer to each other and miscibility occurs more easily. Among the injection of various compounds listed above, Solvent with the percentage 60-40 has the highest rate of oil production due to higher levels of propane (C₃H₈) and higher levels of enrichment.



FGPT diagram of the fourth scenario.



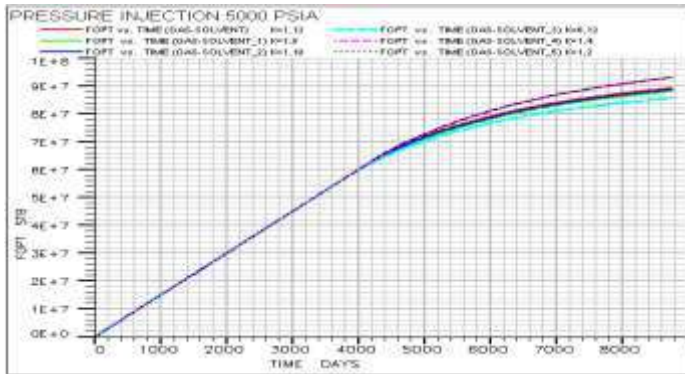
FGPT diagram of the fourth scenario.

The fifth scenario

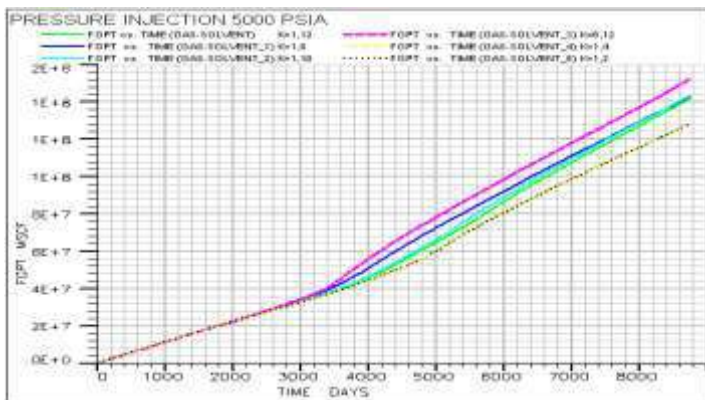
The states of the completion layers of the injection well are studied in this scenario. To this end, the injection well has been gridded in different layers (K) [according to Table 4] for Solvent at the injection pressure of 5000 (PSIA).

Table 4: Gridding of layers

K=1	K=2
K=1	K=4
K=1	K=8
K=1	K=10
K=1	K=12
K=6	K=12



FOPT diagram of the fifth scenario.



FGPT diagram of the fifth scenario.

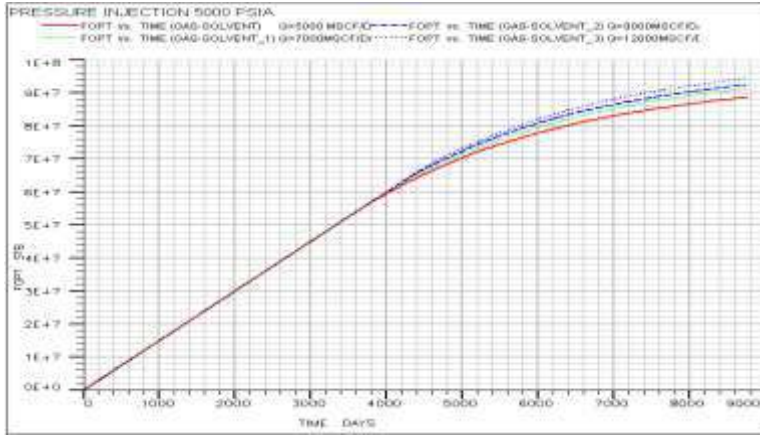
The results show that if the injection takes place in higher layers, oil production increases while gas production decreases.

The Sixth scenario

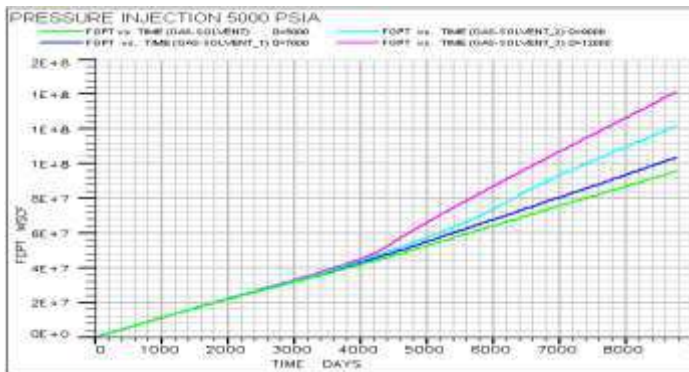
In this scenario, Solvent injection was performed at the pressure of 5000 (PSIA) in different injection flows as described below:

- MSCF/day-15000
- 2 MSCF/day 7000
- 3 MSCF/day 9000
- 4 MSCF/day 12000

According to the following diagrams, it could be concluded that increasing the injection flow does not lead to higher oil production, but up to a certain level of increase in the injection flow will follow higher oil production, while higher levels cause an increase in gas production which leads to double pressure drop of the oil reservoir.



FOPT diagram of the sixth scenario.



FGPT diagram of the sixth scenario.

DISCUSSION AND CONCLUSION

According to simulations carried out by software PVTi and E300 on the defined models, the following results were achieved:

On examining the MMP, Solvent having the lowest miscibility pressure (4808) and carbon dioxide (CO₂) having the highest miscibility pressure (14670) took place in the first contact. In addition, on examining the miscibility pressure, CO₂ having the lowest miscibility pressure (2991) and methane (CH₄) with the highest miscibility pressure (4324) took place in multiple contact.

According to the results of the scenarios above, MMP calculated for injection gasses, the most appropriate injection pressure for achieving more production of oil is the pressure of 4000 (PSIA). In addition, in examining the injection of Solvent with different compositions, it could be concluded that if the percentage of propane (C₃H₈) in Solvent increases (gets richer), oil production rate increases because the injection combination of oil and gas are closer to each other and miscibility occurs more easily.

In examining the completion of injection well, according to the results it could be concluded that if the injection takes place in higher layers, oil production increases while gas production decreases.

It could also be concluded that increasing the injection flow does not lead to higher oil production, but up to a certain level of increase in the injection flow will follow higher oil production, while higher levels do not cause an increase in oil production.

In this study, Solvent was the most appropriate gas for injection into oil reservoirs due to low miscibility, higher oil production and lower gas production.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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ARTICLE

A COMPARATIVE STUDY ON CUSTOMER SATISFACTION ABOUT BANKING SERVICE FEES IN CREDIT UNIONS AND STATE BANKS

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ABSTRACT

In today's competitive world, customers are undoubtedly considered one of the most important assets of every manufacturing and service organization. Considering the fact that dissatisfaction is one of main reasons of customer decline, it is essential to study the customer satisfaction and know their awareness of satisfaction. Customer dissatisfaction brings about heavy damages to banks. The relationship between customers and banks is of great importance. Banking relationships are beyond the number of transactions and mainly cover the identification of relationships between both parties. Accordingly, this study aimed to empirically study the past studies in this regard and analyze the factors affecting the customer satisfaction concerning loans. A survey was performed among bank and credit union customers selected through random sampling. Data were collected using a researcher-made questionnaire of which its validity was verified using the content validity method. Cronbach's alpha was employed to verify the reliability. The results showed that customer satisfaction in credit unions and state banks was moderate to high. Satisfaction was moderate to low in credit unions and state banks concerning the banking service fees.

INTRODUCTION

Most companies usually have financial relationships with some banks. However, they choose one as the main bank to get loans (Perrien and Richard, 1995). There are different types of challenges compared to usual bank customers in financial service sector for firms and companies (Judith, 2002). Rapid development of informatics has brought about major changes in the form of money and resource transferring systems in banking. This has led to the introduction of a new banking phenomenon known as e-banking (Hassan Zadeh and Pour Fard, 2003: 7). Modern banking services are closely correlated with IT technology known among the most important factors for competitive advantage for banks and customer satisfaction (Ali Mohammadi, 2002: 34). Generally, banking industry has experienced four periods: The use of coins, paper payment systems such as paper money, e-payment systems such as credit cards, and web-based databases. Banks play a key role in the increased volume of e-commerce by moving toward the e-banking and provision of modern banking services (Kahzadi, 2003: 5). E-banking has become a strategic tool for banks (Hassan Zadeh and Sadeghi, 2003: 27, 28). According to the studies by Forrester Institute, 20% of the Europeans use internet banking services which has been doubled compared to two years ago. The number is predicted to be 130 million users by 2007 (Sahut, 2003). Basically, e-banking refers to the provision of access to banking services through safe intermediates without the physical presence (Kahzadi, 2003). E-banking services are available in a variety of ways including e-banking, home banking, mobile banking, ATM, Point Of Purchase (POP), and internet banking (Hassan Zadeh and Pour Fard, 2003: 7).

KEY WORDS

State Banks, Credit Unions, Service Quality, Banking Service Fees

Literature review

Westbrook (1981) stated that satisfaction is the positive or negative experience when the consumer has made enough efforts concerning the product. Satisfaction is also a subjective response which is effective in the whole market and product, service, and salesperson features when the purchase is performed. Loyalty is defined as the structure assessing the likelihood of repurchase and return customers. Some authors have pointed out to some behavioral intentions including advice and support increase (Parasuraman et al., 1996). Reducing the number of governmental employees (Article 1 of Fourth Development Plan) and employment limitation (Article 2 of Fourth Development Plan) are among the rules which require the state organizations to make them smaller and prevent the increase in personnel. Therefore, banks require the private sector instead of new employment in order to expand the service operation and facility portfolio (Golchin Far, 2002). This would engage banks with customer satisfaction crisis. Yet, Dominique Turpin believed that customer satisfaction is one of the first missions and priorities of senior management. He also believed that constant commitment and involvement of senior management is the prerequisite for success in customer satisfaction (Turpin, 1995). Astonishing IT development and its application for increasing the speed and quality are two features of the current century. Additionally, service sector accounts for almost 20% of total global trade. In the past, commodity trade experienced the rapid growth of 8.5% (Unktad, 2001). Today, service delivery has experienced dramatic changes due to the expansion of internet and its accessibility. E-transfer system is implemented through credit cards and codes; making accessibility to personal accounts possible (Venus, Mokhtaran, 2002: 6). In the interest-free banking rule implemented in Iran in 1984, banks are allowed to pay maximum 10% of their annual facilities in the form of interest-free loans provided that the total does not exceed interest-free savings deposits. Concerning the long-term saving deposits, delegation is nature of such accounts according to the interest-free banking rule. Therefore, these resources are not owned by

Received: 10 October 2016
Accepted: 18 December 2016
Published: 15 January 2017

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banks and banks are required to act on behalf of the depositors. Such deposits can be used in Islamic contracts in order to maximize the interests of the depositors. The interest is then divided between the banks and depositors after deducting the expenses and honorarium (Allah Yari Fard, 2003). SERVQUAL is the basic model in service quality with 23 items to assess the service quality. After studies in service industries including universities, banks, credit cards, maintenance, and communication, five main dimensions of SERVQUAL are as follows:

Table 1: Integration of Five Dimensions of Service Quality

Tangibles	Appearance of physical facilities, equipment, personnel, and communication materials, etc.
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to convey trust and confidence
Empathy	Caring, individualized attention the firm provides its customers

METHOD

This article aimed to compare the customer satisfaction concerning banking service fees in credit unions and state banks. Hypotheses are as following:

- Satisfaction is moderate to high in credit unions concerning the performance.
- Satisfaction is moderate to high in state banks concerning the performance.
- Satisfaction is moderate to low in credit unions concerning the banking service fees.
- Satisfaction is moderate to low in state banks concerning the banking service fees.

The concepts are as following:

Employee Performance: Service provider is not separated from the service due to inextricable feature of banking services. It is obvious that the employee might play multiple roles in a bank (Mahdi Shamlou, 2007: 68). Employee performance and service delivery can motivate the customer to return in future (Ali Goli, 2006: 122). This applied survey was performed to describe the status quo. A desk study was performed to develop the theoretical frame and literature. The statistical population consisted of all customers of credit unions and state banks in Isfahan province, Iran. A total of 100 customers (50 in state banks and 50 in credit unions) were enrolled as the sample using random sampling. Data were collected using a researcher-made questionnaire. The questionnaire consists of one open-ended question and 43 closed-ended questions. The information was then extracted, coded, and analyzed using SPSS. As per descriptive level, one-dimensional tables (frequency, percentage, and cumulative percentage) and Friedman test were employed. The study is based on content validity which relies on the judgment of experts. To this end, the items were extracted from previous studies in order to evaluate the research variables. The comments of experts were used to select the best items. Cronbach's alpha was 0.78 using pretest data and SPSS for customer satisfaction of credit unions and state banks. Since it was greater than 0.7, the reliability was verified.

Data analysis

Descriptive findings

Table 2: Frequency Distribution of Respondents according to the Use of Services

Customers	Number	Percentage	Cumulative Percentage
Credit Union	50.0	50.0	50.0
State Banks	50.0	50.0	100.0
Total	100.0	100	

Table 3: Frequency Distribution of Respondents according to Age

Gender	Number	Percentage	Valid Percentage	Cumulative Percentage
Male	78	78.0	78.0	78.0
Female	22	22.0	22.0	100.0
Total	100	100.0	100.0	

Table 4: Frequency Distribution of Respondents according to Education

Level of Education	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Lower than Diploma	22	22.0	22.0	22.0
Diploma	30	30.0	30.0	52.0
Associate Degree	34	34.0	34.0	86.0
Bachelor Degree	14	14.0	14.0	100.0
Master Degree and Higher	-	-	-	

Total	100	100.0	100.0	
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Table 5: Frequency Distribution of Respondents according to Satisfaction/ Credit

Satisfaction	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low	11	22.0	22.0	22.0
Medium	27	54.0	54.0	76.0
High	12	24.0	24.0	100.0
Total	50	100.0	100.0	

Table 6: Frequency Distribution of Respondents according to Satisfaction/ State Banks

Satisfaction	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low	11	22.0	22.0	22.0
Medium	30	60.0	60.0	82.0
High	9	12.0	12.0	100.0
Total	50	100.0	100.0	

Table 7: Frequency Distribution of Respondents according to Satisfaction concerning Banking Service Fees in Credit Unions

Satisfaction	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low	10	20.0	20.0	20.0
Medium	15	30.0	30.0	50.0
High	25	50.0	50.0	100.0
Total	50	100.0	100.0	

Table 8: Frequency Distribution of Respondents according to Satisfaction concerning Banking Service Fees in State Banks

Satisfaction	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Low	19	38.0	38.0	38.0
Medium	13	36.0	36.0	64.0
High	18	26.0	26.0	100.0
Total	50	100.0	100.0	

Table 9: Statistics for Age of Respondents

Statistics	Total
Mean	38.24
Standard Deviation	11.69
Minimum	20
Maximum	65
Variation	46

Since age was measured in an interval level, its statistics are only reported. According to the results, the mean age of customers was 38.24 with standard deviation of 11.69. The youngest customer was 20, while the oldest was 65.

Inferential analysis of findings

First hypothesis

To what extent is the satisfaction in credit unions?

Since it was measured at an interval level and it is an interval variable, the one sample t-test was employed. A total of 21 items were taken into account to assess the satisfaction in credit unions. Items were scored on a 0 to 5 scale. The minimum score was 21, while the maximum was 105. 63 was the mean value. Scores which are greater than 63 showed moderate-to-high satisfaction in credit unions. However, scores lower than 63 showed moderate-low satisfaction in credit unions.

Table 10: One-sample t-test output for assessing the satisfaction in credit unions

Variable	Number	Mean	Standard Deviation	T	Freedom Degree	Two-Tailed Sig. Level
Satisfaction in Credit Unions	50	65.60	7.63	60.78	49	0.000

T-test result showed that the mean score of satisfaction in credit unions was 65.60. T was 60.78 and significance level is lower than 0.05. It means that the mean was significantly lower than 63. Therefore, satisfaction is moderate to high in credit unions. Low banking service fees are likely to be the main reason for satisfaction in credit unions.

Second hypothesis

To what extent is the satisfaction in state banks?

Since it was measured at an interval level and it is an interval variable, the one sample t-test was employed. A total of 21 items were taken into account to assess the satisfaction in state banks. Items were scored on a 0 to 5 scale. The minimum score was 21, while the maximum was 105. 63 was the mean value. Scores which are greater than 63 showed moderate-to-high satisfaction in state banks. However, scores lower than 63 showed moderate-low satisfaction in credit unions.

Table 11: One-sample t-test output for assessing the satisfaction in state banks

Variable	Number	Mean	Standard Deviation	T	Freedom Degree	Two-Tailed Sig. Level
Satisfaction in State banks	50	82.82	7.94	27.16	49	0.000

T-test result showed that the mean score of satisfaction in credit unions was 82.82. T was 21.76 and significance level is lower than 0.05. It means that the mean was significantly lower than 63. Therefore, satisfaction is moderate to high in state banks. Diversity of services are said to be the main reason for satisfaction in state banks.

Third hypothesis

To what extent is the satisfaction concerning banking service fees in credit unions?

Since it was measured at an interval level and it is an interval variable, the one sample t-test was employed. A total of 2 items were taken into account to assess the satisfaction concerning banking service fees in credit unions. Items were scored on a 0 to 5 scale. The minimum score was 2, while the maximum was 10. 6 was the mean value. Scores which are greater than 6 showed moderate-to-high satisfaction concerning banking service fees in credit unions. However, scores lower than 6 showed moderate-low satisfaction concerning banking service fees in credit unions.

Table 12: One-sample t-test output for assessing the satisfaction concerning banking service fees in credit unions

Variable	Number	Mean	Standard Deviation	T	Freedom Degree	Two-Tailed Sig. Level
satisfaction concerning banking service fees in credit unions	50	7.16	1.73	29.25	49	0.000

T-test result showed that the mean score of satisfaction concerning banking service fees in credit unions was 7.16. T was 29.25 and significance level is lower than 0.05. It means that the mean was significantly greater than 6. Therefore, satisfaction is moderate to high concerning banking service fees in credit unions. High banking service fees are said to be the main reason for dissatisfaction of state banks.

Fourth hypothesis

To what extent is the satisfaction concerning banking service fees in state banks?

Since it was measured at an interval level and it is an interval variable, the one sample t-test was employed. A total of 2 items were taken into account to assess the satisfaction concerning banking service fees in state banks. Items were scored on a 0 to 5 scale. The minimum score was 2, while the maximum was 10. 6 was the mean value. Scores which are greater than 6 showed moderate-to-high satisfaction concerning banking service fees in state banks. However, scores lower than 6 showed moderate-low satisfaction concerning banking service fees in credit unions.

Table 13: One-sample t-test output for assessing the satisfaction concerning banking service fees in state banks

Variable	Number	Mean	Standard Deviation	T	Freedom Degree	Two-Tailed Sig. Level
satisfaction concerning banking service fees in state banks	50	5.78	1.76	27.16	49	0.000

T-test result showed that the mean score of satisfaction concerning banking service fees in state banks was 5.78. T was 27.16 and significance level is lower than 0.05. It means that the mean was significantly lower than 6. Therefore, satisfaction is moderate to low concerning banking service fees in state banks.

