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Special Issue No.2, Part II

**BUSINESS MANAGEMENT AND  
ENTREPRENEURSHIP  
ROUND TABLE**

**4 MAY, 2017, TEHRAN, IRAN**

**GUEST EDITOR:  
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Belgrade Business School, Serbia**

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# GROUP REALITY THERAPY AND TEACHERS' HAPPINESS

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## Abstract

*Based on the findings of different researches, it can be acknowledged that given the relatively high-frequency academic negligence among students, it is necessary for schools, parents and cultural officials to give students the opportunity to provide a suitable ground for their growth, increase their educational motivations and prevent their reluctance and burnout. Regarding the Glasser's emphasis on 'schools without failure' and his theory application on the improvement of academic failure -which has been directly and indirectly pointed out by different studies, this study intends to further explore the role of control theory in students' academic burnout and determine its effectiveness. A philosophy based on lack of affective relationships, lack of connection between academic contents and limited emphasis on thinking. Education must move towards a positive philosophy: A philosophy based on affective communication, content relationship, and thinking, otherwise we could not have many problems of failed students resolved. The results of this study also suggest the effectiveness of Glasser's theory training on the reduction of academic burnout. Accordingly, Glasser's theory which is widely applied in schools, have been indicated to be the best for developing students' academic achievement. It can be inferred from the results of this hypothesis that Glasser's Choice and Control Theory, according to its principles and concepts such as responsibility, empathy between students and teacher, evaluation of the needs and other school-related concepts can increase motivation and willingness to learn and develop a framework for the reduction of academic negligence and burnout.*

**JEL classification:** I20

**Keywords:** Reality Therapy, , Happiness.

## 1. INTRODUCTION

The 'education system' is considered as one of the fundamental resources of each country and culture, one of whose important tasks and goals is to provide a context for a comprehensive development of individuals, and educate healthy, efficient, and responsible citizens ready to play their roles in personal and social life. This very kind of education for citizens can be achieved by proper attention and investment. Accordingly, students who make up a large segment of every society's population, and spend a lot of their time in schools, naturally, need an atmosphere of scientific freshness and vitality. However, a few number of the students entering the education system every year, can take their talents to flourish, become successful in the field of education, and show a so-called good academic performance. So, if the schools fail to meet the needs of students in educational terms, they will cause reluctance or the so-called academic burnout among students. Yang & Farn (2005) in their study define academic or student

burnout as "students in the learning process because of course stress, course load or other psychological factors cause a state of emotional exhaustion, a tendency of depersonalization, and a feeling of low personal accomplishment." Salmela-Aro, Kiuru, Pietikainen, & Jokela, [Salmela-Aro, 2008] define school burnout as consisting of exhaustion due to school demands, cynical, and detached attitude toward one's school, and feelings of inadequacy as a student. Academic or school burnout is a condition that occurs as a consequence of the constant pressure of attending school: thus the student in school -due to internal and external factors- feels a constantly repeated pressure, which eventually ends in a feeling of exhaustion.

This in itself is a result of excessive exposure to academic permanent environmental stressors, which gradually take effect, and if the student continues to study in such a condition, academic burnout will be fixed [Tabachnick, 2007]. On the other hand, studies have shown that difficult educational conditions are effective in creating academic burnout [Diaz and Hidako, 1994]. Meier & Schmeck [Meier, 1985] believe that a permanent source of stress eventually leads to burnout. Burnout is sequel to the incapability of managing one's stress. Today, researchers agree that burnout is experienced by both school and university students [Schaufeli, 2005]. In this regard, there are some evidences that support the existence of burnout among school students [Yang, 2004].

Academic burnout is also associated with excessive stress, long hours of working and education, concerns and worries about grades, doubts about the future, low-level control, low satisfaction with the imbalance between personal and professional life, and a low level of support from peers and friends [Salmela-Aro, 2005]. Furthermore, the findings of some empirical researches on academic burnout suggest that it is correlated with significant behavioral and psychological problems such as depression, absenteeism and academic failure [Boudreau, 2004, Covington, 2000, Salmela-Aro, 2009]. Student burnout can also lead to higher absenteeism, lower motivation to do required course work, higher percentage drop out at college and so on [Yang, 2005]. Zhang, Gan, & Cham (2007) have also suggested that negative perfectionism (doubts about actions, concerns over mistakes, etc.) were related to burnout symptoms while positive perfectionism (personal standards and organization) to academic engagement [Zhang, 2007]. To escape academic reluctance, there are several solutions; Dornbusch, Ritter, et al [Dornbusch, 1991] recognized parents' encouragement helpful to solve the problem. Rayan [Rayan, 2001] also found that students who see their teachers as their supporters are more willing to do school assignments. Midgley & Urdan [Midgley, 2001] concluded in their study that students' perception of the classroom and the teacher can have a great impact on their motivation. Bandura [Bandura, 2000] recognizes the important role of the peer group, and believe that adolescents with their feedbacks and evaluations taken from their peers, determine their behaviors. On the other hand, one of the major approaches which has paid a specific attention to schools, students and teachers and has offered basic and practical solutions for students' academic achievement is Glasser's Choice Theory. In his book "Schools without Failure", Glasser argued the basic role of the interaction between teacher and students. He believes that teachers and students need to have an emotional connection and be involved in each other's issues. He considers empathy between teacher and students as one of the basic strategies for success in schools [Glasser, 2011]. Glasser notes that the main obstacle is our current education system: A philosophy based on lack of affective relationships, lack of connection between academic contents and limited emphasis on thinking. Education must move towards a positive philosophy: A philosophy based on affective communication, content relationship, and thinking, otherwise we could not have many problems of failed students resolved [Glasser, 2011]. The results of a study indicated that Glasser's theory is effective on coping with students in school. In this regard, a research by Mohsenzadeh and Mohammad (Glasser, 2009) has shown that Glasser's reality therapy is effective on the reduction of students' academic negligence. In a research by Razimoradi, Etemadi and Naeemabadi (Glasser, 2009) the results showed the effectiveness of Glasser's Choice Theory on the increase of students' coping ability. Another research conducted by Agedy and Etemadi (Fimian, 1989) concluded that Glasser's Choice Theory is effective on the identity of school students.

Reality therapy is Glasser's strategy for helping individuals to understand the basic reasons for their behavior and then to learn more effective strategies. Glasser [18] has also shown that Choice and Control Theory can be frequently and appropriately applied in schools.

Planning of usable behaviors more likely to meet the needs (Glasser, 2010). We're choosing all our actions and thoughts, almost all of our feelings, and even the major part of our physiology indirectly. No matter how we feel bad, much of the interactions going on inside our body when suffering from a pain or a disease, are the indirect results of the actions and thoughts that have been or will be chosen by us, affected by our quality world [Glasser, 2010]. Choice theory considers that we have control over their lives, more than what we think. Unfortunately, a considerable portion of this control is not effective. The seed of all our misfortunes is sown in the years when we are dealing with people who believe that not only do they have discovered for themselves what is right, but also know what is good for others [Glasser, 2010].

Based on the findings of different researches, it can be acknowledged that given the relatively high-frequency academic negligence among students, it is necessary for schools, parents and cultural officials to give students the opportunity to provide a suitable ground for their growth, increase their educational motivations and prevent their reluctance and burnout. Regarding the Glasser's emphasis on 'schools without failure' and his theory application on the improvement of academic failure -which has been directly and indirectly pointed out by different studies, this study intends to further explore the role of control theory in students' academic burnout and determine its effectiveness.

## 2. GROUP REALITY THERAPY AND TEACHERS' HAPPINESS

The emphasis on describing psychological health in terms of 'what is right' has been growing ever since Martin P. Seligman coined the term 'Positive Psychology' in 1998. (Strumpfer, 2011).

Over the last several years, psychologists have argued for an increased focus on investigating happiness and other positive emotions (Luthans, 2002). Rather than continue a more traditional focus on negative or dysfunctional forces in daily life, researchers are attempting to understand how to make life better. (Arthaud-Day, Rode, Mooney & Near, 2005.) The history of happiness research is the history of confusion. The term has carried many different meanings and this has hindered productive thinking enormously. Happiness is a complex concept and longstanding theme which came under scrutiny by the ancient philosophers and thinkers. Nowadays, the conceptual explanation of happiness has largely escaped from the deadlock. In fact, the greatest advance achieved is at the conceptual level. Psychology doesn't solely focus on mental illnesses any more (Arian, 2004). The chief purpose of the mental health is to assist people in living happier, and help them diagnose and prevent behavioral, emotional, psychological, personality and affective disorders. The government's most critical task is quelling the mental disorders in order to create a healthy society and each community that seeks happiness and prosperity must seriously consider the components of happiness and ways of boosting it. (Bahrami, 2010) There has been an upsurge in studies on happiness (e.g. Diener, Argyle...). Happiness can be defined in terms of the average level of satisfaction over a specific period, the frequency and degree of positive affect manifestations, and the relative absence of negative affect (Argyle, 2001).

The concept of happiness has long interested philosophers and psychologists. This notion seems to be more comprehensive and less illusive than other definitions since one of the components is defined as life satisfaction and is distinguished from affective appraisal in that it is more cognitively than emotionally driven and has also considered positive and negative affect as two independent dimensions. The ultimate and common goal of human being is happiness (Ericsson, 2006), and all are trying to achieve it (Buss, 2010). Happiness is missing in the contemporary world and it is a great blessing that has a certain survival value and should be sought and cherished. In respect of happy people's characteristics, the happy appear relatively healthy, both physically and mentally. They are active and open-minded. They feel they are in control of their lives. Their aspirations concern social and moral matters rather than money making. The happy tend to be better educated, rather than from a genuine effect of income. As yet no empirical investigations have focused on consequences of happiness. Nevertheless, some indications can be found in the results of a few longitudinal investigations on life satisfaction and experimental studies on mood. These results suggest that a positive appreciation of life tends to broaden perception rather than paralyse it, to encourage active living rather than induce apathy and to foster social contact rather than lead to selfish individualism. There are strong indications that happiness fosters health and even lengthens lives somewhat. Seeking companionship, sociability in spare time and helping others are amongst the other consequences of happiness. Moreover, positive affect can occupy a significant role in boosting mental health, job satisfaction, self-efficacy strength, control belief, esteem, contentment, welfare and progress, creative thinking, social integration, and flexibility in interpersonal relationships. According to Schwarz & Strack (1991), happy individuals tend to be more optimistic in information processing. Diener (2002) defines happiness as self-appraisals and evaluation of life. The relationship between happiness and many variables have been investigated such as education and income (Oswald, 1997; Bradburn, 1969; Argyle, 2001), job satisfaction and life satisfaction (Tait & Padgett, 1988, Adler & Fagley, 2005), and health (Taylor and Chatters, 1988; Eddington & Shuman, 2004; Salovey et al, 2001). According to Seligman, in