CONCLUSION

This article aimed to compare the customer satisfaction concerning banking service fees in credit unions and state banks. The results are as following:

- Satisfaction is moderate to high in credit unions concerning the performance.
- Satisfaction is moderate to high in state banks concerning the performance.
- Satisfaction is moderate to low in credit unions concerning the banking service fees.
- Satisfaction is moderate to low in state banks concerning the banking service fees.

As the results showed, customer satisfaction is moderate to high in credit unions and state banks. Satisfaction concerning the banking service fees is higher in credit unions than in state banks. Dissatisfaction is not very high concerning banking service fees in state banks. Customers are ready to get loans with high banking service fees to meet their economic problems.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The article was extracted from a research project supported by Payame Noor University.

FINANCIAL DISCLOSURE

None

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ARTICLE

THE ASSESSMENT OF INTERNAL AUDIT QUALITY AND THE OWNERSHIP STRUCTURE OF THE COMPANIES OPERATING IN THE TEHRAN STOCK EXCHANGE INVESTMENT INDUSTRY

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ABSTRACT

The main goal of study is the assessment of internal audit quality and the ownership structure of the companies operating in Tehran Stock Exchange investment industry. This study is a descriptive research. We used the library research method for theoretical data collection, and obtained the necessary information for the realization of research goals by using statistical data. In this study, we used multivariate linear regression model in order to test the hypotheses. The research population consisted of all active investment companies listed in Tehran Stock Exchange that was available during the years 2009-2014. The results of the correlation of variables between the percentage of institutional shareholders and ownership concentration with internal audit quality in the companies listed in Tehran Stock Exchange showed that there are significant relationships between all the independent research variables and the internal audit performance quality in the companies listed in Tehran Stock Exchange, i.e. all research hypotheses were confirmed.

INTRODUCTION

KEY WORDS
Internal audit,
corporate governance,
ownership
concentration, Tehran
Stock Exchange

Internal audit has been considered as pillars of modern organizations and the mutual understanding of the functions and needs of the internal audit staff and the managers of different levels of organization relative to each other will help the organization to achieve its goals. Internal auditors' professional relationships and interactions as one of the most important parts of the organization with other administrators, is an important factor for achieving the objectives of the internal audit and in the next step, benefiting of the organization from it. Generally, the internal auditor evaluates the design and effectiveness of the internal control system. A good design of the internal control system ensures that the organization's objectives will be carried out with reasonable costs. An efficient control system is a system that accomplishes what has been considered in every stage of design [1].

The quality of the audit is one of the main topics in the sphere of audit and the capital market. In order to recognize the different concepts and dimensions of the audit quality, a variety of studies has been carried out to discover the relationship between the quality of audit and its other variables. However, since the audit quality is barely visible in practice, research in this area has always faced a lot of problems. The audit profession, like other professions, needs the public trust to maintain its position. The society expects that the audit profession provides an audit report with the optimum quality. This is an added value that only the audit profession is able to add it to the financial information of companies [2]

Factors affecting the supply and demand for high-quality audit services

In General, the research in the field of audit quality can be defined in two general groups of factors affecting the supply of high-quality audit and the demand for high-quality audit. Research had done from the perspective of auditing services suppliers, mainly stresses on factors like the ability of auditors in providing high-quality audit. Research conducted from the perspective of users of the audit services mainly deal with the factors that affect the demands of audit report users, including the shareholders, legal authorities, creditors and employers [3].

The research carried out from the perspective of suppliers mainly stress factors that affect audit capabilities in providing high-quality audit. From the perspective of auditors, the ability of auditors and economic incentives affect the audit quality. Also, certified and professional auditors have a higher perception of falsifications committed in providing the financial statements and it would increase the quality of auditing decisions. From the perspective of auditors, the size of the audit institute is one of the features that affect the quality of the audit [3].

Internal audit and the audit committee

The existence of the audit committee, which is composed of members of the board of directors to oversee the internal audit tasks and responsibilities, boosts the internal auditors' independence and a stronger link between the audit committee and the internal audit unit, means more independence and thus realism and impartiality of the internal auditors in auditing and reporting operations. The audit committee is responsible for monitoring the hiring, promotion and salary and benefits of the head of internal audit department and the operations of internal audit unit [4].

The auditing methods, standards and guidelines must be also verified by the audit committee's approval. The purpose of the audit committee is assisting the board of directors in the conduct of regulatory

Received: 8 October 2016
Accepted: 20 December 2016
Published: 17 January 2017

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responsibility to ensure the following items [5]: (a) qualifications and independence of independent auditors; (b) compliance with mandatory rules and regulations; (c) correctness of financial statements; and (d) properly and correct performance of the internal audit and independent auditors.

Organizational position of the internal audit

In the context of particular organizational position of the internal audit unit and the impact of this position on the internal audit impartiality, it is best that the internal audit unit should report to the highest management ranks of the economic unit and do not assume any executive responsibilities. Any management restrictions imposed on the internal audit unit should be carefully assessed. In particular, the internal auditor shall engage freely with the independent auditor. In an optimal organizational structure, the internal audit is a subset of audit committee and its members will be appointed by the board of directors or independent managers that have no executive responsibility in the organization. This committee will be formed in order to enhance the interests of the shareholders and stakeholders with the goal of reducing information asymmetry between managers and shareholders [6] [Fig. 1].

Figure 1: Diagram of internal audit's organizational position

Shareholders / stakeholders	
Representation theory / information asymmetry	
Board of directors	
Audit committee / audit committee charter	
Independent audit	Internal control-Risk management
Evaluation of adherence to laws & regulations	Internal audit

Internal audit and independent audit

The high quality of internal audit activity in the process of independent auditing is aligned with low independent audit fees. For example, in a study entitled Identifying Contributing Factors of Reliance of Independent auditors on The Work of the Internal auditors from the perspective of the auditors that are members of the Iranian Association of Certified Public Accountants (IACPA), variables like professional competence, quality of the work, professional care and the level of inherent risk by the internal auditors has a significant positive relationship with the reliance of independent auditors on their performance [6].

Internal auditor and the quality of financial reports

The audit committee is a new control mechanism in financial reporting and more research in this field improves the quality and reliability of financial reporting and transparency of financial information. Through measures such as increasing the independence of the audit committee, presence of the people with financial, accounting and auditing expertise in the audit committee and the increased effectiveness of the audit committee in order to improve the honest presentation and reliability of the financial reporting process and expanding the research into the audit committee's features and effectiveness, more emphasis to improve the characteristics of audit committee and its effectiveness on the financial reporting process will be applied [7].

Internal audit in the government structure

The authority of government auditors should be as extensive as possible so that it can meet the entire government agencies' activity. The auditors by providing independent and objective guarantees are able to increase the value of each part of the organization. Anyway, a comprehensive and desirable audit requires the internal audit and independent audit that have complementary roles. Ultimately, the government audit with its optimum performance by creating the responsibility of accountability and maintaining the important values of the government strengthens and ensures the government's governance system [6].

Independence of auditors

The value of an independent audit depends on auditors' assessment of the fair presentation of financial statements and the effectiveness of internal controls. Hence, the crucial role of the audit committee ensures the apparent and inherent independence of the auditors. A major concern that damages the independence of auditors is providing non-audit services [8]. The Sarbanes Oxley rule bans non-audit services and forces the audit committee to assess any non-audit services provided by auditors.

Internal audit in the organization

"Internal audit is a counseling, ascertaining, independent and unbiased activity, that is designed in order to add value and improve the organization's operation. It aims to help the organization achieve its goals through the assessment and improvement of the effectiveness of risk management and organizational control and monitoring processes with a regular and disciplined approach" [9]. Unfortunately, most organizations define the main task of internal audit as a review of the adequacy of internal control and financial information reliability. But today, as the present definition shows, the internal

audit range of activities is far more expanded than before. They engage in reviews of operational efficiency, information technology reliability, effectiveness and efficiency of business transactions both inside and outside of the country, helping to improve the company's operations and processes, and monitoring the customer satisfaction. The purpose of this research is the evaluation of the internal audit quality and the ownership structure of the companies operating in Tehran Stock Exchange investment industry [6].

MATERIALS AND METHODS

This research, in terms of goal is an applied research and the objective is to determine the extent of the relationship between the variables. For this purpose, appropriate indicators would be selected according to the measurement scale of the variables. The data measurement scale is a relative scale. This means that the theoretical basics and the research background were obtained through library study, other sites, comparable framework articles, and compilation of information for approval or rejection of the hypotheses within an induction reasoning process. Since the type of the tested relationship in this research is of the correlation (post-occurrence) type, we used the multivariate regression analysis to determine the extent of the effect of independent variables on the dependent variable.

Population

It consists of all the companies listed in Tehran Stock Exchange during March 2009 to 20 March 2015. The sampling method is based on the systematic removal with the following conditions: 1- the information required for the calculation of the research's operating variables for them should be available; 2- they must be listed in the Stock Exchange at least from 2009 and have operated actively until the end of the research period; 3- the end of their fiscal year should be March 20th. The final sample size according to the above criteria and screening method was 99 companies. To check the hypotheses' variables, the information relating to the sampled companies, the initial calculations were performed in the spreadsheet software (Excel) and the data for the analysis were prepared, and then we used the EViews 7 software for the final analysis.

Research model and operational definition of variables

The research's conceptual model is represented as follows [Fig. 2].

Figure 2-Source: adjusted model; (Johel et al., 2013)

Conceptual model	
Independent variables	Dependent variable
Percentage of institutional stockholders	Internal audit quality
Ownership concentration	

Research model and measurement method of the variables

$$IAQ = \beta_0 + \beta_1 Owninv + \beta_2 Concentration + \beta_3 SIZE + \beta_5 BTM + \beta_6 ROA + \epsilon_i$$

1-Dependent variable:

IAQ = In this research, according to Johel et al. (2013), the internal audit performance quality that can be assessed through the following two criteria: the amount of internal audit unit's activity background of the company i based on year, obtained by the difference between the current year and the internal audit unit establishment year; and the audit unit's operating costs including training cost, salary and benefits of internal audit personnel divided by the sum total of the company's assets; and in this research we used the second procedure.

2-Independent variables:

Owninv = The percentage of the number of institutional shareholders, i.e. the institutional shareholders are individuals who own more than five percent of the company shares. This variable is equal to the percentage of total shares that are owned by such people.

Concentration = ownership concentration. The meaning of the ownership concentration is the number of shares held by the major shareholders and major shareholders are those who are indicated as major shareholders of the company in the company's financial statements report or the board of directors' report to the assembly and hold over 5% of the company shares.

3- Control variables:

Size = It is a control variable in the research whose impact is important to adjust the final result. This variable indicates the size of the company calculated through the natural logarithm of the book value of the total assets of the company.

BTM = A control variable calculated through division of the book value of the shareholders' equity by its market value.

ROA = Return of assets calculated by the ratio of net profit to the total assets.

Data analysis methods and tools

The data and variables available in a model are usually three different types: time series data, cross-sectional data, and combined data.

The time series data measure the values a variable (multiple variables) at successive points of time. This sequence can be annual, seasonal, monthly, weekly or even continuous.

The cross-sectional data measure the values a variable (multiple variables) over time and over multiple units. These units can be manufacturing units, and different companies or industries.

Multivariate regression

Multivariate regression is a method of combining the predicting variables. In this procedure, a multivariate regression equation is calculated that summarizes the estimation's values in one equation. For each variable, the equation coefficients are calculated and defined based on its importance in the prediction of the specific criteria. The degree of correlation among predicting variables in the equation of multivariate regression and the dependent variable is shown by the coefficients. The multivariate regression model is as follows:

$$Y_i = \alpha + \beta_1 X_{1,i} + \beta_2 X_{2,i} + \dots + \beta_n X_{n,i} + \varepsilon_{n,i}$$

Where: Y_i = i th observation of the dependent variable, α = width from the origin (constant value), $X_{n,i}$ = i th observation of the dependent variable X_n ($n = 1, 2, \dots, n$), β = independent variable coefficient, ε = disturbance component.

In such a model the following basic assumptions are used: 1- a linear relationship does not exist between the independent variables; 2- the expected value of errors is zero and their variance is fixed (the distribution of errors should be normal); 3- there is no correlation between the model errors; and 4- the dependent variable has a normal distribution.

Model appropriateness test

In order to test the suitability of the estimated model, we firstly assume that the model does not depict the changes in Y significantly. We used the F stat to test the aforesaid hypothesis. If at the error level α (5% in this study) the value of F stat is greater than the value of the table, the null hypothesis shall be rejected and one may say that the changes accounted for in the model are appropriate or there is a significant relationship between the dependent variable and the independent variable. Also, if the significance level of model (sig) is less than the error level α (5% in this study), the null hypothesis is rejected and one may deduce that the model F significantly justifies the changes in F (i.e. the model is appropriate).

Study of the structure of the combined data and its various models

In the review of the cross-sectional and time series data, if the coefficient of cross-sectional effects and the time effect is not significant, all the data can be combined with one another and can be estimated by ordinary least-squares regression. This method is also called the combination data. We briefly explain the fixed effect and random effect models due to their importance: to determine the model used in the combination data several tests are used as the following: The Chav test, the Chav test determines the fixed effects model application vs. combining the entire data (the integrated model). The test hypotheses are as follows:

HO: Pooled Model

H1: Fixed Effect Model

The first hypothesis is based on the bound values and the contrary hypothesis is based on the non-bound values. The Chav test stat is based on the sum of the squares of the non-bound model and bound model error as follows:

$$chaw = \frac{(RRSS - URSS)/N - 1}{URSS/NT - N - k}$$

This stat has a F distribution with $N-1$ and $NT-N-K$ degrees of freedom. If the bound F stat value has a lower value than the table's F stat value, at the defined significance level, the hypothesis H_0 can be rejected and there is a significant effect for the cross-sections. So, the fixed effect model is used, otherwise the combination data model will be used.

Hausman test: Hausman test determines the use of fixed model vs. random effects. The Hausman test is based on the presence or absence of correlation between the estimated regression error and the independent variables of the model. If such a connection exists, the fixed effect model applies and if this connection is not available, the random effects model will be applied. The H_0 hypothesis shows the lack of relationship between the independent variables and the error estimate and the hypothesis H_1 represents the existence of a relationship.

HO: Random Effect

H1: Fixed Effect

Madala (1998), to carry out the Hausman test, has depicted the estimation of the amount of variance q by $V(q)$ and presented the M stat as such:

$$M = \frac{q^2}{v(q)}$$

RESULTS

Descriptive statistics of the data

The table 1 shows the descriptive statistics of research variables within the study period. The descriptive statistics of the research variables measured according to the aforementioned 99 companies during the test period (2009-2014) are presented in the form of the 594 year-company, including the mean, median, standard deviation, minimum and maximum. It is noteworthy that the determination of skewness of each variable will dramatically help in the appropriate data analysis and it will be used in the process of the research [Table 1].

Table 1- The descriptive statistics of the research variables during the course of study

Variables	Kurtosis	Skewness	Standard deviation	Minimum	Maximum	Median	Mean
Percentage of institutional shareholders	2.949	1.075	0.076	0.600	0.875	0.667	0.663
Ownership concentration	2.745	0.575	0.106	0.300	0.907	0.437	0.451
Size	3.235	0.029	1.244	9.889	16.686	13.409	13.430
Rate of return of assets	68.723	7.277	0.911	0.000	11.680	0.040	0.270
Internal audit performance quality	1.787	0.073	0.202	0.241	0.937	0.576	0.580
Ratio of book value to market value	16.096	-0.970	0.551	-4.394	2.705	0.342	0.442

Inferential statistics

Testing the reliability of variables, in this section we checked the durability or validity of the research variables. We used the Im-Pesaran-Shin test (1997) to evaluate the reliability. The Im-Pesaran-Shin test was formed according to the weighted average of Dickey-Fuller test among cross-sectional samples. Let's review the generalized Dickey-Fuller regression:

$$y_{it} = \rho_i y_{i,t-1} + \sum_{j=1}^{p_i} \varphi_{ij} \Delta y_{i,t-j} + z_{it} \gamma + \varepsilon_{it}$$

The durability study requires assuming that $H_0: \rho = 1$ for all is. In this test, the H_1 hypothesis is as such: $H_1: \rho < 1$. By testing the H_0 hypothesis, the variable's durability can be studied. The results of this test are shown in [Table 2].

Table 2: Im-Pesaran-Shin test (IPS)

Variables	Probability	T stat
Non-acting managers in the board of directors	0	-20.48
Ownership concentration	0	-23.605
Size	0	-17.489
Return of rate of assets	0	-20.998
Internal accounting performance quality	0	-23.363
Ratio of book value to market value	0	-22.912

Method	**_stat	stat
Im, Pesaran and Shin W-stat	0	-56.052

The H_0 hypothesis in the aforementioned test showed the lack of reliability of research variables and the hypothesis H_1 indicated the reliability of research variables and according to the IPS test results (see table 2), because all variables have a significance level less than 0.05, so the hypothesis H_1 at 95% confidence level across all the variables accepted during the course of the study were at a reliable level. The IPS test

results show that the mean and variance of variables were fixed over time and the covariance of variables were fixed between different years. As a result, the use of these variables in the model does not create a false regression.

Determining the appropriate model for the estimation of regression model

In order to determine the appropriate model (combination or tabulated with fixed or random effects) in order to test the hypotheses, we used the Chav and Hausman tests.

(A) Chav test: The F test results related to the regression model of the present study are shown in the table 3. In the case of regression models of the research, with regard to the significance levels, the Chav test results show that the H0 hypothesis (combination model) is not confirmed [Table 3]. In other words, there is a group or individual effect and the tabulated data method (Panel) should be used to assess the regression model of the research and in the following, we used the Hausman test to determine the type of the Panel model.

Table 3: Chav test

Regression model	F test	F stat	Probability	Test result
Original regression model	Quantity	107.7273	0.035	Rejection of null hypothesis

B) Hausman test: After determining that the width from origin is not the same for different years, the method of application in the estimation of the model (fixed or random effects) must be determined, so we used the Hausman test. In the Hausman test, the H0 hypothesis tests based on compatibility of random effect estimations vs. H1 hypothesis based on incompatibility of random effect estimations. The results of the Hausman test for the research model are shown in [Table 4]. The results show that the X2 stat of the Hausman test for research models that are not significant at 95% confidence level which for the research model means non-confirmation of H1 hypothesis therefore according to the Hausman test, the fitting of original regression model of this research using panel data model with random effects method would be appropriate.

Table 4: Hausman test

Original regression model	Quantity	2.7774	0.836	Null hypothesis is not rejected
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Testing the classical regression hypotheses

Before processing the regression models, it is necessary to test the assumptions of linear regression.

Testing the normal state of the distribution of variables

We used the Jarque–Bera test to study the the normal state of distribution of the dependent variable. The output table of Jarque–Bera test in Eviews software for this variable is shown in [Table 5]. According to the table and Jarque–Bera stat, since the significance level of the aforementioned variable is above 0.05, the H0 hypothesis is confirmed so we can say with 95% confidence that the dependent and independent variable of the said research in the above models have a normal distribution as shown in the following diagram.