the 80th a vast number of serious researches have been launched in the related field of happiness mounting to 780 articles in terms of happiness and enjoyment and 5701 articles on life satisfaction in the realm of positive psychology. However, these numbers are slender in comparison to the published articles in other fields, such as, 8072 anger-related articles, 57800 anxiety-related articles and 70856 depression-related articles published from 1887 to 2005. Researches have shown that school teachers play a vital role in promoting mental health, identifying children at risk of psychological disorders and referring them for receiving professional help (Smaeeli, 2008). All the above-mentioned facts indicate the need for mentally healthy teachers. Since, the basic foundation of formal education is laid in the primary schools, therefore, having a healthy society can't be imagined unless we have happy, optimist teachers who have a high level of life satisfaction, specifically in the elementary levels. There have been researches into the benefits of different kinds of therapies or changes in life style in order to enhance the happiness of individuals. Reality therapy has been considered to be one of the versions which is addressed to happiness and has been found to be effective. Glasser (1981, 1985) adapted this theory to the clinical setting and formulated it in a way that makes it useful to therapists, counselors, and others. Glasser saw the human being as motivated by five internal forces. These human needs are innate, not learned; general, not specific; and universal, not limited to any specific race or culture. All behavior is aimed at fulfilling the four psychological needs of belonging, power, fun (or enjoyment), and freedom, as well as the physical need for survival. Effective satisfaction of these needs results in a sense of control that other theories refer to as self-actualization, self-fulfillment, or becoming a fully functioning person. Because the theory and practice of reality therapy are based on conscious behavior, wants, needs, and perceptions of human beings, they are applicable in virtually every setting. There are clearly identifiable interventions that constitute the essence of reality therapy. Glasser (1990a) said, "the art of counseling is to weave these components together in ways that lead clients to evaluate their lives and decide to move in more effective directions. Wubbolding (2001a, 2002) the therapist helps clients formulate, clarify, delineate, and prioritize the elements (desires) contained in their quality world of mental pictures. By describing their overall destination, clients become ready to evaluate and change their thinking and behavior. He also asks clients to conduct a searching self-evaluation. Glasser (1990a, 1990b) has described self-evaluation as the core of reality therapy. According to Glasser, all persons generate behaviors to fulfill human needs. As people attempt to accomplish various developmental tasks, they either succeed or fail. When they habitually fail to fulfill their needs effectively, they develop a failure identity (Glasser, 1972, 1985).

### 3. CONCLUSIONS

A philosophy based on lack of affective relationships, lack of connection between academic contents and limited emphasis on thinking. Education must move towards a positive philosophy: A philosophy based on affective communication, content relationship, and thinking, otherwise we could not have many problems of failed students resolved. The results of this study also suggest the effectiveness of Glasser's theory training on the reduction of academic burnout. Accordingly, Glasser's theory which is widely applied in schools, have been indicated to be the best for developing students' academic achievement. It can be inferred from the results of this hypothesis that Glasser's Choice and Control Theory, according to its principles and concepts such as responsibility, empathy between students and teacher, evaluation of the needs and other school-related concepts can increase motivation and willingness to learn and develop a framework for the reduction of academic negligence and burnout. Previous studies examining the effectiveness of Glasser's theory on schools have obtained similar results (Agedy & Etemadi, 2012; Razimoradi, et al., 2010; Mohammad & Mohsenzadeh, 2011). We recommend that future studies pay more attention to the role of academic burnout in schools, and apply useful and relevant theories on this subject to solve the problem. We also recommend changing of study population to college students. One of study limitations was same statistical population. The population of this study is comprised only of high school students, whose results cannot be confidently generalized to all students and other classes and sections of society.

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# THE RELATIONSHIP BETWEEN THE QUALITY OF FINANCIAL INFORMATION AND AGENCY THEORY EMPHASIZING THE ROLE OF AUDIT QUALITY IN COMPANIES LISTED ON TEHRAN STOCK EXCHANGE

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## Abstract

*Given the importance of financial information and the separation of ownership from management and the role of audit in the meantime, in this regard, this study is a measure of the quality of financial information, including accruals quality. Also, the measurement problems in agency theory, the three criteria of financial leverage, managerial ownership and free cash flow is used. In this study, we sought to examine the issue that what is impact of audit opinion on stock returns and accounting information. To test the hypothesis, among a sample of 152 companies listed companies in Tehran Stock Exchange during the period 2010 to 2015 were selected. The data required to calculate the variables of the study, were collected from databases of "Tadbirpardaz" and "Rahavard Novin". Results show that audit quality has negatively mediating role of accruals quality financial leverage and free cash flow while audit quality has a positive role in mediating the relationship between AQ and managerial ownership. Pricing audit services audit is a subject of interest to many researchers and many studies have been done in this field abroad but in Iran there has not been enough effort. Companies that perform audit pursue different objectives. Objectives such as an audit report to participate in auctions and tenders, aims to provide the tax administration, submit a report to the General Assembly of the shareholders. Time of research was a time period of 8 years from 2008 to 2015. The number of samples after the restrictions defined as 113 companies after removing the outliers, number of 791 observations were analyzed. According to the first hypothesis, it is expected that a significant relationship between discretionary accruals and audit fees exist. Results show that between discretionary accruals and audit fees, there is a significant positive relationship. According to the first secondary hypothesis, it is expected that bonus management has a significant impact on discretionary accruals and audit fees. The results show that management bonuses has a significant negative impact on the relationship between discretionary accruals and audit fees. According to the second secondary hypothesis it is expected that managerial ownership have a significant effect on the relationship between discretionary accruals and audit fees. The results indicate that managerial ownership have no significant effect on the relationship between discretionary accruals and audit fees.*

*JEL classification: G32*

*Keywords: Audit quality, The quality of financial information, Problems of agency theory*

## 1. INTRODUCTION

By accepting the classical agency theory, after the separation of ownership from management companies, the issue raised was conflict of interest between management and shareholders. The core of agency theory is based on the assumption that managers as representatives of shareholders may act or take decisions that is not necessarily in line to maximizing shareholder wealth. According to agency theory, there must be control or oversight mechanism be created to protect the shareholders of conflict of interest. On the other hand, audit has a crucial role in serving the public interest to strengthen accountability and confidence in financial reporting. Moreover, theory of demand for quality of audit results from the fact that there is conflict between managers and investors in terms of agency. When agency costs due to lack of concentration of ownership and lack of effective oversight by the owners is increased, the demand for higher quality of audits also increased.

## 2. PROBLEM STATEMENT

It should be noted about the importance of this research that the heart of the economy is reflected in its capital markets and an engine for optimal operation of the market economy of countries. Improving the quality of financial information in this case can also have a significant role. This study examines the role of audit quality on the relationship between the conflict of interest of the consumers (agency) and financial data quality. Audit quality is one of the most important issues in today's audit operations. Also, the quality of corporate financial information is also one of the things that is dependent on the quality of audit (Miettinen, 2014). External users of financial statements, including current and potential investors, creditors and other individuals and groups who base their decisions on reliable the financial information, take many benefits from the quality of audited financial data. Employers including management, Audit Committee and Board of Directors for reasons such as lower cost of capital are interested in high quality audit. In addition, standard setters and legislators can increase the effectiveness of capital markets by promoting laws and regulations. This can be achieved by ensuring that the audit results improve the quality of financial information. However, in today's environment audit, where severe audit failure is clear, there are many concerns about audit quality (Miettinen, 2014). So, we can see that the reliability of audited financial information is reduced. However, the relevance of audit has increased (Hodge, 2003).