Table 5: Jarque–Bera test

	Probability	Jarque–Bera stat
Percentage of institutional shareholders	0.57258	114.4005
Ownership concentration	0.502057	34.36822
Size	0.603775	1.452093
Return of rate of assets	0.712324	112150.1
Internal accounting performance quality	0.580036	36.92251
Ratio of book value to market value	0.268879	4337.739

Testing the independence of errors

The Durbin–Watson test, checks the serial correlation between residual regression (errors) on the basis of the following statistical null hypothesis: H0: there is no self-correlation between errors. H1: there is a self-correlation between errors. The Durbin–Watson stat with the critical values is at the error level of 1% as shown in [Table 6]. Due to the fact that the amount of the calculated Durbin–Watson stat of the research’s regression model is larger than the critical value at 0.05 error level, hence the lack of serial correlation of residuals in regression model is confirmed at 0.05 significance level. Since in this study one regression model was used for the evaluation of five hypotheses, such models are as follows, respectively: the regression model to assess the research hypotheses is as follows:
 $IAQ = \beta_0 + \beta_1 Owninv + \beta_2 Concentration + \beta_3 SIZE + \beta_5 BTM + \beta_6 ROA + \epsilon_i$,

Table 6: Testing the independence of errors

Regression model	Critical values (error level 0.01)		Durbin–Watson test
	Upper limit	Lower limit	
Regression model of research	2.756	1.244	2.078

Testing the normal state of distribution of errors

One of the regression assumptions is that the equation errors have a normal distribution with a mean of zero. To study the normal state of equation errors, the error components’ curve is plotted for each of the regression models. Figure [3] shows that due to the significance coefficients and other related coefficients, the error distribution of the model is normal. As it can be observed, the distribution of errors in the model according to the Jarque–Bera stat has a normal distribution.

Dependent variable: Internal audit performance quality
 Frequencies Mean= 0.35E-12 Standard deviation=0.487
 Regression model error components
 Fig. 3: Jarque–Bera stat curve for error components

Collinearity test between independent variables

A low tolerance means there is little variable information and problems arise in the use of regression analysis. The variance inflation factor is also the inverse of the tolerance and if it is increased the variance of regression coefficients will be increased and regression will be rendered inappropriate for prediction. The minimum amount of tolerance for model variables is 0.1 or 0.2 in statistical references. Also, experience has shown that if VIF is larger than 5, it suggests that there is a possible warning and if it is larger than 10, a serious warning exists and it means that the related regression coefficients were estimated poorly due to Multicollinearity. According to table 7, the tolerance for independent variables is above 0.2 and the variance inflation factor is also very close to 1 (much less than 5), as a result, the hypothesis appertaining to no collinearity between independent variables will be confirmed.

Table 7: Testing the collinearity between independent variables

	Variance inflation factor	Tolerance
Percentage of institutional shareholders	2.70	0.63
Ownership concentration	1.07	0.07

In this section, the results of fitting the regression models of the research are studied and consequently the research hypotheses will be investigated.

Variance inequality

The inequality variance means that in the estimation of regression, the error terms values have unequal variances. We used the White test for estimating the inequality variance. Typically, the White test is used when we are unaware of variance distribution of error terms and cannot guess it. So, the White test takes the most general situation into account and it is very sensitive to detecting inequality variance. The steps to perform the White test are as follows: first we estimate the main model assuming that there is no inequality variance (we assume that we have two explanatory variables, of course this is easily extendable to the general mode with k explanatory variables). (Estimation 1). Then we calculate the amounts of residues and their squares.

$$Y_i = \beta_0 + \beta_1 + \beta_1 x_{1i} + \beta_2 x_{2i} + u_i$$

Then, we write a new regression as such: (Estimation 2)

$$e^2_i = \gamma_0 + \gamma_1 X_{1i} + \gamma_2 X_{2i} + \gamma_3 X_{1i}^2 + \gamma_4 X_{2i}^2 + \gamma_5 X_{1i} X_{2i} + u_i$$

i.e., we apply the regression to the square of residues on every single explanatory variable, square of explanatory variables, and also the two by two products of variables. The benefit is that we almost account for all possible modes of inequality variance. The F test for the significance of the whole regression is calculated by the equation below:

$$F = \frac{\left(\frac{R^2}{k}\right)}{\left(\frac{1 - R^2}{n - k - 1}\right)}$$

The judgment phase: If we use the F stat, then we compare with the aforementioned degree of freedom, and if we use the LM stat, then we compare it with the Chi-square distribution with the related degree of freedom. In this hypothesis, the null hypothesis is that we have an equality variance and thus if the calculated stat is above the value in the table, then our primarily expressed model has inequality variance. The results of this test is explained as follows: the results of the White tests are given in the table 8. The results indicate that the F stat for each of the two models used in the research is not significant at 0.05 error level and as a result, the null hypothesis based on the lack of variance inequality in the model's data at 0.05 error level is confirmed.

Table 8: Results of the variance inequality

Description	White stat	Probability	Test result
First regression model	0.632	0.639	No inequality

Testing the research hypotheses (conclusion)

Testing the research's first regression model: After testing the regression assumptions and ensuring their realization, the results of fitting the above regression equation for the production companies are presented in the table 9. The F stat value (14.133) means that the whole regression model is significant. As specified at the end of table 9, the determination coefficient and the adjusted determination coefficient of the above model are 79.6% and 77.1%, respectively. Therefore, it can be concluded that in the above regression equation, only about 77.1 percent of the variations in the internal audit performance quality occurred in the company will be explained by the independent variables and the aforementioned control. Method of judgement: If the value of sig calculated by the software is less than intended confidence level (5% in this study), the significance of the desired variable is confirmed and the related hypothesis is confirmed. Also according to the value of t stat, if this stat is larger than its equivalent amount in student t-table with the same confidence level (5%), the relevant hypothesis is confirmed.

Table 9: Fitting results of the first regression equation

Name of variable	Variable coefficient	Coefficient value	T stat	Significance level
Constant value	α0	0.7668	4.1006	0.0000
Percentage of institutional shareholders	α1	0.6121	3.8175	0.0394
Ownership concentration	α2	-0.3111	-3.8979	0.0373
Size	α3	-0.3253	-35.8384	0.0191
Ratio of book value to market value	α4	0.0047	0.2911	0.7711
Ratio of rate of return of assets	α5	0.0029	0.3012	0.7634
Coefficient of determination	79.6%	F stat		14.132
Adjusted coefficient of determination	77.1%	Significance)P-Value(0000/0
		Durbin-Watson stat		2.078

Testing the research hypotheses: First hypothesis: There is a significant relationship between the institutional shareholders and the internal audit performance quality. According to the results of the table 10, it is observed that the significance level of the coefficient of the effect of the variable number of board of directors' members is shown with the symbol Boardsize smaller than the estimated type I error level of 0.05 (p-value =0.006) and thus, we may accept that the number of members of the board of directors on amount of the internal audit performance quality of the companies listed in Tehran Stock Exchange has been significant. Also, based on the negative value of the regression coefficient of effect (-0.619), a high number of members of the board of directors has a negative and direct impact on the internal audit

performance quality of the companies listed in Tehran Stock Exchange. Therefore, one may conclude that the higher number of members of the board of directors decreases the quality of the internal audit performance of the companies listed in Tehran Stock Exchange. Another result of this conclusion is that the higher number of members of the board of director leads to less supervisory function of each member and typically the supervisory function in total will be reduced and thus, the first research hypothesis will be accepted.

Second hypothesis: there is a significant relationship between the ownership concentration and internal audit quality. According to the findings of this table, the significance level of ownership concentration variable' coefficient of effect is shown with Concentration symbol smaller than the estimated level of type I error 0.05 (p-value=0.037) and hence we can accept that the amount of ownership concentration on the internal audit performance quality by audit institutions in the companies listed in Tehran Stock Exchange has been significant. Also, due to the negative value of the regression coefficient of effect (-0.311) we can conclude that the amount of ownership concentration has a direct and negative effect on the internal audit performance quality of the companies listed in Tehran Stock Exchange. Potentially, we may conclude that a higher ownership concentration, due to the increased profiteering of the owners and the reduction of breakdown of ownership task processes, the internal audit performance quality will be reduced in the studied companies. Therefore, the second hypothesis of the research will also be accepted.

Table 10: Summary of the evaluation of research hypotheses

Research hypothesis	regression coefficient	Result of accepting or rejecting the hypothesis
First hypothesis: there is a significant relationship between the institutional shareholders' percentage and the internal audit performance quality.	-0.612	Accepted
Second hypothesis: there is a significant relationship between the ownership concentration and internal audit quality.	-0.311	Accepted

CONCLUSION

The research population of this study includes all investment companies listed in Tehran Stock Exchange that has been active during 2009-2014.

Testing the research hypotheses, first hypothesis: There is a significant relationship between the institutional shareholders' percentage and the internal audit performance quality. We can accept that the percentage of institutional shareholders on the internal audit performance quality of the companies listed in Tehran Stock Exchange was significant. Also, due to the positive value of the regression coefficient of effect (0.612), the percentage of institutional shareholders has a positive and direct effect on the internal audit performance quality of the companies listed in Tehran Stock Exchange. The result of accepting the second hypothesis is also consistent with the results of similar research. Second hypothesis: There is a significant relationship between the ownership concentration and internal audit quality. We can accept that the amount of ownership concentration on the internal audit performance quality of the companies listed in Tehran Stock Exchange was significant. Also, due to the negative value of the regression effect coefficient (10.311), the amount of ownership concentration has a negative and direct effect on the internal audit performance quality of the companies listed in Tehran Stock Exchange.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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ARTICLE

STUDYING FIRMS' STOCK LIQUIDITY OVER FIRMS LIFE CYCLE: AN EMPIRICAL EVIDENCE FROM IRANIAN STOCK MARKET

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ABSTRACT

Capital market in any country is the main source of financing and known as a suitable place for investment. One thing that is attractive for investors on the stock exchange is factors affect the liquidity of stock. So, the important question targeted in this research is the relationship between firms' life cycle and stock liquidity. The analysis is based Tehran Stock Exchange firms. In this study, separating companies to the growth, maturity and stagnant by using four factors: sales growth, capital expenditures, dividend rate and firm age and Anthony and Ramesh method in accordance with the methodology of the park and Chen were conducted. To measure stock liquidity trade-based measure was used. To test the hypotheses, the central index comparison testing of more than two independent populations was used. The analysis shows that the stock liquidity of firms which are at growth stage and maturity stage are alike, and they are higher than stagnant firms.

INTRODUCTION

Financial reports are the most important outputs of an organizational accounting system. The purpose of financial reporting is providing the useful information for business decisions [25]. Stock liquidity can be deemed as a factor which is important for both investors and management. Information feedback from stock liquidity to firm managers and stakeholders is one mechanism responsible for better firm performance for firms with higher stock liquidity. One of the most attractive matters for investors in stock markets is the awareness of the factors affecting the liquidity of shares.

Liquidity is the power of conversion securities to cash at the lowest level of costs of exchange [2]. Due to integral investment risk, investors expect capital returns. So for investors, risk and investment return awareness is of particular importance. Illiquidity of financial assets is in fact a risk which investors anticipate to earn capital return due to. Thus, the desire is to investigate this issue coming from the fact that one of the main concerns of speculators and shareholder is liquidity of stock that many investors prefer one with high liquidity.

The power of stock liquidity indicates the success of firms in disclosing of the financial and nonfinancial information which can lead to being the market price close to their intrinsic value. Because of the nature of the risk aversion, investors try to select stocks having high capabilities of liquidity due to sell them as soon as possible and at low cost and with minimal changes at necessary condition. Financial markets, on the one hand, provide the possibility of combination the money market instruments and capital and the optimal allocation, to facilitate accessing cash; and on the other hand, by improving the mechanisms and regulations, they make safer and more attractive exchange markets for people to reinvest their capital in the production processes which leads to boom in production and make more profit for them. This is not possible except in the presence of conditions such as high power of stock liquidity.

Life cycle theory suggests that a company possesses various risk characteristics and different economic attributes through its life cycle stages [6]. These living systems at each stage of their life cycle have certain behavioral patterns to overcome the issues and problems faced with.

In this research, the effects of the firms' life cycle on predicting stock liquidity in listed firms in Tehran stock Exchange are being investigated empirically.

LITERATURE REVIEW

Theoretical bases of firm's life cycle

The concept of life cycle is a term which is well known in the accounting literature in recent decades. Life cycle theory posits that, the economic and financial characteristics of a company are influenced by the stage of its lifecycle. The most common classification for lifecycle of companies includes: introduction, growth, mature and stagnant [20-3-7]. Companies, among the stages of lifecycle, face different types of environments, accept various policies, and do different performances. Introduced firms suffer from lack of established customers and knowledge deficits about potential revenues and costs, both of which results in negative operating cash flows [17]. In addition, firms in introduction stage are not financed by financial

KEY WORDS

Liquidity, life cycle, Anthony and Ramesh, Park and Chen, trade-based measure

Received: 8 August 2016
Accepted: 18 Nov 2016
Published: 4 Feb 2017

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institutions. Firms in growth stage have more investment chances so they need more external funds. In mature stage, companies have less opportunity for growth, but they have more excess cash flow. At the end of lifecycle, in stagnant stage, companies have confined growth opportunities and become less profitable. In some cases, firms may be regenerated by investing in their product lines and technology. Firms face reduction in investment chances and increase in cash flow from growth to stagnant.

Anthony and Ramesh (1992) use dividend payout, sales growth, capital expenditure, and age to find the relationship between corporate lifecycle and stock market response. They find that a monotonic decline exists in the sales growth and capital investment from the growth to the stagnant stages. DeAngelo et al. (2006), used the ratio of retained earnings to equity as a proxy of lifecycle, find that firm life cycle can explain firms' dividend payout. Owen and Yawson (2010) acclaim that there exist life cycle effects both in firms' seasoned equity offerings and takeover activities. Additionally, the degree of industrial concentration will change in different lifecycle stages and affect the speed of information dissemination. Chay and Suh (2009) suggest that cash flow uncertainty has influence on firms' payout policies. Firms' cash flow uncertainties are probably different among lifecycle stages and may influence their repurchasing decisions. Pashley and Philippatos (1990) use group analysis to determine which lifecycle stage a company belongs to. Group analysis uses one or multiple variables to maximize the homogeneity of companies within the groups and to maximize the heterogeneity between the groups. Compared with Anthony and Ramesh's (1992) method, group analysis is stricter in determining the stage of firms in lifecycle.

Theoretical bases of liquidity

The Liquidity is the lifeblood of financial markets. Its adequate provision is critical for the smooth operation of an economy [14]. There is an emerging research literature dealing with stock liquidity. The security exchange markets have also recognized the importance of liquidity and plan the introduction and public communication of liquidity measures [15]. Becker-Blease and Donna (2006) studied the relationship between stock liquidity and investment opportunities, and found a positive relation between changes in capital expenditure and stock liquidity changes. Fang et al., (2008) studied stock market liquidity impact on firm value; they investigated that liquidity increases firm performance by increasing the incentive impact of managerial pay-for-performance contracts. Still, in the literature there are very few descriptions of what liquidity really is and liquidity measures with a quantitative comparison is completely missing.

Liquidity may be grouped to five different levels: [18]

- 1- The ability to trade at all. At this level there is at least one bid and one quote that make a trade possible
- 2- The ability of buying or selling a certain amount of an asset with influence on the quoted price. If it is possible to trade, the next issue concerns the price impact of trading. In a liquid market, it is possible to trade shares with little effect on the quoted price.
- 3- The ability of buying or selling financial asset without influence on the quoted price. The more liquid a market becomes, the smaller is the effect on the quoted price. Thus, as the liquidity increases, eventually a point will be reached where there is no more price impact for a certain amount of shares.
- 4- The ability of buying and selling a financial asset at about the same price at the same time.
- 5- The ability of executing a transaction from points 2 to 4 immediately. [Fig. 1]



Fig. 1: Levels of liquidity.

Liquidity itself is not observable and therefore, has to be proxied by different liquidity measures. As Baker (1996) states, different liquidity measures lead to conflicting results when evaluating the liquidity of a financial market. To get an overview, liquidity measures are separated into two broad categories: trade-based and order-based measured. However there is some correlation between proxies within these categories, there is little relation between the categories.

Trade-based measures have been used in previous literature include trading volume, trading value, the number of trades and the turnover ratio. As they are simple to calculate using readily available data and

have widespread approval particularly among market professionals, these measures are attractive. They point out what people have traded in the past [2].

Order-based measures regards the appearance of automated trading systems has brought accessing to more detailed data allowing for new order book liquidity measures to be calculated. They more accurately capture the ability to and the cost which are associated with trading immediately [2].

The bid-ask spread shows the cost an investors must incur to trade immediately. If investors want to purchase (sell) a stock, they must cross the spread and hit the existing ask (bid) orders. However this method is useful for small investors, because of calculating the cost as a percentage of the stock price, liquidity may be compared across stocks with different prices; it has to consider the market impact and opportunity costs of trading, which is required an analysis of the volume of orders available at each price step, to prevent of underestimating the true cost of trading.

RESEARCH METHODOLOGY AND VARIABLE MEASUREMENT

Data and sample selection

Our sample is based on the firms of Tehran Stock Exchange. We exclude financial firms, holding and leasing firms, and firms lacking enough information.

Clustering firms by life cycle (independent variable)

In this study the firms are divided into growth, maturing and decline terms by the four variables; based on the methodology of Park and Chen (2006) as follows:

- 1- At first, value of each variables such as sales growth (), capital expenditures (), the ratio of divided profit () and age (longevity) for every year –company must be calculated.
- 2- Based on each variable of the four ones, firms' years are divided into five categories and according to the statistical category from one to five by virtue of the following [Table 1]

Table 1: how to separate the firms in quintiles (classes) lifecycle

Categories	Capital Expenditure	Sales growth	Divided profit ratio	Age
First	1	1	5	5
Second	2	2	4	4
Third	3	3	3	3
Forth	4	4	2	2
Fifth	5	5	1	1

Then for each year – company, the composite scores will acquire and according to the following conditions, company classified in to growth, maturity and recession categories (The introduction stage was ignored, because the transaction (Purchase and sale) was inactive or the new firms did not participated in the Tehran stock exchange):

- 1) If total score is between 16 and 20, the stage is growth.
- 2) If total score is between 9 and 15, the stage is mature.
- 3) If total score is between 4 and 8, the stage is recession.

Calculation method of variables in the life cycle model is as follows:

SG_{it} : This variable indicates the rate of company sale growth in the year of t and can be calculated as follow:

$$SG_t = \frac{(S_t - S_{t-1})}{S_{t-1}} \quad (1)$$

CEV_{it} : Capital expenditure of company that can be calculated as follow:

$$CEV_{it} = (\text{excess of fixed asset in the period} / \text{market value of company}) * 100 \quad (2)$$

DP_{it} : divided profit of company

$$DP_{it} = \frac{DPS_{it}}{EPS_{it}} \times 100 \quad (3)$$

Which DPS is divided profit of each share and EPS is the profit of each share.

Stock liquidity (dependent variable)

This study follows the various studies such as Marshall (2006), Chan and Faff (2003), Baker and Stein, (2003) and Datar et al., (1998) to measure the stock liquidity which is trade-based measure calculated as follows:

$$LI = \frac{\text{Number of Traded Shares of Company}}{\text{Total issued shares}} \quad (4)$$

Methodology

This research aims to examine correlation of more than two set of data. To do this, firstly, considering normality of data related to stock liquidity will be examined. For this purpose, hypothesis testing method will be used. Hypothesis testing methods include Kolmogorov-Smirnov test and Shapiro-Wilk. If the distribution of data is normal, a parametric test called ANOVA should be used. If P-Value of test is less than 0.05 means researcher claim must be confirmed and then post hoc tests such as Dancan, Tukey and LSD should be done.