Audit is process that provides assurance about the quality and reliability of financial information of companies and therefore is a means to reduce agency problems (Jensen and Mac Ling, 1976). Also, some people believe that agency problems will increase demand for audit quality (Miettinen, 2014). As a result, studies have focused on issues of agency on the side of the demand for audit and investigated the issue that how the level company agency problems affect the demand for audit quality (Jensen, Mac Ling, 1976; De Fond, 1992; Parkash, Venable, 1993; Nikkinen, Sahlstrom, 2004; Chen, 2005). On the other hand, this audit literature focused on the supply of audit quality and have examined how audit quality is reflected in the quality of financial information (Frankel et al., 2002; Geiger, Rama, 2003; Larcker, Richardson, 2004). However, the main question of this study is that: is it possible to combine views on supply and demand for audit quality in agency problems and the quality of financial information? In the other words, can audit quality as a mediator variable affect relationship between the quality of financial information and agency problems?

## 3. LITERATURE

Beshkooch et al. (2013) investigated the relationship between audit quality and cost of agency. The results of their study showed a significant negative relationship between agency costs and audit quality.

Miettinen (2014) in their study investigated the mediating role of audit quality in the relationship between the quality of financial information and agency problems. The results of this study showed that a significant positive relationship exist between audit quality and agency problems. Also, a significant positive relationship exists between audit quality and the quality of financial information.

Habib and Jiang (2015) investigate the relationship between corporate governance and financial reporting quality in China. The results have revealed that some of the special features of corporate governance in China, such as the control of the companies in the stock exchange by government and forced responsibilities of the board to make Independent comments on important decisions, which are quite different compared to other countries, affect the quality of financial reporting.

Etemadi (2009) investigated the relationship between audit quality and management of accruals. The results of their study showed a significant negative relationship exist between audit quality and management of accruals.

Badavrnahandi and Taghizadeh Khanghah (2013) investigated the relationship between audit quality and efficiency of investment. The results of their study showed a significant positive relationship between audit quality and efficiency of investment.

According to Mahmoodabadi et al. (2013), the effect of free cash flow and agency costs on the performance of companies listed on Tehran Stock Exchange has been investigated. The results of their study revealed that free cash flow has a positive and significant relationship with all measures of firm performance. The evidence showed that there is no significant relationship between agency costs and performance.

Aflatuni and Khazayi (2016) studied accruals quality and quality of disclosure on non-efficiency of investment and showed an increase in accruals quality and the quality of disclosure reduced over-investment and under-investment in human resources.

Heidari and Hamkaran (2016) studied audit quality's impact on agency costs and information asymmetry and concluded that with increase the quality of audit services, conflicts derived from the separation of ownership from management are reduced.

## **Hypotheses**

1. Quality of audit has a mediating role in the relationship between the quality of modified adjusted based on the performance and financial leverage.
2. Quality of audit has a mediating role in the relationship between the quality of modified adjusted based on performance management and ownership.
3. Quality of audit has a mediating role in the relationship between the quality of modified adjusted based on performance and free cash flow.

## **Sample**

Companies listed in the Tehran Stock Exchange, constitute the research population. The following criteria were used to select the sample and the sample was selected on the basis of:

Fiscal year ended March each year.

Changes in the company's fiscal year did not occur in 2010 and 2015.

Financial information required in order to extract the required data is available.

By the end of fiscal year 2010, it is listed in the Tehran Stock Exchange.

Over the year's companies surveyed have not received facilities from banks and credit institutions.

Not be among banks and financial institutions (investment companies, financial intermediaries, holding companies and leasing) because disclosure of their financial information disclosure and corporate governance structure is different.

According to the above limitations, a sample of 152 companies listed companies in Tehran Stock Exchange during the period 2010 to 2015 were selected.

## **4. VARIABLES**

### **Independent variables**

Independent variables in this study were agency problems of the companies. Agency problems related to the potential conflict of interest between management and shareholders or holders of debt and management.

In this study, like research of Miettinen (2014) agency problems were measured by financial leverage, managerial ownership and free cash flow. How to measure each of these variables is as below:

The financial leverage - ratio of total debt to total assets through.

Managerial ownership - this is based on the research of Setayesh et al (2016) represents the percentage of shares held by family members of the board of directors.

Free cash flow - in this study, similar to Len and Poulsen (1989) and Raz and Rezvani et al (2009), free cash flow is defined as follows:

Interest expense - income tax - ordinary and preferred dividends - Free cash flow = Operating profit + depreciation expense

### Dependent variables

The dependent variable of this research are measures of the quality of financial information and these variables are: quality of accruals adjusted based on performance.

Accruals quality adjusted based on performance

In this study, similar to earlier research (for example, Chuang et al., 2010a, b; Mashayekhi, Mohammadabadi, 2011; Khajavi et al, 2014) earnings quality measured by the Dichav and Dycho (2002) was used as accruals quality. The model used by Dichav and Dycho (2002) for measuring the quality of accruals is as follows:

$$TCA_{i,t} = \varphi_0 + \varphi_1(CFO_{i,t-1} / Asset_{i,t}) + \varphi_2(CFO_{i,t} / Asset_{i,t}) + \varphi_3(CFO_{i,t+1} / Asset_{i,t}) + \varepsilon_{i,t}$$

Model (1)

where:

TCA: the total accruals divided by average total assets.

CFO: defined as net cash flow from operating activities.

Asset: the average total assets.

$\varepsilon$ : the amount of the residue of model.

The residue ( $\varepsilon$ ) in the regression model represents accruals quality is high. The higher the residual value, indicate quality of accruals is lower. It should be noted that in the above regression model, accrual is calculated by the following formula:

$$TCA_{i,t} = (OP_{i,t} - CFO_{i,t}) / Asset_{i,t}$$

Model (2)

where OP is the operating profit and the rest of variables as the model above.

Mediator Variable

In this paper audit quality variable is intended as a mediator variable. In this regard, the same as research of sajadi et al (2013), auditor tenure criteria is used for measuring the quality of the audit.

Control variables

In the same study as Namazi and Khansalar (2011), Khajavi et al. (2014) calculated size of the company by the natural logarithm of average total assets and total sales. In this study, like Miettinen (2014), the company's growth index was used as a control variable. It should be noted that in this study, the ratio of market value to book value of equity is used as an indicator of the company's growth.

Regression models used and significance of coefficient test

Hypotheses tested using panel data regression model and within the framework of Baron and Kenny (1986) and the modified version of the Judd, Kenny (1981). In the context of Judd, Kenny (1981), to investigate the mediating role of audit quality on the relationship between the quality of financial information and agency problems, we need to implement three stages. In the first stage, mediator variable (quality of audit) on the independent variables (criteria of agency problems, including leverage,

managerial ownership and free cash flow) are predicted. Secondly, the dependent variables (financial data quality standards, including accruals quality adjusted based on performance and quality of disclosure) on the independent variables are predicted. In the third stage, the dependent variable on the independent variables and mediator at the same time are predicted.

$$AQ_{it} = \alpha_0 + \alpha_1(AP_{it-1}) + \alpha_2(Size_{it-1}) + \alpha_3(MTB_{it-1}) + \epsilon_{it}$$

(First stage regression model)

$$FRQ_{it} = \alpha_0 + \alpha_1(AP_{it-1}) + \alpha_2(Size_{it-1}) + \alpha_3(MTB_{it-1}) + \epsilon_{it}$$

(2<sup>nd</sup> stage regression model)

$$FRQ_{it} = \alpha_0 + \alpha_1(AP_{it-1}) + \alpha_2(AQ_{it}) + \alpha_3(Size_{it-1}) + \alpha_4(MTB_{it-1}) + \epsilon_{it}$$

(3<sup>rd</sup> stage regression model)

In regression models above,  $AQ_{it}$  represents quality of audit in current year,  $AP_{it-1}$  represents measures of agency problems in the previous year (once financial leverage, once managerial ownership and once free cash flow),  $FRQ_{it}$  represents quality criteria of financial information in current year (once accrual quality adjusted based on performance and once quality of information disclosure),  $Size_{it-1}$  represents the size of the company in the previous year and  $MTB_{it-1}$  represents the market value to book value in the previous year.

The first model to estimate:

$$ACQ_{i,t} = \beta_0 + \beta_1 LEV_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \epsilon_{it}$$

The 2<sup>nd</sup> model to estimate:

$$ACQ_{i,t} = \beta_0 + \beta_1 MOWN_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * MOWN_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \epsilon_{it}$$

The 3<sup>rd</sup> model to estimate:

$$ACQ_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * FCF_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \epsilon_{it}$$

## 5. DATA ANALYSIS

### Descriptive statistics test during period

The main central index is the mean that represents the distribution center of gravity and equilibrium point is a good indicator for the data centricity. For example, the mean value for the variable (**ACQ**) is equal to -0.003266, which shows that most data are concentrated around this point. Median is another centricity index that indicate the status of the population. As can be seen in in Table 1, the median of variable **ACQ** is equal to -0.007538, which indicates that half of the data is less than this value and half are greater than this value. Another index is the standard deviation is one the important parameters for the distribution and indicator of deviation of observations from the mean. This parameter for variable **ACQ** is equal to 0.074347. It should be noted that in order to reduce the effect of outlier observations, the first percentile and the 99th percentile of all data has been deleted.

**Table 1. Descriptive statistics of variables**

Variables	No. of observations	Mean	Median	Max	Min	SD
<b>ACQ</b>	760	-0.003266	-0.007538	0.338681	-0.229353	0.074347
<b>DISQ</b>	760	0.019191	0.007463	1.000000	0.003378	0.059951

Variables	No. of observations	Mean	Median	Max	Min	SD
LEV	760	0.745943	0.580319	0.942495	0.001872	0.742439
MOWN	760	22.24624	23.46500	33.15000	2.990000	6.652508
FCF	760	-0.437343	0.037172	0.586282	-15.12946	1.789327
AUQ	760	2.993421	3.000000	7.000000	1.000000	1.603260
SIZE	760	12.98960	12.95903	18.08758	10.09017	1.469093
MTB	760	1.827252	1.571184	6.346621	0.433353	1.062071

Source: Author

### Correlation coefficients between variables

According to the results, it can be said that there is a relationship between the variables. And we can perform accurate test of the relationships between variables. For example, the correlation coefficient table results show that there is significant negative correlation between financial leverage AQ and there is a positive correlation between the quality of information disclosure and managerial ownership and that the relationship is statistically significant.

Table 2. Correlation coefficients of the variables

Variables	ACQ	DISQ	LEV	MOWN	FCF	AUQ	SIZE	MTB
ACQ	1.0000							
Prob.	----							
DISQ	0.0098	1.0000						
Prob.	0.7869	----						
LEV	-	-	1.0000					
Prob.	0.0097	0.0172	----					
MOWN	0.0057	0.0690	0.1074	1.0000				
Prob.	0.0004	0.0173	0.0030	----				
FCF	-	-	-0.0125	0.0550	1.0000			
Prob.	0.0023	0.0321	0.7300	0.1298	----			
AUQ	0.0206	0.0174	-0.0502	-0.0170	0.0068	1.0000		
Prob.	0.0711	0.0324	0.1666	0.6390	0.8521	----		
SIZE	0.0674	0.0209	-0.2079	0.1176	0.2072	0.0245	1.0000	
Prob.	0.0133	0.0334	0.0000	0.0012	0.0000	0.5002	----	
MTB	0.0221	0.0280	-0.0495	0.0595	0.0078	-0.0253	0.4139	1.0000
Prob.	0.5434	0.0407	0.1731	0.1011	0.8298	0.4860	0.0000	----

Source: Author

### Test of stationary variables

Stationary test results are shown in Table 3. According to "Levin, Lin and Chu test" and "Phillips-Perron test" because the p-value is less than 5% for all the variables, all independent variables, dependent and

control variables during the study were in stationary level, which means that the mean and variance of variables over time and covariance of variables across different years has been fixed and stationary. As shown in Table 3, all variables are stationary.