But if the distribution of data is not normal data, non-parametric test Kruskal - Wallis (Kruskal-Wallis) will be used. In this way, if the P-Value of test is less than 0.05, post hoc test will be also used to compare population mutually. The suitable post hoc test in SPSS is Mann-Whitney U. To evaluate the relationship between independent and dependent variables, firstly, the sample will be divided into three categories, which are growth, maturity and stagnant, by using the variables of sales, dividends, changes in capital expenditures and the company's age and then the liquidity in these three categories will be examined and our hypotheses will be tested.

DESCRIPTIVE STATISTICS

Table 2: Statistical indicators of sales growth

Year	Sample quantity	Mean	The lowest observation	The Most observation
2012	153	87.231	-82.15	914.16
2013	153	39.364	-85.56	412.85
2014	153	41.401	-93.45	501.563

The statistical analysis of sales growth in the three-year period shows that the average rate of growth experiences a fluctuation from 41.401 to 87.231 in this period [Table 2].

Table 3: Statistical Indicators of capital expenditures

Year	Sample quantity	Mean	The lowest observation	The Most observation
2012	153	1.231	-21.32	93.22
2013	153	0.910	-10.12	34.23
2014	153	-0.12	-76.32	43.84

According to [Table 3] the highest amount of capital expenditures occurred in 2012 (an increase of 1.231 million Rials) and lowest in 2014 (a reduction of 0.12 million Rials). This table also indicates that the year 2014 was facing a sharp drop in capital expenditures.

Table 4: Statistical Indicators of the company's life

Year	Sample quantity	Mean	The lowest observation	The Most observation
2012	153	35.12	3	77
2013	153	36.12	4	78
2014	153	37.12	5	79

The above [Table 4] shows that the youngest company was founded in 2008 and the oldest company has been exploited in 1934.

Table 5: Statistical indicators of divided profit Ratio

Year	Sample quantity	Mean	The lowest observation	The Most observation
2012	153	53.142	0	69.203
2013	153	56.374	0	71.853
2014	153	51.568	0	69.549

[Table 5] shows the descriptive statistics of the ratio of the divided profit in the period of three years. Proximity of the descriptive statistics in three years, indicating a relatively similar distribution for this change.

Table 6: Statistical indicators of liquidity

year	Sample quantity	Mean	The lowest observation	The Most observation
2012	153	0.171	0.000	1.91
2013	153	0.1245	0.000	1.21
2014	153	0.0943	0.000	1.01

According to [Table 6], it can be understood that the average rate of firms' stock liquidity decreased annually in the studied time frame. In its lowest observed value, the liquidity is about zero which means very low number of any stocks buying and selling for some of the sample firms.

The following table presents firms liquidity distribution in the sample used in this study based on differentiate of the company's life cycle which consists of periods of growth, maturity and recession.

Table 7: Statistical Indicators of liquidity

Indicators Stage	Mean	The lowest observation	The Most observation
growth	0.0901	0.000	1.98
maturity	0.1382	0.000	2
Recession	0.0563	0.000	1.21

According to the [Table 7], it is found that indicators of liquidity in maturity period is longer than the period of growth and in growth periods is bigger than of recession in average.

Table 8: Shapiro – Wilk Testing Statistics

Liquidity Variable at Stage	Degree of freedom	P-Value
Growth	142	0
Maturity	189	0
Recession	119	0

According to the above [Table 8] the P-Value for each of the three floors of life cycles stock liquidity in the data sample are non-normal.

After determining the kind of data distribution, the Kruskal-Wallis H testing is used to compare the liquidity index in three stages of life cycle.

STATISTICAL INFERENCE (HYPOTHESIS TESTING)

The Kruskal-Wallis H test (sometimes also called the "one-way ANOVA on ranks") is a rank-based nonparametric test that can be used to determine if there are statistically significant differences between two or more groups of an independent variable on a continuous or ordinal dependent variable. It is

considered the nonparametric alternative to the one-way ANOVA, and an extension of the Mann-Whitney U test to allow the comparison of more than two independent groups.

It is important to realize that the Kruskal-Wallis H test is an omnibus test statistic and cannot determine which specific groups of independent variable are statistically significantly different from each other; it only determines that at least two groups were different.

The results of the Kruskal–Wallis H test for the levels of stock liquidity in three stages in the life cycle of selected sample (three independent populations) are shown in [Table 9]

Table 9: Results of Kruskal–Wallis H test

Variable	χ^2 statistics	Degree of freedom	P-Value
Liquidity of stocks	9.472	2	0.0054

That is, at least, the average of one sample has a significant difference compared to others (p-value <0.05). But based on our hypothesis, we must compare each pairs of cycle's stage to accept or reject the hypothesis for understanding which populations' mean are not equal.

The Mann-Whitney U test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed. If the continuous does not exist for using the parametric tests, i.e., variables are not normal and constant, this test will be used. Z statistics would be used if the members be greater than 10 (in SPSS, adjusting to Z is done automatically). Results of Mann-Whitney U test for each of the hypotheses in this study is as follows:

First hypothesis: The firms' stock liquidity at growth and maturity stages has a significant difference.

Results of Mann – Whitney U test for the amount of stock liquidity at growth and maturity stages of the life cycle for selected sample are presented in [Table 10].

Table 10: Results of Mann-Whitney U Test for the first hypothesis

Variable	Z statistics	U statistics	P-Value
Liquidity of stocks	-0.176	11896	0.573

According to the [Table 11] the stock liquidity at growth stage and maturation are not significantly different.

Second hypothesis: the rate of firms' stock liquidity at growth and recession stages has a significant difference.

Table 11: Results of Mann-Whitney U test for second hypothesis

Variable	Z statistics	U statistics	P-Value
Liquidity of stocks	-1.934	7190	0.032

According to the [Table 12] the stock liquidity at stages of growth and recession has a significant difference and by considering the table of descriptive statistics, liquidity in periods of maturity is greater than the recession.

Third hypothesis: The amount of firms' stock liquidity at maturation and recession stages has significant differences.

Table 12: Results of Mann – Whitney U for third hypothesis

Variable	Z statistics	U statistics	P-Value
Liquidity of stocks	-2.912	9809	0.006

Since the P-Value test is less than 0.05, hypothesis has been confirmed and there is a significant difference between these two periods of the life cycle. According to the table of descriptive statistics, this difference was due to higher average amount of liquidity in the period of maturity than stagnant.

RESULTS AND DISCUSSION

Investors in exchange market try to gather information to predict the firms' stock liquidity. In the literature, there are many research studies on the effect of some factors on liquidity prediction, but this study uses firms' life cycle, as independent variable to investigate this relationship. For this purpose, a sample of 145 firms listed in Tehran stock exchange during 2012-2014 is used.

Also trade-based model has been used to calculate the liquidity of firms. The results show that the stock liquidity in Tehran exchange market is not significantly different throughout the growth and maturity stages, but while firms age and reach stagnant stage their stock has experience a decline in liquidity. The reduction of firm stock liquidity has a negative influence on firm performance from which firm managements want to prevent by paying more stock dividend leading to loss available internal financial resources while they cannot access external financial resources and finally miss investment opportunities. Reduction in capital expenditure at stagnant stage (as mentioned) can be considered as one of the main factor to this liquidity reduction. Thus, it is expected that managers choose the best dividend policy to increase their firm value after checking the firm life cycle. On the other hand, investors are able to make the best division to invest based on what stage corporate is. It can be considered that not only investors in Tehran stock market do not merely regard to stock dividend as opportunities for investment, but also other factors of firm life cycle are more attractive than stock dividend for them.

For future studies in this area it is suggested that researchers use another approach (order-based measures) to calculate stock liquidity, because some research studies believe that trade-based level fails to indicate the ability of investors to transact their financial assets immediately and the cost associated with this, which is the essence of liquidity [2].

To conclude, this paper shows that on one hand, there is no significant differences between the stock liquidity of firms at maturity stages and growth stages. On the other hand, there is a significant differences between the stock liquidity of firms at growth and stagnant and also between maturity and stagnant.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The author thanks all the authors listed in the references for providing the reprints.

FINANCIAL DISCLOSURE

No financial support was received for this study.

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COMPARATIVE EVALUATION OF EXECUTIVE COMPENSATION IN SUPERIOR COMPANIES OF TEHRAN STOCK EXCHANGE: EXPLAIN THE ROLE OF NON-FINANCIAL REWARDS SUPERIOR FIRMS

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ABSTRACT

In today modern world, executive compensation issues related to corporate executives and also interest earned by them has become an important and controversial subject, as far as sometimes managers has more social benefits than the financial interests in superior companies. Present study is aim to examine differences between executive compensation in superior companies with the other stock exchange companies. In order to examine this issue, the list of superior companies of Tehran Stock Exchange (TSE), reported annually, is used between 2009 and 2014. Research methodology is Kolmogorov-Smirnov test and according to its conclusion, Mann-Whitney U test is used. Research findings prove that executive compensation in superior companies is lower in comparison to the other companies. Manager's in exchange market companies who have responsibilities in superior companies have tended to receive less compensation in order to have other benefits such as social and financial benefits.

INTRODUCTION

Today's business environment includes investors, public, legislators and the media that executive compensation has always been carefully monitored by these groups. Compensation paid to executives in corporate governance have become an important part of many studies having been done in this area. Murphy, K. (2013) [1] states that executive compensation is determined as a factor in their performance motivations and firms performances. Ridgeway et al. (1995) [2] conclude that humans strive not only for access to resources and material benefits but also for intangibles such as status, which is characterized by a rank-ordered relationship among people associated with prestige and deference behavior. Lin (1990)[3] proves that status can be used as a means to gain valuable resources via a better hierarchical position in society. Therefore, studying the relationship between working in the companies according to their validity in the community and compensation paid to their executives can make it attractive issue to investors and managers.

Thus, present study aims to examine differences between executive compensation in superior companies with the other stock exchange companies. In order to examine this issue, list of the most superior companies of Tehran Stock Exchange (TSE) which is annually reported is used. Research structures are as follows; conceptual framework and research background, examine research hypothesis and statistical sample. The next part is about research methodology and research findings and finally conclusion part.

CONCEPTUAL FRAMEWORK AND RESEARCH BACKGROUND

Today, due to the multiplicity of owners and shareholders, direct supervision over managers is not possible for all stakeholders. These groups have different motivations from each other, but have the same goal which is financial gain (profit). Therefore, investors do investment in companies to get more return, otherwise they use their capital to meet their daily needs or invest in any other investment positions (Consumption Theory). In each investment, return and risk are two main factors needed to be considered by investors. To reduce the agency problems arising from interest conflicts between managers and shareholders, interests of both sides and as its subsequent, the appropriate sharing the risks between them should be considered. In this way, according to agency theory, shareholders to create incentives for company directors, in accordance with the objectives envisaged for them, and reduce investment risk and also protect its interests, use the mechanism such as compensation for company executives. Public consensus about non-financial criteria is that non-financial criteria complement deficiencies of financial measures and overcome the constraints of financial criteria limitation [4-5].

On the other hand, due to growing competition firms are involved in, to classify firms as superior firms, it is needed to consider various factors. For this purpose, annual report of industrial management organization which determine superior firms is used. The size and growth, profitability and performance, export rate, stock liquidity, debt indicators and market indices are used as evaluation criteria in this ranking.

Use of this ranking to recognize the superior companies is suitable for the following reasons:

- 1) Considering set of internal and external factors for companies as well as national macro view.
- 2) Comparing set of industries and firms with each other without any bias to a particular industry.

KEY WORDS

Executive compensation, Non-financial bonus of boards of directors, Superior companies of TSE, Other Tehran stock exchange (TSE)

Received: 18 Jan 2017
Accepted: 15 Feb 2017
Published: 17 Feb 2017

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The relationship between executive pay and firm performance has been one of the most widely studied questions in the corporate governance literature [6-7-8]. Anderson et.al. (1999) [9] support reciprocal relations between pay and performance. Non-monetary characteristics of firms also affect CEO compensation. Deng et al. (2013) [10] find that CEOs are paid more if firms' headquarters are located in a polluted or high-crime environment. Otto (2014) [11] shows that boards may pay CEOs less if they realize that the CEO is optimistic and likely to overvalue the firm's equity-related compensation. Gaver et al.(1995) and Holthausen et al. (1995) [12-13] find evidences which prove that managers who receive more compensation are tend to manipulate profit in other to keep the present compensation for other financial periods.

In recent years due to the expansion of companies operating in various industries, by taking into account various factors, companies have different level of reputation and valuation from each other. Malmendier et al. (2014) [14] claimed that managers who work in reputable companies can get more in different ways. Huberman et al. (2004) [15] conduct an experiment in which they show that people are willing to give up monetary rewards for being celebrated as a winner, even though they have no monetary or other benefit from their winner-status within the experiment or outside.

MATERIALS AND METHODS

Firstly, to select the type of test (parametric or non-parametric tests), normality of the collected data should be examined. We use Kolmogorov-Smirnov (K-S) test to examine data normality (with 95% confidence level). If the calculated significant level for collected data is more than 0/05 (with 95% confidence level), data normality is accepted, otherwise rejected this normality. In case of non-normal data, to test the hypotheses nonparametric tests are used. In this research, to test normality of data, Kolmogorov-Smirnov is used. Then, according to whether or not the data are normal, parametric or non-parametric tests which are presented in [Table 1] are used.

Table 1: Research Methodology

	Normal Data	Non-normal Data
Compare two independent groups	Independent sample T-test	Mann-Whitney U test

STATISTICAL SAMPLE AND DATA

Statistical sample: Statistical sample includes all companies in TSE (Tehran Stock Exchange).

Sample study: Sample study is separated to superior companies and other firms by using screening method after considering below limitations:

- Sample should not conclude financial institutions, banks and investment firms.
- We select companies which pay compensation to their managers in present fiscal year.

Data needed for present study are collected from the various components of the financial statements and the accompanying notes, also independent auditors' reports.

DESCRIPTIVE STATISTIC

Overall descriptive statistics relating to the remuneration of the Board are shown in [Table 2].

Table 2: Descriptive statistic considering manager compensation

Year	Kind	Num	Minimum	Maximum	Mean	standard deviation	coefficient	skewness
2009	Sup	21	320	6000	2274	1306	1/167	1/977
	Other	116	6	3100	963	640	1/002	0/791
2010	Sup	25	800	9900	2670	1888	2/529	8/501
	Other	125	75	5700	1100	833	2/412	9/897
2011	Sup	32	900	6300	2894	1478	0/467	-0/753
	Other	124	40	7000	1256	1164	2/980	12/259
2012	Sup	31	1200	6700	3285	16439	0/427	0/973
	Other	57	19	333	1129	835	0/950	0/536
2013	Sup	30	1000	6880	3533	1551	0/483	-0/434
	Other	166	18	11900	1443	1502	3/422	18/426
2014	Sup	36	1150	70000	5691	11175	5/749	33/933
	Other	22	150	4200	1694	1001	0/766	0/830

Descriptive statistics relating to the remuneration of the Board can be seen in [Table 1]. This table contains the minimum, maximum, mean, standard deviation, and coefficient and skewness of test for

each of the years of study and also superior companies and other firms. Standard deviation is one of the most common dispersion indices. Skewness index is to measure the symmetry or asymmetry of a sample distribution. As if the distribution is symmetric like a normal distribution, skewness is zero. In the case of normal distribution, elongation becomes zero. If a distribution exceeds the normal strain, the dispersion is less than normal, slenderness ratio is a positive number. And vice versa if the strain distribution is lower than normal or more than normal, distribution of numerical will be negative for slenderness ratio.

Clearly, larger companies pay more to their managers and according to the fact that most of companies (ranked by Industrial Management Institute) in terms of size and capital are large; therefore, to compare them with other companies, it is needed to remove the error due to the size of the companies. For this purpose, ranks obtained by dividing executive compensation on the value of companies are compared with each other (the company's stock market value at the end of the period, due to inflation, rather than total assets or sales conditions is used as a measure of value).

Research hypothesis

Firstly, to select the test method, data normality should be examined. For this purpose the Kolmogorov-Smirnov test (K-S) is used. Kolmogorov-Smirnov test results are given in [Table 3]:

Table 3: Kolmogorov-Smirnov test results

Year	Num	P-value	Significant	Test
2009	137	1/770	0/004	Mann – Whitney U
2010	150	2/037	0/000	Mann – Whitney U
2011	156	1/909	0/001	Mann – Whitney U
2012	88	1/906	0/001	Mann – Whitney U
2013	196	5/186	0/000	Mann – Whitney U
2014	58	1/864	0/002	Mann – Whitney U

According to [Table 3] and P-values which were calculated for all the years, it can be observed that significant level is less than 0/05. The result is that with 95% confidence level, the normality of collected data is rejected and Mann-Whitney U test for comparing two statistical samples should be used.

As seen in [Table 4], significant level for all years is less than 0/05, and it follows that the average compensation of the Board of superior companies and other firms are different. In all years, average ranking in other firms is greater than superior companies. So executive compensation in other firms is more than in superior companies and this difference is significant with 95% confidence level.

Table 4: Mann – Whitney U test results

Year	Kind	Num	Average of Ranking	Sum of Rating	P-value	Significant
2009	Sup	21	24/45	513/5	-5/589	0/000
	Other	116	77/06	8939/5		
	Total	137				
2010	Sup	25	19/26	481/5	-7/090	0/000
	Other	125	86/75	10843/5		
	Total	150				
2011	Sup	32	26/25	840	-7/338	0/000
	Other	124	91/98	11406		
	Total	156				
2012	Sup	31	20/55	637	-6/486	0/000
	Other	57	57/53	3279		
	Total	88				
2013	Sup	30	27/37	821	-7/463	0/000
	Other	166	111/36	18485		
	Total	196				
2014	Sup	36	21/83	786	-4/423	0/000
	Other	22	42/05	925		
	Total	58				

RESULTS AND CONCLUSION

To excel in any profession, in which but few arrive at mediocrity, it is the most decisive mark of what is called genius, or superior talents. The public admiration which attends upon such distinguished abilities makes always a part of their reward [16].

The current study was conducted to examine the relationship between executive compensation and company's validity. To do this after making certain limitation sample companies were selected. Samples contained both superior companies, ranked by the Iranian Industrial Management Institute, and other stock company.

The results of the current research show that directors of superior companies receive lower rewards than any other exchange company confirms (Compared with the value of the company). Directors of superior companies in the Tehran Stock Exchange would be willing to accept lower compensation than other companies due to some reasons, including:

- 1) Activity in companies with high credibility, validity and social character brings credibility for managers of these companies, for example, obtaining long-term loans with very low interest rates and massive financial gain through shares [17].
- 2) Managers of these companies will obtain positions with high salaries after the completion of the mission in these kinds of companies.
- 3) Some people with the idea that they are the best persons to manage these types of companies are willing to obtain these positions with less reward.

According to these reasons these types of firms permit themselves to pay less to their managers. Some suggestions can be offered for future researches:

- 1) Considering research in various industries separately.
- 2) Considering the target market research companies, export or use the product in the country.
- 3) Having a closer look to factors affecting this adoption by managers.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The author thanks all the authors listed in the references for providing the reprints.

FINANCIAL DISCLOSURE

No financial support was received for this study.

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ARTICLE

APPROACHES TO CREATE THE WORKPLACES OF HANDCRAFTS ENTREPRENEURSHIP IN THE PRISONS

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M.A Holder in Islamic Art

ABSTRACT

Using handicrafts in the prisons provides opportunity of making and producing artworks. The main question which raises in the term of handicrafts and prisoners is that how can we make handicrafts entrepreneurship in the prisons for the prisoners? Regarding the mental pressure of the prisons, and the limitations which prisoners deal with, creating handicrafts workplaces for the prisoners are mentioned fundamental and some approaches will be useful to achieve this goal. The approaches such as introducing the handicrafts to the prisoners, providing opportunities to sell their artworks, etc. can turn the prisoners into entrepreneurs in the prisons and even after the punishment period. The present study presented some approaches to create handicrafts workplaces which may be helpful to create entrepreneurship in the prisons. The study was conducted through a descriptive approach based on the available books, documents and evidences.

INTRODUCTION

The process of consistent evolution and changes in the early 3rd millennium, is one of the main dominant trends of human s life and considered among the most important characteristics of it. The process of entrepreneurship as the basis of such evolution can play a vital and fundamental role in this field. Establishing entrepreneurship in the prisons which include a considerable number of human resources, can be very effective and useful for the economic cycle of the country. Handicrafts which nowadays is seen as a productive activity and export opportunity, can provide job opportunities for the prisoners. Besides the mental positive relaxing effect of art, the process can provide employment for the prisoners. The first fundamental issue regarding the subject matter, is the approaches of creating handicrafts workplaces in the prisons. The present study was an attempt to answer the question of how to create handicrafts workplaces in the prisons. Based on the results of the study some approaches were presented which are discussed in details. The approaches such as Handicrafts entrepreneurship in the prisons based on the culture of work in Iran, Understanding handicrafts by the prisoners, etc [1].

Prisoners and Handicrafts

Imprisonment or the punishment for deprivation of liberty is one of the most fundamental penalties within all criminal justice system. Nowadays this punishment is heavily criticized. Statistics indicate that the amount of stress and mental pressure is high among the prisoners. In particular among ones who are imprisoned for unintentional crimes. The issue is more considerable regarding the prisoners who are suspected to be imprisoned for a long time. Imprisonment is considered a punishment for deprivation of liberty. In the early societies, the prisons weren't t functioned as a place to punish the prisoners but a place to keep the criminals who were supposed to death penalty or other physical punishments. The main purpose of setting the penalty of imprisonment is to train and reform the prisoners. One of the most important problems which the society deals with is the probable and certain effects of imprisonment on the prisoners' life and character during the period of being imprisoned or later. Nowadays there are 155 prisons in 153 cities in the country. All these places are named prison while they do not reflex the same reality just like the term of house which cannot be able to reflex the features of all houses perhaps the only common feature of all houses refers to the term of house [2].

One of the main reasons for the crimes and felony to be committed around the world and in particular in Iran are unemployment, poverty and not having a suitable job since in some cases the criminals are employed. In recent years, employing the prisoners during the imprisonment period and afterwards has been mentioned as one of the priorities in the organization of prisons which is intended not only to reduce the internal and internal harms but also to decrease the number of retributive population. A very important matter to mention here is to develop and extend handicrafts in occupational skills of the society which regarding the space available in prisons can lead to create entrepreneurship in the prisons with very less expenses which in turn increase self confidence among the prisoners, the entrepreneurship which is created in the form of businesses provides the opportunity to form creative occupations, among the prisoners [3].

The term of "handcraft" is considered a modern concept belonging to the contemporary world. Modernism appeared following industrial revolution nearly in 1800 B.C, in European countries. The term didn't t exist before this period since what is called handicrafts now, has been the dominant and popular industry of the time. In fact formation of the novel and modern industries and mechanical technologies constitute the appearance of such terms like handicrafts. Therefore it would be necessary to compare this kind of industry with the other kinds in order to understand the term and its definition better [4].

The approaches to create entrepreneurship workplaces of handicrafts for the employment within prisons Handcraft is considered an art which has been used created with different techniques and in various forms during the history. According to a concise identification of the art and regarding creating

Received: 6 March 2017
Accepted: 29 March 2017
Published: 2 April 2017

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entrepreneurship in the prisons, it is intended to provide some suggestions for developing the issue even in prisons and to establish workplaces.

1. Entrepreneurship of handcrafts in prisons regarding the culture of work in Iran

According to the positive attitudes towards working in Islam within Iranian society and also the traditions of Imams which emphasize on the regarding work and adventitious value. Nowadays some dominant values disregard the ethics of work and entrepreneurship. The values such as welfare seeking, luxury, consumerism and aristocracy within the culture lead to disappearance of creativity and the birth of consumerism.

On the other hand, the common sense and religious beliefs emphasizing on ignorance of wealth, disregarding material motivations and benefit seeking behaviors, focusing on the unfaithfulness of the world and contentment cause less passion to extra working. Also the trend of economical fluctuations in the past period and getting easy come easy go money during these changes, cause a shift in the meaning of money from "Embodied work" to a kind of goods or benefits which to get it, it is not necessary to work but to be aware of current situations and more significantly having "chance". All these issues, besides "oil income" which mostly includes interests and is consumed by the government, cause a new definition of money as a value being independent of work and dependent on chance. The result is the term of entrepreneurship to be weakened. In order to persuade the prisoners to be more active and motivated, it is useful to explain the verses of Quran and traditions and also describe the so called issues to make them aware to change their perspectives towards working [6].

According to the regulations of the prisons, "prison is a place where the convicts whose convictions are proved, by the order of the qualified legal and judicial authorities, are forced to be there for a temporary time or forever in order to tolerate the punishment with the purpose of acquiring skills, rehabilitation and reformation." Since the place of the prisons is 17.5 square meter per each prisoner, violating this rule cause mental and physical problems by turning the prisons into a stressful place for the prisoners. On the other hand, there will be some economical and mental implications for instance following the imprisonment, a considerable number of the people will suffer with economic stagnation. On the other hand imprisonment not only cause unemployment but also losing the occupational place of the prisoners. Another point which can be mentioned here is that most of the prisoners are married so the imprisonment will cause mental and economic problems for the person and his family. Therefore it seems vital to train the prisoners and attempt to make them respect to the laws in order to use the punishment period as an opportunity. The most useful activities to achieve this goal, are training the prisoners and amusing them with effective entertainments. According to the rules of United Nations, nowadays there must not be any imprisonment without professional training. Therefore motivating the prisoners to make handcrafts and creating entrepreneurs in the prisons will be so practical and helpful which turn the prisoners into an entrepreneur and make them hopeful [7].

2. An accurate perception of handcraft entrepreneurship among prisoners

The mental effect of handcraft and also its effect in the term of entrepreneurship, has not been noticed generally. Nowadays handcrafts if focused in the term of art and industry. One of the issues resulting the lack of interest in handcraft entrepreneurship can be considered not having necessary general knowledge in this field. Although handcrafts are produced in large quantity, various colors, patterns and arts, they are defined as industry as artwork is considered a unique product created just by one artist. These explanations shed light on the difference between art and industry. The presence of artists in prisons can reinforce the prisoners to create an artwork as an artist or artisans, through providing them with such understanding. Therefore this awareness directs the prisoners to have such an attitude towards handcrafts that by being involved in this field, they can be considered artists and artisans not merely a prisoner. The following issues are the main features of handcrafts for the prisoners in order to identify the art in a better way:

- The possibility of providing the main portion of raw materials from domestic resources
- Doing the process of producing partially or thoroughly with hand and manual tools
- using the development to produce handcrafts
- the effect of creative thinking and forming products and also the possibility of variety and applying various patterns within the process of production
- Representing a cultural meaning by using original and traditional patterns reflecting the culture, art and civilization of that city
- unlikeness of the products
- Not being dependent on a large investment to produce, in comparison with other industries
- High added value in comparison with other industries
- the possibility of creating and developing handcrafts in different urban and rural areas and even among nomads.

Since handcrafts are created simply with manual tools and using hands, there is no need to assign a large place as a workplace. Therefore considering all the mentioned issues, establishing handcrafts entrepreneurship in prisons not only may save money but also can be useful to motivate prisoners through having a significant mental effect on them.

3. Utilizing handcrafts art based on contemporary demands in order to establish entrepreneurship in prisons

Handcrafts enjoy having the capability of being used as an art and industry in people's routine life consistently. They can be functioned both as tools and equipment and also as a symbol and decorative items. A relationship between these artworks and people's routine life in the present time, can cause a considerable prosperity. Therefore the first step to start with can be to identify this art and to consider its mental effect and its function within the society, in order to increase prisoners' motivation to learn this art. By holding classes in the prisons to persuade prisoner to create and produce required products, prison may turn into an economic pole.

4. Economic and social effects of handcrafts entrepreneurship in prisons

Nowadays most of the occupations are created by entrepreneurship companies. Superior goods and services, novel technologies and development all are derived from entrepreneurship. In fact development is the result of small companies and entrepreneurs great attempt. They try to make their novel ideas more practical. One of the features of an entrepreneurship is that this kind of business persuades people to cooperate with others. There would be a high possibility of colleagues and partners in deals which are mostly failed but they are all mentioned as the process of learning which guarantees success. The colleagues can include stakeholders, investors, partners, counselors and/or representatives. All so called people are involved in the benefits of products or services. Providing adequate situations and opportunities to produce handcrafts not only have a positive mental effect on the prisoners but also can be considered an economic basis for both prisoners and the society. As prisons are seen as small towns or communities, it would be possible to establish entrepreneurship workplaces of handcrafts as a part of such a society which can develop increasingly. It can be mentioned among the fundamental ways of developing handcrafts and their related creativity. Since culture is defined as a collection of values, norms and behaviors composing the identity of a society, entrepreneurs as the members of a whole community have distinguished values, norms and behaviors which are called entrepreneurs sub-culture. "Silicon Valley" is a 50 mile pathway located in California which is known as the pattern of world technological entrepreneurship. The area situated in south of Sanfransiso was the most important center of technological activities in the United States of America in 1990. Silicon Valley may be a good instance of a small society attempting to blend the culture of work and science and as a result producing successful managers of the companies such as Microsoft, Intel, Yahoo and Net skip. If the prisons and prisoners are seen with such a perspective, it will be possible to make one of the prisons a center of entrepreneurship [8].

5. Providing facilities to have connection with outside

In spite of current dominant point of view, prisons are not places to keep and punish the prisoners but they are good places to train, teach, consult and improve mind and body of the people who are somehow excluded from all kinds of freedom. Humans are considered the most valuable investment of a society. Prisons are expected to train, look after and direct the prisoners to be active and generative human bodies. A prison can be defined as a small community with all kinds of services from the least noticeable activities to the most important ones referring to human services that is consulting assistance which is one of thousands kinds of services.

We must accept that prisoners connections with outside should be considered a positive issue. Although prisons are not the same in the term of facilities to offer opportunities for such connections, it would be successful in all of them. Working in prisons and supplying prisoners artworks outside the prisons, makes an indirect connections which are thoughts as hope and independence, by the prisoners.

6. Marketing the handcrafts produced by the prisoners

"Philip Kotler" who is the most popular theorists in the field of marketing believes that marketing is a human activity to meet needs and requirements through the process of exchange. The process of exchange which marking is formed based on it, requires a large amount of skill and work and also managing which controls the processes of analyzing, planning, running and controlling the determined plans in order to achieve the organizational goals.

One of the recommendations which can be made in order to develop and promote the handcrafts in the prisons is to find appropriate markets to supply the artworks. Those who are experienced in selling the manual artworks and handcrafts have mentioned focusing on the target markets and identifying demands, making the standards through holding galleries, exhibitions and also the internet, as good ways to supply the products. Holding the galleries and exhibitions in the countries, and also festivals and workshops are considered among the best opportunities to introduce an art or achievement. The matter is the same regarding the artworks produced by the prisoners which can in turn increase their motivation to produce handcrafts and to establish entrepreneurship in the prisons. Also holding such exhibitions, festivals and workshops in the prisons will be beneficial to display the art to the prisoners in order to introduce it and as a result to motivate them to have the belief of "I can ". It indicates they can earn money through having a good job and just by using a few tools and in a small place.

DISCUSSION

The prisons is an undesirable reality of the society where people intentionally or unintentionally, are forced to be there. The main purpose of imprisonment is to train the criminals and persuade them to follow a correct way. It is intended to decrease the stress and mental pressures as much as possible and to

implement treatment and reforming methods. Having a job can generate identity and self-confidence. Also job satisfaction is considered an important in the term of economic and mental issues. Therefore it is noticeable to focus on training the prisons and make them aware of handcrafts entrepreneurship. In order to achieve the goal of identifying and increasing the motivation among the people in the prisons and guiding them to establish entrepreneurship, tools and equipment are required. Based on the results of the present study, some recommendations were presented as follow: Handcrafts entrepreneurship in the prisons based on the culture of work in Iran, Understanding handcrafts by the prisoners, utilizing handcrafts in accordance with the demands of contemporary society, economic and social effects of handcrafts entrepreneurship in the prisons, providing facilities to connect with outside, marketing the handcrafts produced by the prisoners.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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ARTICLE

SUSTAINABLE ECONOMIC AND SOCIAL DEVELOPMENT, WITH EMPHASIS ON RURAL COUNCILS AND VAs

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ABSTRACT

Modern management practices in rural areas, in Iran, have a very positive and effective steps in order to be considered Civil and prosperous villages. After over 17 years, the establishment of managerial institutions, in rural settlements, performance evaluation and role of these institutions in different parts of the country, particularly the social sector - physical, it is necessary. The present study is an applied. The research method is descriptive-analytic study of sustainable economic and social development, with emphasis on VAs councils and village, in the Posht Darband village in Kermanshah district has paid. The study population included 2712 women-headed households, and 76 VA and the head of the village council. The sample size for the head of household, according to Cochran formula were determined against 336 people, and 76 village administrations and councils, also due to the limited number of all were considered as the sample size. Data analysis, using inferential statistics, such as test T-test, ANOVA, Kolmogorov-Smirnov test, was performed by software SPSS22. The results showed that the performance of VAs after its formation, from the perspective of households, has been somewhat dramatic improvement, and has been optimal performance, and a significant level of 0.001, which is less than 0.01, it was significant, and VAs performance before and after the formation of VAs, is statistically. VAs performance, after its formation, from the perspective of VAs has been a dramatic improvement, and has been optimal performance, and a significant level of 0.002, which is less than 0.01, it would have been significant, and VAs performance before and after the VAs, is statistically. Of course, it is a significant amount compared to households has been more meaningful. Overall performance VAs, after its formation has been a dramatic improvement, and has been optimal performance, and a significant level of 0.002, which is less than 0.01, which was significant, and VAs performance before and after VAs formed, is statistically.

INTRODUCTION

Process development, an important topic of discussion territories, especially in developing countries. Development also requires good use of the talents and capabilities of, and active participation of the people and their participation in the process of development. Rural development policy can improve the social and economic life of the villagers knew, that need to manage efficiently (Mahdavi et al., 2005: 23). In Iran, rural management, has undergone various transformations. In traditional rural standards of management, centralized management and heterogeneous, poorly supervised and non-competitive show, and the new rural management, regulations and continuous training, constant monitoring, targeted planning, and transparent solutions is impressive. No doubt socio-economic and physical environment of the village, and the surrounding natural environment, rural communities form the basic shape of human living space, and the progress of societies, human life in all historical periods, growth has been the rural communities, which have historically always kind, the management has been relatively organized and effective functioning. In Iran, the origin of new rural management, can be seen from 1998 onwards. So although the village Islamic council, after the Islamic Revolution, in the countryside worked, but from this year onwards, the implementation of the constitution, the management of rural and village Islamic council, and then VAs administrative entity was formed, and virtually all rural areas, of these institutions were in management. VAs formed, and the formation of the executive management at the village level, fertile ground for the implementation of programs and projects in rural areas, especially rural pilot projects, and has made them successful. In the past, the lack of unified management, many problems in the procurement process, and the implementation of rural projects, such as rehabilitation and rural happen, and this relative lack of success of the projects were effective. But with the creation of RM in villages, municipalities as well as the institution responsible for implementing the program, and projects in rural areas, which can, in partnership with the public and other executive agencies, to be carried out favorably. Given the importance of developing rural areas, especially in the social-economic, VAs role in this context, the follow-up to optimal performance, is crucial. VAs formation and the formation of executive management, at the level of villages, fertile ground for rural projects, and has made them successful. In the past, the lack of unified management, many problems in the procurement process, and the implementation of the rural plan happen, and this relative lack of success of the projects was very effective. But in the villages of VAs, VAs mayor is responsible for implementation of these projects, and the partnership with the people, and other executive agencies, are implementing the projects. The task of housing, in the context of the separation of duties performed, only the preparation and monitoring of the implementation of these projects. In fact, the separation of duties which, between the municipalities and the Housing and Urban Development, in the planning and implementation of urban development plans exist between VA and Foundation housing, rural sanitation in the area of implementation of the plans, there is. It is in the village of Posht Darband, in teVAs of placement in Kermanshah district limits, as well as having a number of villages with numerous village administrators, and lack of appropriate development requires a coherent management, and planning locally, from VAs to people who role this is very important and significant in taking the necessary review and planning, it is necessary that, based on the subject of the present action. Several studies on the topic of study has been done that can be researched Karimi (2007), Nayijy (2009), Roknoddin Eftekhari (2007), Kuchakianfard (2007), Riahi and Karami Nasab

KEY WORDS

VA, socio-economic development, rural settlements, Posht Darband village.

Received: 13 March 2017
Accepted: 2 April 2017
Published: 10 April 2017

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(2013), Salmani and Jasemi (2015), Azad Armaki and Khoshfar (2012), Clever (1997), Sayd (2000), Yaqhy (2008), Tatlidil (2009), Tanguay et al (2010), noted.

Accordingly, the fundamental problem is that, because Despite nearly two decades of VAs activities in many different areas rural, dramatic and favorable developments in the field of social and economic development of the village, be rejected ?, and whether the VAs and councils in this area is desirable ?, the difference between before and after the exercise VAs and councils, in the context of socio-economic development of rural areas, how well ?, views and opinions of the people and the VA, how is this so? based on these issues demands that the status and role of VAs, social and economic developments rural settlement, in the Posht darband district in the country, especially the district of Kermanshah, be examined.

RESEARCH HYPOTHESIS

The main hypothesis

VAs councils and rural, sustainable economic and social development in rural areas, are involved.

Sub assumptions

From the perspective of villagers, village councils and VAs, sustainable economic and social development in rural areas, are involved.

VAs views and boards, councils and rural VAs, sustainable economic and social development in rural areas, are involved.

Sustainable economic and social development of the village, before and after the VAs and councils, is different.

Research method

The present study is an applied. The research method is descriptive-analytic. In this study, the VA's villages and the Islamic Council, has a population of over 20 households (38 villages), because the type is a matter of choice. Sampling, random, and the sample is used. The study population included 2712 women-headed households, and 76 VA and is the head of the village council, village administrators and members of the Council also 76 of these villages, which have been considered separately, because of the small size of all stakeholders, as the sample size was selected. The sample size, 336 times, according to Cochran formula were determined, and the 336 people in the household, were distributed between the villages concerned. Data analysis, using T-test, is studied.

Findings

VAs performance, as executive director, social and economic developments, in the studied area in the village of Posht Darband, in the city of Kermanshah, raised and using t, yield significant VA, the VA and households, social and economic developments, is evaluated.