**Table 3. Results of stationary test of variables**

Variables	Test Levin, Lin and Chu		Phillips-Perron test		Results
	Stat.	Prob.	Stat.	Prob.	
ACQ	-15.2979	0.0000	382.897	0.0000	Stationary
DISQ	-713.822	0.0000	893.497	0.0000	Stationary
LEV	-619.251	0.0000	1108.26	0.0000	Stationary
MOWN	-409.378	0.0000	348.211	0.0005	Stationary
FCF	-22.6398	0.0000	533.498	0.0000	Stationary
AUQ	-10.3582	0.0000	450.620	0.0000	Stationary
SIZE	-19.3770	0.0000	374.657	0.0000	Stationary
MTB	-256.283	0.0000	608.767	0.0000	Stationary

Source: Author

**F-Limmer test and Hausman test**

As shown in Table 6, the likelihood of F-Limmer in all six models is less than 5%, therefore the panel data method is used to estimate all models. And given the fact that the probability of Hausman test is less than 5% in all 6 models, fixed effects model was used to estimate all models.

**Table 4. The results of F- Limer test and Hausman test**

Model	Test	Statistic	Probability	Result
First	F Limer	10.1563	0.0000	Panel method
	Hausman	50.7816	0.0000	Fixed effects
Second	F Limer	10.6416	0.0000	Panel method
	Hausman	53.2078	0.0000	Fixed effects
Third	F Limer	9.1472	0.0000	Panel method
	Hausman	45.7359	0.0000	Fixed effects

Source: Author

**Model estimation and results analysis**

First hypothesis: The quality audit quality has a mediating role in the relationship between the quality of accrual adjusted based on the performance and financial leverage.

In general, the results show that the coefficient of variable **AUQ \* LEV** is -0.000173, which reflects the negative effect of audit quality on the relationship between AQ and financial leverage and considering the possibility of the t-statistic, coefficient of variable **AUQ \* MOWN** is statistically significant, according to the above, the third research hypothesis can be considered as confirmed. This means that audit quality has a positive mediating role on the relationship between accruals quality adjusted based on performance and financial leverage, in other words, by increasing audit quality relationship between AQ and financial leverage becomes weaker.

**Table 5. Results of estimation of the first model**

$ACQ_{i,t} = \beta_0 + \beta_1 LEV_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * LEV_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \varepsilon_{i,t}$				
Variable	Estimated coefficient	standard error	t-statistic	Probability
C	-0.048666	0.019920	-2.443039	0.0148
LEV	-0.000255	0.000523	-2.887236	0.0062
AUQ	0.000317	0.001519	2.208586	0.0318
AUQ * LEV	-0.000173	0.000153	-3.112854	0.0002
SIZE	0.003334	0.001567	2.128017	0.0337
MTB	0.000794	0.002721	1.291672	0.1706
Coefficient of determination	0.363			
The coefficient of determination adjusted	0.320			
Durbin-Watson	1.815			
F statistic	5.0808			
Probability (test F)	0.0000			

Source: Author

The second hypothesis: audit quality has the mediating role in the relationship between accruals quality adjusted based on performance and managerial ownership.

In general, the results show that the coefficient of variable **AUQ \* MOWN** is 0.000591, which reflects the positive effect of audit quality on the relationship between AQ and managerial ownership and considering the possibility of the t-statistic, coefficient of variable **AUQ \* MOWN** is statistically significant, according to the above, the second research hypothesis can be considered as confirmed. This means that audit quality has a positive mediating role on the relationship between accruals quality adjusted based on performance and managerial ownership, in other words, by increasing audit quality relationship between AQ and managerial ownership gets stronger.

**Table 6. Results of estimation of the second model**

$ACQ_{i,t} = \beta_0 + \beta_1 MOWN_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * MOWN_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \varepsilon_{i,t}$				
Variable	Estimated coefficient	Standard error	t-statistic	Probability
C	-0.042066	0.022141	-1.899889	0.0578
MOWN	0.000137	0.000610	2.624751	0.0022
AUQ	0.001800	0.004379	3.411049	0.0000
AUQ * MOWN	0.000591	0.000196	3.301213	0.0003
SIZE	0.002555	0.001534	2.665488	0.0162
MTB	0.001151	0.002708	1.825156	0.0708
Coefficient of determination	0.362			
The coefficient of	0.339			

$$ACQ_{i,t} = \beta_0 + \beta_1 MOWN_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * MOWN_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \varepsilon_{i,t}$$

Variable	Estimated coefficient	Standard error	t-statistic	Probability
determination adjusted				
Durbin-Watson	1.814			
F statistic	5.0787			
Probability (test F)	0.0000			

Source: Author

**The third hypothesis:**

Audit quality has a mediating role in the relationship between the quality of accrual adjusted based on performance and free cash flow. In general, the results show that the coefficient of variable **AUQ \* FCF** was -0.000545, which reflects negative impact of audit quality on the relationship between AQ and free cash flow. According to probability of t-statistic, the coefficient of variable **AUQ \* FCF** is statistically significant. According to the above, the third research hypothesis can be considered as confirmed. This means that the audit quality has a negative mediating role in the relation between accruals quality and free cash flow adjusted based on performance; in the other words, with increasing audit quality relationship between AQ and free cash flow becomes weaker.