Table 1: Test results t, VA performance from the perspective of households

The significance level	The amount of t	Standard deviation	Average	Components	VAs performance, from the perspective of households
0.001	6.21	5.64	6.25	Before the VAs	
		7.21	12.25	After the VAs	

According to [Table 1] it is observed that the performance of VAs, after its formation, from the perspective of households has improved somewhat been impressive, and has been optimal performance, and a significant level of 0.001, which is less than 0.01, this makes sense has been, and VAs performance before and after the formation of VAs is significant.

Table 2: Test results t, VAs performance from the perspective of Vas

The significance level	The amount of t	Standard deviation	Average	Components	VAs performance, from the perspective of vas
0.002	5.25	6.23	6.98	Before the VAs	
		7.68	9.56	After the VAs	

According to [Table 2] it is observed that the performance of VAs after its formation, from the perspective of VAs has been a dramatic improvement, and has been optimal performance, and a significant level of 0.002, which is less than 0.01, which was significant , and VAs performance before and after the formation of VAs, is significant. Of course it significantly, significantly higher than households, respectively.

Table 3: Test results t, VAs overall performance

The significance level	The amount of t	Standard deviation	Average	Components	VAs performance overall
0.002	6.32	5.32	7.25	Before the VAs	
		8.23	8.98	After the VAs	

According to [Table 3] is observed that the performance of VAs after its formation, has been a dramatic improvement, and has been optimal performance, and a significant level of 0.002, which is less than 0.01, which was significant, and performance VAs before and after the formation of VAs, is significant.

CONCLUSION AND RECOMMENDATIONS

VAs performance, after its formation, from the perspective of households, has been somewhat dramatic improvement, and performance has been favorable, and the significance level is 0.001, which is less than 0.01, it would have been significant, and performance VAs before and after the formation of VAs is significant. VAs performance, after its formation from the perspective of VAs, has been improved, and the performance has been favorable, and the significance level of less than 0.01 was 0.002, which was significant, and VAs performance, before and after the formation of VAs, is significant. Of course, it is a significant amount compared to households has been more meaningful. In general, the performance VAs after its formation, has been a dramatic improvement, and has been optimal performance, and a significant level of 0.002, which is less than 0.01, which was significant, and performance before and after VAs the formation of VAs, is significant.

1. According to the results, it is suggested, the index of awareness of villagers, the rural guide plan, tailored training courses in this regard.
2. According to the results, it is suggested that the index of rural participation in various projects at the village level, appropriate measures should be taken training, practical experience and VAs of the Council, be made.
3. According to the results, it is suggested that an appropriate basis and paving the way for the participation of the people, as one of the main objectives of development, to improve the performance of VAs be provided.
4. According to the results, it is suggested VAs councils, in meetings and conferences Sherifdomes and governments that, to improve rural operation will be present.
5. According to the results, it is suggested that errors and defects in the work, which is done in the village, we find, and try to fix it.
6. According to the results, it is suggested that necessary conditions for the realization of the knowledge based, in rural areas be provided.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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ARTICLE

EVALUATING USE AND ATTITUDES TOWARDS SOCIAL MEDIA NETWORKING FOR UNIVERSITY STUDENTS

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ABSTRACT

Background: The purpose of this study was to evaluate use and attitudes towards social media networking in University of Qom, Iran. **Methods:** A descriptive and analytical research method was utilized. The Statistical population included all students from which a sample of 330 was selected from 3200 students of Qom University through stratified random sampling. The data collection instrument was use and attitudes social media networking questionnaire adopted from Rosen, et al. (2013). Face and content validity of the questionnaire confirmed by experts and its reliability was estimated 0.91 through Cronbach's alpha coefficient. Usage social media networking were 11 dimensions and attitudes social media networking were 4 dimensions. **Results:** The findings showed that usage social media networking and its dimensions (smartphone usage, general social media usage, Media Sharing and text messaging) mean scores were higher than average level. The two dimensions of attitudes social media networking were higher than average level while the lowest mean is related to negative attitudes toward technology. Significant differences were also observed regarding demographic variables. **Conclusions.** University students participate in various social media activities on a daily basis, there are growing concerns about the potential negative impacts of social media on students' social wellbeing.

INTRODUCTION

Social networks give persons the opportunity to re-connect with old friends and to make new ones. They are ideal platforms for trade ideas, information sharing, and several other actions. Social networks make it possible for users to stay abreast of the latest global and local developments, and share in activities of their choice [1].

Politicians, numerous world leaders and celebrities today are always in touch with their audience through social networking on social media for example tweeter, Instagram and Facebook [2]. Professionals use social media sites to improve their career and business prospects. One can learn about additional cultures and societies by linking with people in those nation-states [3]. Drawbacks to the use of social networks have been outlined to include addiction, cybercrimes and harassments, decline in productivity. Several introverts and socially reclusive users place too much emphasis on virtual interaction, and ignore the real world outside [4]. Social media has been defined in several methods. As stated by studies and work by Kietzmann et al., (2011), Social Media are extremely and exceedingly interactive platforms, which apply and engage the mobile devices and other web based technologies to facilitate persons, groups and communities in developing, co-creating, sharing, transform and discuss the content produced by the user [5]. In practice, social media refers to specific platforms through which individuals communicate, for example discussion forums, blogs, wikis, social networks, and multi-media sites, being some of the most popular Facebook, MySpace, LinkedIn, Google +, Flickr, Twitter, and YouTube [6].

Social media arrive a variety of forms with social networking sites, microblogs, blogs, chat platforms, open source mapping, and photo and video sharing. Generally, social media can be defined as "applications, services, and systems that permit users to create, remix, and share content." [7]. Social media usage refers to "the multiplicity of activities persons may participate in online" [8].

There is evidence that individuals differ in both their internet based social-networking experiences and their motivations for using social networks. For example, although many individuals report positive relations of Face book use [9], Social media are a source of news that is often recommended by trusted friends and acquaintances. Social media constitute a space of expression and deliberation [10]. When expressing themselves and/or discussing with others, people process relevant information and messages more deeply and become more likely to be influenced [11]. According to Fournier et al., (2013) relationships between social media and harmful alcohol use can be described by social norms theory, which posits that individual behavior is influenced by the perceived behavior of others regardless of the accuracy of such perceptions; exactly, inflated perceptions of risk behaviors increase personal risk taking [12].

Alwagait et al. (2015), all indicating that the academic performance of the students was not affected by the use of social media [13]. The researchers were positive on the effect the use of social media by the students as they can conversation information on the platforms that can increase their academic performance. Some other studies but indicated that the use of social media had negative effect on the academic performance of students [14, 15].

Youths have high levels of social need and desires and they actively interact with their environment. These connections and relationships can result in positive or negative changes in the behavior of the persons that could have corresponding impact on the academic performance [16]. Also, engagement with social media sites has increased dramatically among young people and young adults recently [17]. Thus, the

KEY WORDS
Social media,
networking, students,
University.

Received: 16 Feb 2017
Accepted: 3 April 2017
Published: 25 April 2017

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question comes up “To what purpose and why do young people, especially college students, use the social network sites?” One of the answers to this question is that the students who reside far from their friends can stay in touch with them through the social network sites [18]. It has been shown that youth who are typically students use social media for a number of reasons. Now numerous social media platforms target the youths and researchers have studied the effect of social media on the youths who are also students and the outcome of such studies are variable [19]. Ogaji et al., (2016) were found out that Pharmacy students used social media very well to communicate with real and virtual friends but not so much for academic improvement. Majority of the students use Facebook and Twitter for less than 30 min daily but spent longer time on WhatsApp and YouTube applications [20]. Thus, the aim of this study was to examine the use and attitudes towards social media networking at Qom University. In this research, the scores of undergraduates on the main factors such as usage dimensions (Smartphone Usage, General Social Media Usage, Internet Searching, E-Mailing, Media Sharing, Text Messaging, Video Gaming, Online Friendships, Facebook Friendships, Phone Calling and TV Viewing) and the attitudes dimensions (Positive attitudes toward technology, Anxiety of being without technology or dependence of technology, Negative attitudes toward technology and Preference for task switching).

MATERIALS AND METHODS

The present study employs a questionnaire survey approach to collect data for testing and research Question. Variables in the questionnaire comprise background information, use and attitudes social media networking in higher education. The population for the study is 3200 students of Qom University. This study uses a stratified random sampling method to select 330 students. The authors distribute 330 questionnaires and ask for the questionnaires to be completed by faculty students. Of the 303 returned questionnaires, 10 are incomplete. The residual 303 valid and complete questionnaires are intended for the quantitative analysis. Data were composed by one questionnaire:

Following the distinction of previous researches [21], which is an originally designed for adults. the present study adopts Use social media networking Scale with development of a 11 subscales: Smartphone Usage (9 items), General Social Media Usage (9 items), Internet Searching (4 items), E-Mailing (4 items), Media Sharing (4 items), Text Messaging (4 items), Video Gaming (3 items), Online Friendships (2 items), Facebook Friendships (2 items), Phone Calling (2 items) and TV Viewing (2 items). The attitudes dimension includes four sub-scales: Positive attitudes toward technology (6 items), Anxiety of being without technology or dependence of technology (3 items), Negative attitudes toward technology (3 items) and Preference for task switching (4 items). All variables require ten-point Likert style responses ranging from “Never” to “All the time”.

Reliability coefficient of questionnaires were estimated through Cronach's alpha coefficient in Usage and attitudes social media networking Scale (0.88 for Smartphone Usage, 0.83 for General Social Media Usage, 0.89 for Internet Searching, 0.81 for E-Mailing, 0.85 for Media Sharing, 0.90 for Text Messaging, 0.83 for Video Gaming, 0.89 for Online Friendships, 0.81 for Facebook Friendships, 0.84 for Phone Calling, 0.82 for TV Viewing, 0.86 for Positive attitudes toward technology, 0.84 for Anxiety of being without technology or dependence of technology, 0.89 for Negative attitudes toward technology and 0.86 for Preference for task switching. To verify the questionnaires validity face and content method and authority opinions were utilized. To show the differences Usage and attitudes social media networking among students, t-test, Fisher test, MANOVA were employed. A multiple comparison post hoc test with least significant difference (LSD) was used to determine which course types were significantly different from the others.

RESULTS

Most respondents (87.4%) aged 19 to 22 years; the participants included 60.9% female and 39.1% male. The number of Social Sciences students was 61% and those whose domain was Engineering Sciences were 39%. The number of the students studying at the first grade was 31% and those studying at the fourth grade were 69%. [Table 1] regarding the three dimensions of usage social media networking Qom University the highest mean smartphone usage (M=6.90), while the lowest mean is related to online friendships (M=3.41).

Table 1: Usage social media networking dimensions mean, standard deviation Qom University ($\bar{X} = 5$, $df = 302$)

Indicators	S	SK	\bar{X}_d	toB	P	
Usage social media						
Smartphone Usage	6.90	0.51	0.42	0.01	1.32	0.000
General Social Media Usage	6.32	0.58	0.49	0.07	1.43	0.000
Internet Searching	4.01	1.11	0.74	1.32	9.43	0.000
E-Mailing	4.15	1.06	0.77	1.38	9.13	0.005
Media Sharing	6.02	0.63	0.51	0.09	1.56	0.000
Text Messaging	5.58	0.71	0.63	0.12	1.90	0.000

Video Gaming	4.54	0.84	0.79	1.41	9.84	0.000
Online Friendships	3.41	1.02	0.96	1.46	11.36	0.004
Facebook Friendships	3.54	1.39	0.93	1.59	12.09	0.001
Phone Calling	4.12	1.13	0.69	1.28	9.53	0.000
TV Viewing	4.18	1.08	0.85	0.82	9.63	0.005
Total	5.73	0.65	0.53	0.10	1.83	0.000

In this research, the scores of undergraduates on the main factors such as and the attitudes dimensions (Positive attitudes toward technology, Anxiety of being without technology or dependence of technology, Negative attitudes toward technology and Preference for task switching.

[Table 2] regarding the two dimensions of attitudes social media networking Qom University the highest positive attitudes toward technology (M=5.45), while the lowest mean is related to negative attitudes toward technology (M=2.90).

Table 2: Attitudes social media networking dimensions mean, standard deviation Qom University ($\bar{X} = 5$ df= 302)

Indicators Attitudes social media	S	SK	\bar{X}_d	tob	P	
Positive attitudes toward technology	5.45	0.65	0.61	0.15	1.45	0.003
Anxiety of being without technology	5.14	0.73	0.78	0.65	1.85	0.005
Negative attitudes toward technology	2.90	1.59	1.06	1.10	15.24	0.001
Preference for task switching	4.29	0.80	0.90	0.79	8.63	0.002
Total	5.36	0.87	0.77	0.62	1.47	0.000

According to finding of multivariate analysis (MANOVA) showed that observed F at confidence level of $p \leq 0.01$ for usage and attitudes social media networking dimensions according to demographic characteristics is significant. Etas square for age is not significant. But Eta square for course type, sex and grade is significant [Table 3].

Table 3: Paired comparison of Mean Differences and standard deviation of usage and attitudes social media networking dimensions

Usage and attitudes social media networking dimensions		Demographic Variables	Mean Difference s	Sig
General Social Media Usage	course Type	Social Sciences and Engineering Sciences	0.8641	0.000
Positive attitudes toward technology	course Type	Social Sciences and Engineering Sciences	0.6322	0.001
Video Gaming	Sex	male and female	0.4935	0.004
Smartphone Usage	grade	fourth grade and first grade	0.5482	0.000

According to finding of [Table 3], LSD test results identified that general social media usage and positive attitudes toward technology in social sciences was more than engineering sciences. LSD test results identified that video gaming according to sex students with male were more than those with female and so, smartphone usage according to grade students with fourth grade were more than those with first grade.

DISCUSSION

Such as part of the development of online social networks, social media (e.g., Facebook, Twitter or Instagram) have become an all-pervasive factor in the way we relate to others. These media allow people to connect with nearly anyone, anywhere, at any time. The fundamental driving force in this expansion of joining and interaction is the burgeoning development of various mobile social media applications. The interactive capabilities of social media make functional building blocks for individuals, communities or organizations to hold conversations, share ideas, form relationships, interest groups, and to grow their presence, reputation and identity [5].

Research results showed that in Qom University that usage social media networking and the four dimensions (smartphone usage, general social media usage, Media Sharing and text messaging) mean

scores were higher than average level. Also, the findings showed the seven dimensions of usage social media networking (Internet Searching, E-Mailing, Video Gaming, Online Friendships, Facebook Friendships, Phone Calling and TV Viewing) were lower than average level while the lowest mean is related to Online Friendships. Results of this study are almost compatible with studies that showed that all indicating that the academic performance of the students was not affected by the use of social media and this finding seems to support the statement made by The researchers were positive on the effect the use of social media by the students as they can exchange information on the platforms that can enhance their academic performance [13]. Some other studies however indicated that the use of social media had negative effect on the academic performance of students [14, 15].

Also, Research results showed that in Qom University that attitudes social media networking and the two dimensions (Positive attitudes toward technology, Anxiety of being without technology or dependence of technology) mean scores were higher than average level. On the other hand, the findings showed the two dimensions of attitudes social media networking (Negative attitudes toward technology, Preference for task switching) were lower than average level while the lowest mean is related to Negative attitudes toward technology. Finally, significant differences were observed between usage and attitudes social media networking dimensions and its dimensions regarding demographic variables. Results of this study are almost compatible with studies that showed that youths have high levels of social need and desires and they actively interact with their environment. Ogaji et al., (2016) were found out that Pharmacy students used social media very well to communicate with real and virtual friends but not so much for academic improvement. Majority of the students use Facebook and Twitter for less than 30 min daily but spent longer time on WhatsApp and YouTube applications [20]. Youths have high levels of social need and desires and they actively interact with their environment. These connections and relationships can result in positive or negative changes in the behavior of the persons that could have corresponding impact on the academic performance [16].

These interactions and relationships can result in positive or negative changes in the behavior of the individuals that could have corresponding impact on the academic performance. It has been shown that youth who are mostly students use social media for a number of reasons.

CONCLUSION

Our findings indicated that usage social media networking and its dimensions (smartphone usage, general social media usage, Media Sharing and text messaging) mean scores were higher than average level and two dimensions of attitudes social media networking were higher than average level while the lowest mean is related to negative attitudes toward technology. So, one of the factors that influence human behavior is social norms. Socialization has been identified to have a compelling influence on human behavior. Technology has been identified as a key modifier of human behavior today. The advent of computer and internet has changed so much about human behavior.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The author is thankful to students of University.

FINANCIAL DISCLOSURE

The work is not supported by any funding agency.

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ARTICLE

THE STUDY OF ENTREPRENEURSHIP IN IRAN AND STATES THAT ARE MEMBERS OF GLOBAL ENTREPRENEURSHIP MONITOR

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ABSTRACT

The purpose of this study is examining entrepreneurship in Iran and states that are members of global entrepreneurship method. Rapid changes are the characteristic of today's economy and countries that have new institutional innovator and risk taker entrepreneurs' can be economically strong and successful. In fact, we can say, entrepreneurs symbol of innovation and success in business and entrepreneurs are pioneers who with their innovative ideas led to major changes in the structure of the bureaucracy and increase efficiency and effectiveness and this indicates that the economy has been affected by entrepreneurship and if organizations fail to keep pace with accelerating developments in the world they would be in a static mode and no doubt they won't be active in the future and eventually develop into a vanishing mode. But in this article we have to know, what are the indicators of the effectiveness of entrepreneurship? What is the highest weight assigned to each criterion? And finally, how is the ranking of the see indicators? Thereby we would be able to achieve effective indicators of entrepreneurship. And the research methods employed in this study matched with the target application in terms of data collection are descriptive survey. The research territory is Iran and 22 countries of the OECD countries. The methods used to rank components are: DIMATEL technique, AHP, VIKOR, Pearson-Test and Structural Equation Modeling (SEM). This means that the output of DIMATEL we re-imported into the network analysis technique and the output of ANP were imported into the VIKOR and were indicators were rated and test data were analyzed by Pearson technique and structural equation technique. Here are the results of the criteria ranking: [1].emerging entrepreneurship, [2].understanding entrepreneurial capabilities, [3].understanding opportunities, [4].entrepreneurial intention, [5].stabilized entrepreneurship, [6].starting-up entrepreneurial, [7].New entrepreneurs, [8].Fear of failure. The results of Structural equation modeling to test the hypothesis in this study indicate that standardized coefficient of 1.01 and significant coefficient of 3.20 (greater than 1.96) between these two variables, is relative to the impact of entrepreneurial perceptions entrepreneurial activity. It can be inferred that entrepreneurial perceptions have a significant impact on entrepreneurial activities among the studied countries.

INTRODUCTION

The purpose of this study is examining entrepreneurship in Iran and states that are members of Global Entrepreneurship Method (GEM). The purpose is recognizing and ranking the factors that influence and are influenced by entrepreneurship in Iran than other states which are members of the World sentinel. In action because of a failure in database and weaknesses in management applying the entrepreneurial is limited in developing countries.

The word entrepreneur, centuries before being posed in modern language, was common in the French language. This entry is synonym with French word Entrepreneur meaning "pledge" (synonym with Take in English language) that in 1848 was translated to Entrepreneur by John Stewart Meal. "In order to the view of Global Entrepreneurship Method (GEM)" Entrepreneurship is any attempt to create a new business (or self-employment), Current business development or business that has been established by individuals or groups of people [1]. Entrepreneurship refers to starting, managing and developing new businesses that are highly regarded in all countries [2].

Global Entrepreneurship Method is also a university consortium composed by an academic-research department, the main purpose of which is assessing and providing a prestigious international research data on entrepreneurial Activity. Qualitative and quantitative at obtained in GEM Global Reports are Valuable sources of information for decision-makers in The Member States.

Global Entrepreneurship Method (GEM) was created in 1997 by Renolds Paul, according to Michael Hey idea and it was recognized as a Standard Global Index for business to be the same as Global Competitiveness Index for World Economic Forum [3].

Reynold's aim is to develop a complement model for the global competitiveness model that was published by the World Economic Forum. It was thought that only large and established companies are important. This idea was in association with David Birch major effort toward understanding the business being dynamic [4].

But in the (GEM program) from the beginning not only established companies but also new businesses and emerging markets are also examined. The following chart shows graphically the distribution of GEM countries.

KEY WORDS

Entrepreneurship Global Method (GEM), Dimatel technique, AHP, Vikor, structural Equation Modeling

Received: 3 July 2017
Accepted: 20 Aug 2017
Published: 10 Sept 2017

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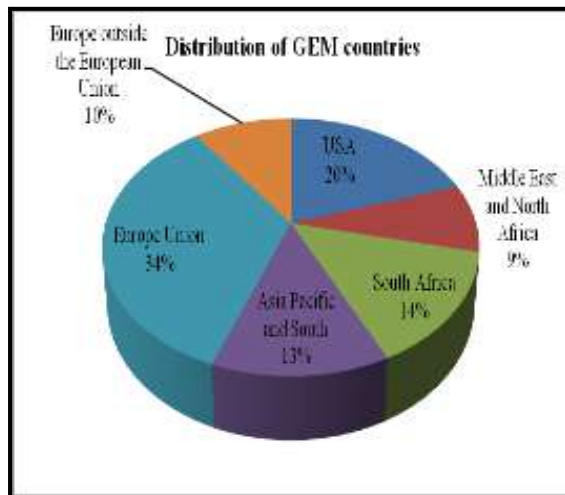


Fig. 1: Distribution of GEM countries.

This study was conducted to identify the most influential factors in entrepreneurship and in this regard the most effective factors in entrepreneurship are identified and after that with determination of any of the Organization for Economic Co-operation and Development (OECD), countries and Iran we study it to improve performance as well as economic prosperity and achieve results that can be considered guidelines for officials. In this paper, initially by using the Delphi technique, indicators and factors influencing entrepreneurship are identified and marked. Then, by utilizing the DEMATEL technique and the impact of each factor on the other these factors were measured and matrix was formed. This model is used for solving and justifying complex problems. It also improves complex the structure of problems and it may contribute in identifying the solutions with a hierarchical structure [5]. Then the output data of DIMATEL became weighted with ANP and were ranked in VIKOR. Determining the indicators should be used to determine the dependency in the structural equations.

Due to the efficiency and capabilities of each of the methods mentioned, using a combination of all four methods in Entrepreneurship studies was found in no place, and with dare we can say that we are the first, using all of the four methods in this field. But there are studies that combine three methods: DIMATEL ANP, and VIKOR. These three methods are very efficient and more effective in solving many complex issues and making decisions. A few of these studies are mentioned here:

- Zali in his research in 2009 stated that based on the survey of the two entrepreneurs (n = 279), fear of failure does nothing der the development of entrepreneurship in Iran. Based on the results, only30percent of respondents have taken "fear of failure" as a cause, against motivation for entrepreneurship [5]
- Vakil & Rohizat [2015] states that this integrated models a combine of DEMATEL, ANP, and ZOGP and puts analysis on relationship between the evaluating criteria and procedures related to employment policies and entrepreneurship policy [6].
- Arabian et al. (2010), "prioritization of Factors which influence the social entrepreneurship, from the perspective of social activists". The study indicate that the social entrepreneurship refers to innovative activity and creating a social value that can be done in non-profit and commercial sectors. According to this concept that social entrepreneurship is known as an effective and lasting way in the country's social and economic development and it takes the greater part of every society attention every single day, it is also necessary for Iranian space. In this study, the foundation is based on the Austin conceptual model and with two main questions, has priorities the refactors and examined social activist's attitudes towards significant factors on social entrepreneurship development in Iran. The statistical population is 108socialactivistsincluding managers or the founders, employees, volunteers, and sponsors involved in social businesses and non-profit sectors. Questionnaire is the main application of this survey and it has been used for these reasons: in analysis, Respectively, Kolmogorov-Smirnov to test normality of data, Friedman test for prioritization and mean test for assessing the impact of variables. Based on these results, each of the five factors identified in the conceptual model, are important in developing social Entrepreneurship in Iran and the priority orders: People, mission, contextual factors, investment and opportunities [7].

Javidnia (2010) Investigated the Indices of Entrepreneurial Success in the Development of Industrial Units Using the MCDM Technique. The study state the entrepreneurship development in economic activities and business is a process that plays a critical role in the continuity, growth and national development. Therefore developing a framework for assessing the level of activity Entrepreneurship is essential in order to create an appropriate atmosphere for logical support of entrepreneurship and entrepreneurs. This study has been done, aimed to identify and prioritize the factors determining the level of business entrepreneurship in research entrepreneurship to improve coordination. Beginning with a review of

literature and interviews with experts, prepared indicators of entrepreneurial activity and items measuring each indicator were judged by experts with AHP and paired comparison method.

Then, a survey of top entrepreneurs, at first the rank and priority of each indicator was considered and then the level of activity entrepreneurship in business was determined. The results of prior zing the indicators by AHP method showed that indicators of innovation, entrepreneurship opportunities, activities development, risks, business planning, employment levels, the importance of regional development and the effective rate of entrepreneurship in order are the most important factors to determine the level of entrepreneurship in business. Evaluation results of the level of entrepreneurship for responders also showed that the level of activity entrepreneurship in most cases has an average level [8].

Vakil and Gharzi, 2010," reason of entrepreneur's failure in Iran". The study given the role of entrepreneurship in economic and social development in developed countries, analyzing and assessing the entrepreneurial process with taking into account the economic, social and cultural condition in country and criticizing success and failure factors, helps with developing the entrepreneurship, the creation of new jobs and devoting out of the monoculture economic state in Iran. This study deals with failure factors for entrepreneurs in Iran and determining the importance of each factor with studying acceptable numbers of unsuccessful entrepreneurs using questionnaire. Here are six main factors in Iran. There are three internal factors and three external factors. External factors are the difficult economic environment, government regulations and insufficient supply of investment by funds and banks. Internal factors are perverse incentives, being fatigue and cold-hearted about job, unrealistic evaluation plan and lack of membership in networks related to businesses [9].

Extracting the conceptual model from research literature

Using MADM method, decision-making tools, and Global Entrepreneurship Method (GEM) conceptual model, we examined the effects of any indicator on entrepreneurship in selected countries as shown in figure 1.

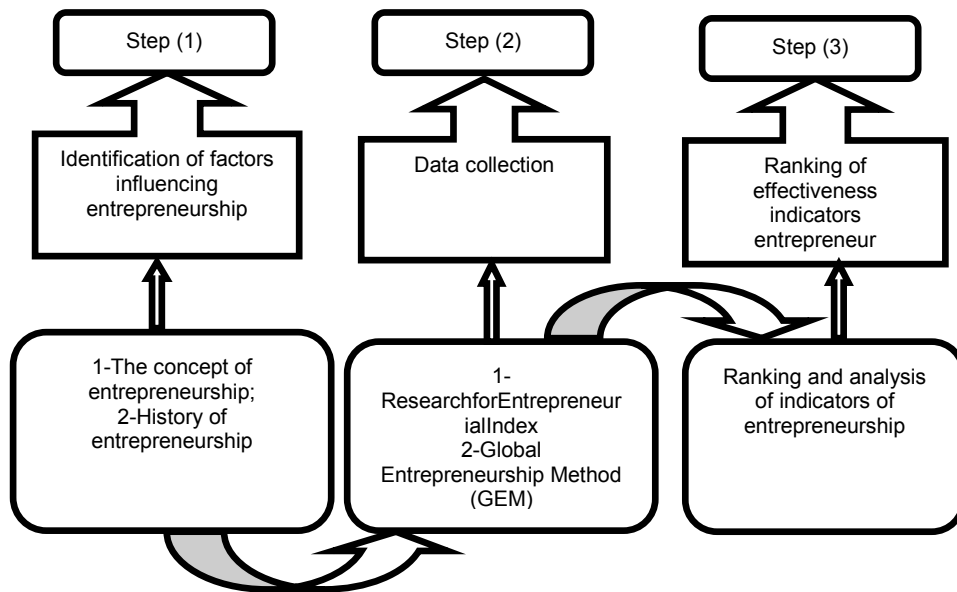


Fig. 2: Conceptual model of research.

METHODS

The research method employed in this study in terms of the target is applied and in term of the data collection is descriptive-survey.

For this purpose questionnaire, sampling, describing and research variables analysis have been used. This research will be implemented in two stages: 1) all factors effective on Entrepreneurship in Iran are detected by using a questionnaire. 2) With answers extracted from the questionnaire and by using DIMATEL ANP, VIKOR and structural equations we can priories criteria, and distinguish the dependence between variables. The following is a summary of the research we will focus on:

In the study entrepreneurship Component as an independent variable and its effective factors were considered as dependent variables, and after studying research history and with the help of teachers and scholars ideas, entrepreneurship effective factors on it were recognized and then by using Delphi technique mutual influence of indicators on each other were identified. With the help of DEMATEL method, the parameters are divided into two groups, influential and interact and the most effective and most

impressible entrepreneurship indicators were identified. These criteria were weighed and then were ranked by the. And finally, we paid to identify the dependency of the parameters in the structural equations and the Pearson test.

The method of selecting respondents

After inquiring into the selected blocks, the first family is selected and he moves in the counter-clockwise direction, within the block. Selecting the second family that depends on the block class distance is given to the respondents with the Block Map.

For example, if the distance is 10 floors in a block after selecting the family, respondent does not consider 10 families, and selects the eleventh family as a sample and so continues until the end of the block.

If the respondent, has chosen correctly households based on class distance, when reaching to the last selected house on the block, he must be near the starting point of the block and there must be some households equal to class distance between the last and the first households. After selecting households based on the development of the next few months, a person (64-18 years old) will be selected from households. In this method between the eligible individual, the one is chosen that her birthday month is coming but not past.

For example, if three persons in a household are between 64-18 years and were born in, January, April and July, in this case if interview is in April, a March person is the choice. If none of the individuals in the selected household between 18 to 64 years old, are born in subsequent months (all born in previous year), the household would be removed from sample and another one is replaced. If the first respondent is a woman the next one should be a man with same conditions.

When a person is chosen under birthday condition, at the time of questionnaire going to his house, if he is not at home, he shouldn't is replaced by anyone.

The questionnaire should be informed when he is at home and goes again to his house. The reference number is at least 5 times. In addition to the questionnaire, a formal letter addressed to the respondents, with the serial number of the questionnaire has been printed on the cover, would be delivered to the respondent. This is a result of research and describes its implementation in Iran and respondent should keep it to the end of the study (end of the year) to be participated in supporting entrepreneurship Pick citizens Lottery.

Questionnaire after the completion of the questionnaire, writes Questionnaire serial number, Name, address and contact numbers on the worksheet attached to the packet of questionnaires.

Methods of data analysis

Analysis of the survey data is classified into two categories: First, descriptive information about the respondents to the questionnaire in terms of gender, age, educational level has been studied. Second, inferred research information that is achieved from the results of a distributed questionnaire and its translation. In addition, the techniques used in this article are Delphi, DEMATEL, ANP, VIKOR and structural equation. DIMATEL technique stages [9]. Table 1 shows the research indicators.

Table 1: Research Indicators

The established entrepreneurship	X ₁
starts-up Entrepreneurial	X ₂
The New Entrepreneurship	X ₃
Emerging Entrepreneurship	X ₄
Fear of failure	X ₅
Entrepreneurial intention	X ₆
Understanding opportunities	X ₇
Understanding Potentials	X ₈

After collecting experts' views, the initial matrix (M ^) was obtained according to their levance and impact of each criterion on each other and the paired d comparisons mean as shown in table 2.

Table 2: Direct relationship matrix (M ^) of paired comparisons

Sum	X ₈	X ₆	X ₇	X ₃	X ₄	X ₁	X ₂	X ₅	
11	3	0	4	2	0	1	1	0	X ₅
17	0	1	3	3	2	4	0	4	X ₂
14	2	2	1	4	0	0	3	2	X ₁
16	4	2	0	2	0	4	2	2	X ₄
20	3	2	2	0	2	3	4	4	X ₃
16	2	0	0	3	2	2	4	3	X ₇
17	4	0	1	2	2	4	2	2	X ₆
24	0	2	3	3	4	4	4	4	X ₈

Source: Finding Research (calculation by software SPSS and Expert Choice).

ANALYSIS OF DATA

The Analysis of the results of DEMATEL method

After applying the mapping technique and DEMATEL, relationships among the variables based on the amount of work being done and the influence of cause and effect were divided into two groups. The results shown in Table 3.

Table 3: Cause and Effect Matrix

Indexes	D	R	D-R	D+R
X ₈	1.7917	0.3582	1.4335	2.1499
X ₄	2.2053	1.5498	0.6585	3.7551
X ₅	1.474	2.6823	-1.2083	4.1563
X ₃	2.545	1.4965	1.0485	4.0415
X ₁	1.8187	1.4023	0.4164	3.221
X ₂	1.1291	0.2569	0.8722	1.386
X ₇	1.7662	1.0305	0.7357	2.7962
X ₆	2.3129	1.4479	0.865	3.7608

Source: Finding Research (calculation by software SPSS and Expert Choice).

While R is the sum of column and D is the sum of rows, according to the obtain devalues, some parameters have positive values higher than D_R that in fact indicates the most influence on other criteria, therefore, they have higher priority than others due to cause group. Those with negative values are more affected and have lower priority and this constitute an effect group as shows in Table 4.

Table 4: Order of elements (hierarchy) of the matrix C = M. (1-M)-1

Thus the elements	Based on the maximum total row	Thus the elements	Based on the maximum to Total column	Thus the elements	In order to (D+R)	Thus the elements	In order to (D-R)
X ₃	2.54	X ₅	2.68	X ₅	4.15	X ₈	1.433
X ₆	2.31	X ₄	1.54	X ₃	4.04	X ₃	1.048
X ₄	2.20	X ₃	1.49	X ₆	3.76	X ₂	0.872
X ₁	1.81	X ₆	1.44	X ₄	3.75	X ₆	0.865
X ₈	1.79	X ₁	1.40	X ₁	3.22	X ₇	0.735
X ₇	1.76	X ₇	1.030	X ₇	2.79	X ₄	0.658
X ₅	1.47	X ₈	0.358	X ₈	2.14	X ₁	0.416
X ₂	1.12	X ₂	0.256	X ₂	1.386	X ₅	-1.20

At this point indexes that have positive values of (D-R) are causes and the indexes that have negative values of (D-R) are effects. The results are presented in Table 5.

Table 5: Cause and Effect

Effect (D-R)	Cause (D-R)
X ₅	X ₈
	X ₃
	X ₂
	X ₆
	X ₇
	X ₄
	X ₁

Source: Finding Research (calculation by software SPSS and Expert Choice).

The results of DEMATEL method show that the x8 factor (understanding Entrepreneurial capabilities) is the most influential factors influencing entrepreneurship. After which, respectively, x3 new entrepreneurship, x2 starts-up entrepreneurship, x6 entrepreneurship intention, x7 understanding the opportunities, x4 emerging entrepreneurship, x1 established entrepreneurship were introduced as the most influential factors. As presented in table 6 the effect group, x5 fear of failure was referred as the most influential factors.

Table 6: final rankings for DIMATEL cause and effect

Effect (D-R)	Cause (D-R)
fear of failure	X8 Understanding Entrepreneurial capabilities
	X3 new entrepreneurship
	X2 starts-up Entrepreneurial
	X6 Entrepreneurial intention
	X7 Understanding Opportunities
	X4 Emerging Entrepreneurship
	X1 Entrepreneurship Established

Source: Finding Research (calculation by software SPSS and Expert Choice).

Analysis of the results of the analytic network process (ANP)

The technique of ANP

The ANP technique is used to weight the criteria as follows (Saaty, 1996). Step One: Create a network structure-Step Two: Perform paired comparisons, Step Three: Testing compatibility, Step Four: Super matrix formation and analysis of (super matrix) and a super-matrix is actually the same output matrix of DIMATEL. Step Five: Choose the best option to choose.

Calculating the weight of decision options and prioritizing them. The most weighted with the highest priority can be selected as the preferred option. But it must be noted that the ultimate answer of ANP is not necessarily the optimal solution.

At this stage technique of weighting the criteria of analytic network process (ANP) is presented in Table 7.

Table 7: The Ultimate ANP

X₅	fear of failure	0.0643
X ₂	starts-up Entrepreneurship	0.0796
X ₁	established Entrepreneurship	0.0751
X ₄	Emerging Entrepreneurship	0.0894
X ₃	New Entrepreneurship	0.0935
X ₇	Understanding Opportunities	0.0601
X ₆	Entrepreneurial intention	0.0918
X ₈	Understanding Entrepreneurial potentials	0.1184

Source: Finding Research (calculation by software SPSS and Expert Choice).

Ranked Results of indices are presented in the table 8 in order of importance-weighted:

Table 8: Results of the ranking in dictators by using ANP

X₈	Understanding Entrepreneurial potentials	0.1184
X ₃	New Entrepreneurship	0.0935
X ₆	Entrepreneurial intention	0.0918
X ₄	Emerging Entrepreneurship	0.0894
X ₂	starts-up Entrepreneurship	0.0796
X ₁	Established Entrepreneurship	0.0751
X ₅	Fear of failure	0.0643
X ₇	Understanding opportunities	0.0601

Source: Finding Research (calculation by software SPSS and Expert Choice).

The results show that Understanding Entrepreneurial potentials is recognized as the most important Weighting factor, and Understanding opportunities is the least weighting index.

Final ranking of criteria by VIKOR method, (Tizeng and Uprikowich, 2004).

At this stage, the weights obtained from the ANP method are required in the VIKOR method.

At this stage, the positive and negative ideal values of each indicator with respect to the weights obtained from the analytic network process (ANP) are calculated. At this stage, the final values for each three levels of reliability indices $v = 1$, $v = 0.5$, $v = 0$ is calculated and final ranking of indicators will be done. Calculations in the table correspond to $v = 0.5$, which is close to $v = 1$, and the median is also shown in table 9, 10, 11, and 12.

Table 9: criteria final ranking

S	V					
	0.00		0.50		1.00	
	Q	RANK	Q	RANK	Q	RANK
X ₅	-1	8	-5.39897	8	-9.79794	8
X ₁	0.937879	7	0.585346	5	0.232812	5
X ₂	0.954857	3	0.561616	6	0.168375	6
X ₇	0.942438	5	0.646637	3	0.350835	3
X ₈	0.961966	1	0.662965	2	0.363964	2
X ₃	0.957165	2	0.489553	7	0.021941	7
X ₆	0.954012	4	0.641877	4	0.329741	4
X ₄	0.94057	6	0.970285	1	1	1

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g Research (calculation by software SPSS and Expert Choice).