**Table 7. Results of the estimation of the third model**

$$ACQ_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \beta_2 AUQ_{i,t} + \beta_3 AUQ * FCF_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 MTB_{i,t} + \varepsilon_{i,t}$$

Variable	Estimated coefficient	Standard error	t-statistic	Probability
C	-0.034625	0.021014	-1.647700	0.0998
FCF	-0.000775	0.002694	-3.287502	0.0038
AUQ	0.000601	0.001508	2.398618	0.0203
<b>AUQ * FCF</b>	-0.000545	0.000784	-3.694756	0.0000
SIZE	0.002160	0.001700	2.270850	0.0342
MTB	0.000691	0.002786	1.248169	0.2041
Coefficient of determination	0.355			
The coefficient of determination adjusted	0.310			
Durbin-Watson	1.993			
F statistic	4.4602			
Probability (test F)	0.0000			

Source: Author

**6. SUMMARY RESULTS OF HYPOTHESES**

In general, the results show that audit quality has negative mediating role on accruals quality and financial leverage and free cash flow, while audit quality has a positive role in mediating the relationship between AQ and managerial ownership.

## **6.1. PRACTICAL SUGGESTIONS OF RESEARCH**

According to the research findings, it is suggested to capital market participants, decision-makers, analysts and potential investors in Tehran Stock Exchange that in the analysis of investment projects in financial assets and securities, in addition to considering the quantity and quality of information, consider specially the agency costs of the company and relation between them because companies that have high agency costs have lower quality financial information. Above all, in addition to the relationship between the quality of financial information and agency costs, the role of high quality of audit in reducing the negative impact on the quality of financial information, financial agency costs must receive special attention.

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# FIVE FACTORS OF PERSONALITY AND RELATIONSHIP MANAGEMENT PRACTICES

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## Abstract

*This study aimed to investigate the relationship between five factors of personality and management practices was conducted. The hypothesis is that there is a relationship between personality types of managers and their effectiveness. The research populations were managers of the group of 170 persons, of whom 120 persons were selected using random sampling, for example. The data collection tool in these study five personality traits Assessment Questionnaire (NEO), which is the norm questionnaire, is; to determine the type of personality that has been answered by managers. The methodology of this study was to evaluate the correlation is both descriptive (mean and standard deviation) and inferential statistics (Tables agreement) is done. Data analysis software (SPSS) was analyzed. The results are: 1. There is a relationship between personality types of managers and their efficiency; 2. managers who have a personality type "ESTJ" are of high efficacy; Managers who have a personality type "ISTJ" are of a high efficacy; 4. managers who have a personality type "" ESTP are of high efficacy; 5. managers who have a personality type "ISTP" are of moderate efficacy. The results indicate that the managers who have personality types are more effective.*

*JEL classification: M12*

*Keywords: Personality type, Management practices, NEO.*

## 1. INTRODUCTION

Now more than half a century since Peter Drucker to describe a group of staff labor, land or other capital instruments not considered primary production but their attention was focused on the effective use of knowledge and knowledge workers were led to the coinage goes and knowledge workers today, or rather a large and growing percentage of professional knowledge workers staff the world's largest and most successful organizations make up (Brian, Joyce, translation step et al., 1384). On the other hand, because a lot of people kill themselves for success positions this is not only because the new manager's intelligence and skills needed for their jobs, the managers of the works and their personal characteristics, ideologies and behavior of the people not familiar to the success of the meet, in fact, his ability before jumping in a large pot of boiling water do not evaluate (Abdali, 1384). The world's third wave is effective to the extent that it is based ways of creation and exploitation of knowledge (Toffler, translation Jafari, 1374). today, educational institutions, particularly institutions of higher education mission specialist training and knowledge of people in society are responsible for (Raufi, 1382). Therefore, general education and specialized training in all aspects of development and applied to public sector employees and private employees as one of the largest industries in the world known and every country in the world every year a large part of their national income to expand and improve education work applies and always tries to increase investments. Because it is profitable and work in progress of development indicators in providing qualified and expert manpower and raising people's culture and knowledge that adds material investments (Wiles, translation Gray, 1382). Human capitals are part of the Wealth of Nations and in the future depend on the flow of human talent. The strategic advantage and economic benefit in the future, organizations will be able to market a diverse group, including human talents attract the best and brightest (Hamidi, 1383). Managers while they can be successful in the work itself and the personality traits must comply with their jobs because of this lack of compliance causes of failure in the duties they will be (Robbins, translation Parsaeian and the Arabi, 1379). In this study is that the relationship between personality types and

effectiveness of their managers' pay, so maybe we can take a step, however small, in order to determine the appropriate standard in the election of directors effective for the most important organization for professional education in the age of knowledge workers to take advantage of wisdom.

## 2. STATEMENT OF PROBLEM

Now that the era of institutions and organizations of management and leadership, and success largely depends on the efficiency and effectiveness of their performance (Mir kamali, 1375) carefully selected organizations capable managers who are able to adopt measures and the means necessary, in particular in education and breeding ground for manifestation and development of talents and creativity of If people of character, in accordance with professional jobs that do will find that to carry out the task entrusted to them by their talent and abilities required and therefore will be more successful (Robbins, translation Parsaeian and Arabi, 1379). On the other hand, the factors that are involved in career choices and factors that make the difference (to the project, 1377). The volunteer job-specific patterns of thought, feelings, behavior commensurate with its position of the most important issues in choosing managers because managers for individual differences and personal issues are managed in different ways and Duties and how they act the two issues on its main personality traits and management practices that adopt (Kohan, Guel, 1377). Managers decisive role in the effectiveness of organizations including educational institutions are responsible because the effectiveness of organizations can maximize the ability of managers to measure the interaction between structure and process organization (Shirazi, 1374). Now we have to see whether internal factors such as personality, emotions, feelings, thoughts, or other external factors such as style and intelligence or judgment and perception, influence the success and effectiveness of managers or not? Jan Holland among scholars is that the election reflects the kind of personality is jobs and he makes a choice on the grounds that, kattel believes that the interests and relish in direct contact with the individual character and is not a separate thing (the Project, 1377). Performing tasks and how they do it are two main issues, means the personality traits and management practices that adopt them (Kohan, Goyle, 1377).