Table 10: Results of the criteria ranking when $V = 0$

Name	symbol	Ranking
Understanding Entrepreneurial potentials	X_8	1
New Entrepreneurship	X_3	2
Starts-up Entrepreneurship	X_2	3
Entrepreneurial intention	X_6	4
Understanding opportunities	X_7	5
Emerging Entrepreneurship	X_4	6
Established Entrepreneurship	X_1	7
Fear of failure	X_5	8

Source: Finding Research (calculation by software SPSS and Expert Choice).

Table 11: Results of the criteria ranking when $V = 0.05$

Name	symbol	Ranking
Emerging Entrepreneurship	X_4	1
Understanding Entrepreneurial potentials	X_8	2
Understanding opportunities	X_7	3
Entrepreneurial intention	X_6	4
Established Entrepreneurship	X_1	5
Starts-up Entrepreneurship	X_2	6
New Entrepreneurship	X_3	7
Fear of failure	X_5	8

Source: Finding Research (calculation by software SPSS and Expert Choice).

Table 12: Results of the criteria ranking when $V = 1$

Name	symbol	Ranking
Emerging Entrepreneurship	X_4	1
Understanding Entrepreneurial potentials	X_8	2
Understanding opportunities	X_7	3
Entrepreneurial intention	X_6	4
Established Entrepreneurship	X_1	5
Starts-up Entrepreneurship	X_2	6
New Entrepreneurship	X_3	7
Fear of failure	X_5	8

Source: Finding Research (calculation by software SPSS and Expert Choice).

Here we see that the ranking results of VIKOR $v = 0.05$ and $v = 1$ are the same.

Results of research according to descriptive Statistics

According to the conceptual model Global Entrepreneurship Method (GEM), to evaluate entrepreneurship in a country, 8 standards indicators are measured. In Table 13 Entrepreneurship Indicators are compared in Iran and the world.

Table 13: Comparison of indices of entrepreneurship in Iran and the world

Indices of entrepreneurship		2008	2009	2010							
Row	indices	Operational definition	Mean GEM	OECD Mean	Iran ranks among the 23 countries	GEM Mean	Iran ranks among the 23 countries	OECD Mean	GEM Mean	Iran ranks among the 23 countries	OECD Mean
1	Emerging Entrepreneur	During the past 42 months, has done a significant activity to start a new business, and: -Person who owns all or part of the new business. -actively manages new business. -no employee is paid salary for more than 3 months.	6.1	4.13	4	6.47	3	3.84	7.71	3	3.26
2	New entrepreneurs.	Adult men: Now actively manages a new business. Personally owns all or part of this business. Company or business is not more than 42 months old. At least more than three months and less than	4.6	3.74	11	5.57	6	3.14	6.77	1	3.03

		42 months' salary is paid to employees.											
3	Established entrepreneurs	Adult man:	7.58	6.94	12	7.87	14	7.28	9.07	12	7.12		
		Now actively manages a business.											
		Personally owns all or part of the company.											
		The company has more than 42 months old.											
4	Nascent entrepreneurial activity	Refers to the new emerging entrepreneurial activity rate among the adult population (42-18 years old). In some cases, lower than the rate of accumulation of new businesses and emerging entrepreneurs. When some of the respondents have both new and emerging entrepreneurial characteristics are calculated Integrated.	10.52	5.12	4	11.73	2	5.02	13.73	2	5.14		
5	Entrepreneurial intention rates	The percentage of adults (64-18 years) in the next three years is going to start a new business.	17.79	9.84	1	19.33	2	10.14	69.1	2	10.73		
6	Understanding Entrepreneurial potentials	Percent of the adult population (64-18 years old) who was not involved in the start-up entrepreneurship, however, they believe that they have skills and knowledge to start their business	44.16	38.6	1	54.67	3	43.95	57.27	1	46.12		
7	Understanding entrepreneurship opportunities	Percent of the adult population (64-18 years old) who was not involved in start-up entrepreneurship, but has good opportunities for starting a business in their location.	47.88	38.41	11	38.67	11	30.18	48.13	8	34.44		
8	Fear of failure	Percent of the adult population (64-18 years old) who was not involved in entrepreneurial activities, and fear of failure can prevent them from starting a business.	38.52	38.45	1	34.33	13	34.04	31.23	9	32.29		

Source: Finding Research (calculation by software SPSS and Expert Choice).

In this regard, the following objectives have been designed and developed:

To investigate the variables affecting the relationship between entrepreneurial perception son time, in 22 OECD countries and Iran (2008-2010). To investigate the indexes affecting the relationship between entrepreneurial perception son time, in 22 the Organization for Economic Co-operation and Development (OECD) countries and Iran.

Correlation between entrepreneurial perception variables presented in Table 14.

Table 14: Correlation between entrepreneurial perception variables

		Failure	Aim	opportunity	potential
failure	Pearson	1	.950**	.991**	.950**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)		0	0	0
	N	23	23	23	23
Aim	Pearson	.950**	1	.917**	.827**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0		0	0
	N	23	23	23	23
Opportunity	Pearson	.991**	.917**	1	.975**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0		0
	N	23	23	23	23
Potential	Pearson	.950**	.827**	.975**	1
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	
	N	23	23	23	23

** Correlation is significant at the 0.01 level (2-tailed).

Source: Finding Research (calculation by software SPSS and Expert Choice).

Given the intensive correlation of each variable to another variable and the numerical level of correlation close to 1, it can be noted that there is a positive correlation between a numbers of variables influencing entrepreneurship.

To investigate the variables that affecting the relationship between entrepreneurial perception son time, in 22 the Organization for Economic Co-operation and Development (OECD) countries and Iran (2008-2010). Correlation between entrepreneurial activities shows in table 15.

Table 15: Correlation between entrepreneurial activities

		established	Starts-up	new	emerging
established	Pearson	1	.890**	.938**	.903**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)		0	0	0
	N	23	23	23	23
Starts-up	Pearson	.890**	1	.980**	.989**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0		0	0
	N	23	23	23	23
new	Pearson	.938**	.980**	1	.979**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0		0
	N	23	23	23	23
emerging	Pearson	.903**	.989**	.979**	1
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	
	N	23	23	23	23

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Finding Research (calculation by software SPSS and Expert Choice).

Given intensive correlation of each variable to another variable and the numerical level of correlation close to 1, it can be noted that there is a positive correlation between numbers of variables influencing entrepreneurship. To investigate the variables affecting the relationship between entrepreneurial perception son time, in 22 the Organization for Economic Co-operation and Development (OECD) countries and Iran (2008-2010). Correlation between entrepreneurial perceptions and entrepreneurial activity variables shown in Table 16.

Table 16: Correlation between entrepreneurial perceptions and entrepreneurial activity variables

		failure	aim	opportunity	Potential
established	Pearson	.928**	.867**	.937**	.886**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	0
	N	23	23	23	23
Starts-up	Pearson	.963**	.990**	.936**	.859**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	0
	N	23	23	23	23
new	Pearson	.985**	.962**	.975**	.925**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	0
	N	23	23	23	23
Emerging	Pearson	.973**	.992**	.950**	.874**
	Significant level. Bilateral				
	Number of data				
	Sig. (2-tailed)	0	0	0	0
	N	23	23	23	23

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Finding Research (calculation by software SPSS and Expert Choice).

Given intensive correlation of each variable to another variable and the numerical level of correlation close to 1, it can be noted that there is a positive correlation. Between a number of variables influencing entrepreneurship.

To investigate the variables affecting the relationship between entrepreneurial perception son time, in 22 the Organization for Economic Co-operation and Development (OECD) countries and Iran (2008-2010).

Correlation between entrepreneurial perceptions and entrepreneurial activity variables presented in Table 17.

Table 17: Correlation between entrepreneurial perceptions and entrepreneurial activity variables

Entrepreneurial activity	Pearson	Entrepreneurial activity	Entrepreneurial perceptions
		1	.975**
	Significant level. Bilateral		.000
	Number of data	23	23
Entrepreneurial perceptions	Pearson	Entrepreneurial activity	Entrepreneurial perceptions
		.975**	1
	Sig. (2-tailed)	.000	
	N	23	23

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Finding Research (calculation by software SPSS and Expert Choice).

Intensive correlation of each variable to another variable and the numerical level of correlation close to 1, it can be noted that there is a positive correlation between an umbers of variables influencing entrepreneurship.

We present here the results of Structural Equation Technique:

Correlation between indicators of entrepreneurial perception each other is shown in figure 2.

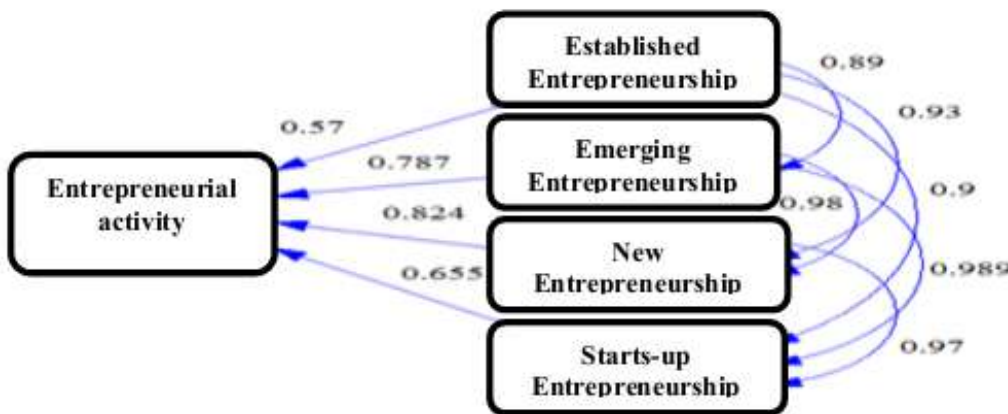


Fig. 2: Correlation between indicators of entrepreneurial perception song each other.

Correlation between indicators of entrepreneurial perception song each other is shown in figure 3.

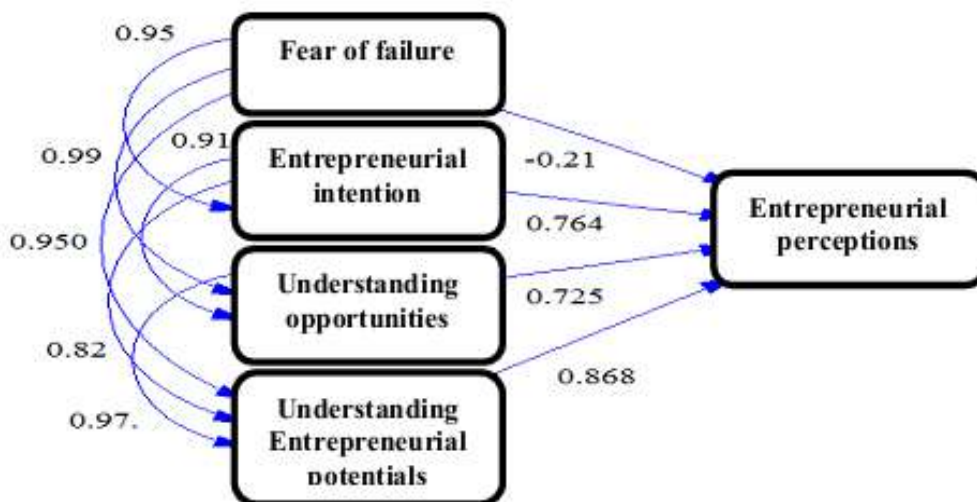


Fig. 3: Correlation between indicators of entrepreneurial perception son each other.

Source: Finding Research (calculation by software SPSS, Excel, Lisrel, Expert Choice).

- Correlation between indicators of entrepreneurial perception son each other

Correlation between indicators of entrepreneurial perception son each other

Pearson Correlation between indicators of entrepreneurial perceptions variables and entrepreneurial activities variables presented in figure 4.

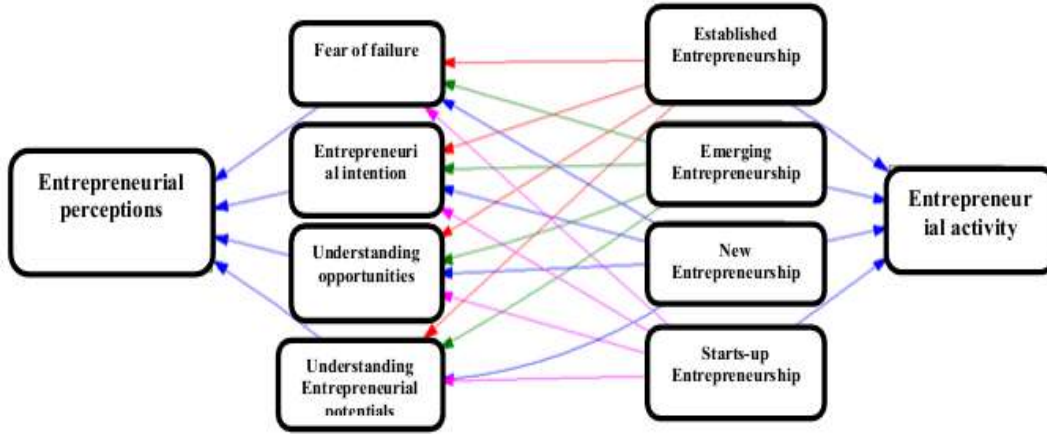


Fig. 4: Correlation between indicators of entrepreneurial perception son each other.

- Pearson Correlation between indicators of entrepreneurial perceptions variables and entrepreneurial activities variables.

The main hypothesis: entrepreneurial perceptions on entrepreneurial activity in Iran and 22 OECD countries (2008-2010).

Results of structural equation modeling to test the main hypothesis of this study indicate that standardized coefficient of 1.01 and significant coefficient of 3.20 (greater than 1.96) between these two variables is dependent on entrepreneurial perceptions effecting on entrepreneurial activity. It can be inferred that there is significant effect of entrepreneurial perceptions on entrepreneurial activity between countries under study.

RESULTS

Entrepreneurship development has a major role in all societies development .In this regard; one of the main goals of Global Entrepreneurship method (GEM) is examining Relationship between entrepreneurial activity and entrepreneurial perceptions in the states member of consortium. But entrepreneurship development requires continuous study of entrepreneurial perceptions and entrepreneurial activity in the country. The purpose of this research is examining the relevance and impact of entrepreneurial activity and entrepreneurial perceptions in Iran and the Organization for Economic Co-operation and Development (OECD) countries, compared with the global average.

In the present study, the correlation, structural equations, and following results are achieved.

According to a very full and positive relationship between perceptions of entrepreneurial disturbing variables, any change in one variable causes change in another variable. According to the above figure, it can be concluded that increasing the perceived entrepreneurial ability has the greatest effect on entrepreneurial perceptions. Increased understanding of the entrepreneurial capabilities is possible through education and research. Negative relationship between entrepreneurial perceptions and fear of failure is that, less fear of failure causes people creating more businesses.

Iran has a great deal of interest in the index ranking. As mentioned before, this means that a large population of working age is not afraid of starting a new business or don't have the proper image of the business space, set up or management.

However, low fear of failure is considered one of the positive points for the development of entrepreneurship among Iranians.

An increase in each variable of perceived entrepreneurial opportunities, entrepreneurial ability and intent to understand entrepreneurship, reducing the rate of fear of failure in addition to having a full-on positive effect on entrepreneurial perceptions, they also have a great impact on each other too, and improvement of each one has a positive effect on other variables.

According to the findings of the present study showing a significant effect on entrepreneurial activity and perceptions, and the results of the Pearson Correlation coefficient of the relationship between these two variables, it can be inferred that the behavior and characteristics of nascent entrepreneurs, new entrepreneurs and established business owners in the area of entrepreneurial perceptions may necessarily lead to a significant effect on entrepreneurial activity in the country. According to figures obtained from the correlation, each variable of subgroup of entrepreneurial activity has a positive and significant effect among those and with entrepreneurial activity. Among these factors new entrepreneurship has a greater affection entrepreneurial activity. The new entrepreneur, is the individual that:

During the past 42 months has a considerable worked one to launch a new business and personally owns all or part of its business, already actively involved in the management of new business, and more than 3 months but less than 42 months has paid to his employees. And established entrepreneurship criteria show the minimum relationship.

Entrepreneurs in the transition of serious financial risks or issues like market penetration stabilize their businesses and establish their business and are less than people who intend to begin a new business.

Given the Pearson correlation, there is a significant relationship between entrepreneurial perceptions and entrepreneurial activity variables and this shows that every single change in a variable causes a change in another one. According to the figures shown in the table these variables have a positive relationship and every single change in a variable causes a change in another one.

As a result, efforts to improve each of the indicators can have excellent results over the whole country and entrepreneurship in the country will lead to an improved business. In fact, focusing on the relationship between entrepreneurial perceptions and entrepreneurial activity variables in countries in the formulation of public policy will support innovative entrepreneurs and helps in identifying country strengths and weaknesses in entrepreneurial activity.

The results indicate that factor x8 in DEMATEL method (understanding entrepreneurial capabilities) is the most influential factor in entrepreneurship. After which, respectively, x3theentrepreneurialnew, x2 starts-up entrepreneurial, x6 entrepreneurial intention, x7 understanding the opportunities, x4 emerging entrepreneurs, x1 established entrepreneurship were introduced as the most influential factors.

Also at the part of effect groups, x5 factor (the fear of failure) is the most effective factor. The results of applying the technique of ANP also suggests that the perception of entrepreneurial capabilities have been identified as the most important factor in weighting, And perhaps understanding the specific opportunities have been identified as the least-weighted index.

The results of applying the VIKOR ranking method also suggests that the order of indices as follows:

1-emerging entrepreneurship, 2-understanding the entrepreneurial capabilities, 3-understanding the opportunities, 4-entrepreneurial intention, 5-stabilized entrepreneurship, 6-starts-up entrepreneurial, 7-new entrepreneurs, 8-fear of failure.

DISCUSSIONAND SUGGESTIONS

Discussion: Because this is the first time that such research takes place, so the following research is only a sample survey that we found.

Zali in his research in 1387 stated that based on the survey of the top entrepreneurs (n = 279) fear of failure does not hinder the development of entrepreneurship in Iran. Based on the results, only30percent of respondents have taken "fear of failure" as a cause against motivation in entrepreneurship (Zali, 2008, p57).

Suggestions: According to the results obtained" these proposals are presented for the development of entrepreneurship particularly in Iran".

Political-legal proposals

To evaluate, follow and monitor the development of entrepreneurship in the country, ministry of Labor and social affairs in addition to reporting the global standard annual indicators in the country entrepreneurship, is also paid for provincial indicators.

Re-engineering of all the legal and administrative processes of registration and liquidation of companies, patents, scientific and industrial organizations should be concerned.

To reduce the time, a multiplicity of the issuance of warrants is created for all of industrial, commercial, service, registration or cooperative activities or dissolution of companies, and patents, industrial, scientific, government offices "electronic registration of companies, institutions, and nonprofit ownership industry".

Setting up a website in order to simplify and streamline company registration and increasing rate of entrepreneurial activity in the country, led to the rise of new business to be conducted.

"entrepreneurship, investment ,and employment council "must be created to improve the business environment, to deal with problems and legal and administrative barriers for entrepreneurs, new and developing companies, enterprise development and create jobs in the province.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

None

FINANCIAL DISCLOSURE

None

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