Outstanding psychoanalyst Freud's theories Austria (or to other words German) revealed that personality instincts as the forces motivating behavior he underlying energy that it "libido" called talk that he could switch to alternative targets to be effective in determining the character of the person he believes to dream analysis that showed the three levels of personality (ego, superego and id). Adler more character study and social motivations Conscious thoughts (Instead of unconscious processes) believed that the superior signs of personality and social factors of the few people who knew the four personality types developed. Rogers said his theory of personality with the direction of humanistic expressions as (ideal self) mentioned who organized and sustainable model of perceptual speech, he argued that although self-change, but the characteristics of organized, integrated, and will always keep a special concept.

Eysenck other experts believe personality typology and analysis and to statistical approach him after his research into the eccentric Introversion, extroversion and neuroticism stable and unstable (it is interesting that four of his aesthetic theories based on old medical theories and 4 types provided by Avicenna gained.

Swiss psychoanalyst Carl Gustav Jung's theories and was founded on the basis of Freud's theories, but believed to be a factor analysis of personality he is unconscious of Freud's ideas

Swiss psychoanalyst Carl Gustav Jung's theories and was founded on the basis of Freud's theories, but believed to be a factor analysis of personality Freud's ideas He argued that the struggle within us between Persona (mask that we face) and is a personal self-Based on theories of Jung that provides 16 personality types in relation to the profession is no doubt that certain types be appropriate for some jobs, Personality types of psychological theory to explain the conflicts and clashes between help people. In fact, Jung, in his opinion, first of all in four functions of thought, emotion, feeling, intuition in both introversion and extroversion deals miens eight personality types and mixed types of expression that defines a total of 16 types, morphology.

Theories of Carl Gustav Jung's are the most important theories about personality. If your Administrator Tasks to efficiently carry out the objectives will come, given that the most important criteria is to evaluate

the effectiveness of organizations (Pezeshk, 1379); Once Considering the educational system, especially management system, Is an important issue that arises and needs special consideration. Correct selection of applicants for management posts, which should be important in this regard to consider individual differences and characteristics of their personality. Since the basis of assessment of the behavior of managers by different individuals and different groups and organizations in the past to maintain the current era of self-knowledge, Fame, their survival needs are different groups in the organization's shareholders and owners (Giverian, 1382) On the other hand organizational and scientists still have not provided a specific definition of organizational effectiveness in this study, the effectiveness of the new approach hail (Barzegar 1383).

According to the lack of internal investigations undertaken in this area, especially in relation to Jung's personality types is achieved Target

To assess whether personality can be considered as a criterion for the selection of managers? This study aimed to investigate the relationship managers have taken five factors of personality and management practices to hoping competent managers in managerial positions, particularly in educational management.

### 3. LITERATURE

#### Internal investigations

Due to limited research on the topic in the country investigator Research that is sometimes not paid directly to investigate this issue and those studies that had been directly or indirectly to the subject is mentioned.

In a study conducted by Maleki (1383) in the Management and Planning Organization of Khorasan as well as examine the relationship between personality and performance of managers in high schools and vocational personality types were Tabadakan this study was conducted, The official population of principals and teachers working in secondary schools and vocational area that the number of 900 teachers in the region, due to Morgan table about 270 teachers and 45 managers were selected as sample, Bern Reuter tool questionnaire to determine personality type and standardized questionnaire was used to measure their performance. The results of this study, it was: there was a significant relationship between personality types and their practice managers; between types a personality and high performance are related.

This research has investigated the relationship between personality types of managers and organizational commitment Bojnoord in primary schools by the legendary Hamid (1383) for MA thesis was on the Management and Planning Organization of Khorasan Razavi population of all schools Bojnoord 103 managers who were 51 randomly without replacement, two research instrument was a questionnaire (MBTI and organizational commitment) the following results were obtained.

1. There is a relationship between personality types of managers and organizational commitment.
2. ESTJ personality type and continuous relationship between organizational commitments there.
3. There is no correlation between personality type ESTP and organizational commitment emotional.
4. There are no relations between personality type ISTJ and organizational commitment.
5. There are no relations between personality type ISTP and organizational commitment.

ISTJ personality types are managers who are managers who ESTP personality types are more organizational commitment.

Ghafourian (1382) in a study to determine the relationship between personality and managerial style that Tehran did in high school test Eysenck Personality Questionnaire used and came to the conclusion that a significant relationship between personality characteristics of managers and their management style there.

Barati thesis (1381) was also the subject of personality, as the relationship between the type of personality and management style managers this research was carried out by High School Female Neyshabur sample size was 35 administrators and 260 teachers were selected randomly. The research instrument Eyseng questionnaire to determine the type of personality and standardized questionnaire to assess management practices to assess two dimensions of relationship-oriented and task-orientation was dedicated to results of this study were as follows: 1. There is a relationship between personality and management style definitely. 2 of introversion and extraversion and styles of relationship-oriented and task-oriented relationship do not exist.

In this research as the relationship between personality types and job satisfaction of teachers by Mohammad Yaqubi (1380) was conducted

The results of data analysis showed that 99% of the personality and job satisfaction of teachers and other significant components of job satisfaction and there is an inverse relationship.

Another study by Ghochani (1379) as the relationship between personality type activities Secondary Teachers' Science and Literature in Mashhad that its abstract is as follows: The population of Persian literature and science teachers working in the high school graduate and vocational Mashhad 10% of the population in this study was defined as sample layer. Data from the questionnaire and then analyzed the relationship between the main concept teachers' personality and their personality type of activity was confirmed.

Ali Biranvand the year (1379) to investigate the relationship between personality characteristics and efficiency in the schools, Khorramabad managers did research. The sample size of this study, 50 persons were selected through census data collection tool is a questionnaire Chatte's 16 factor, after data analysis and regression analysis between personality characteristics and the efficiency hypothesis was rejected and there were no significant relationship managers.

The self-study by Molanorazi (1379) as evaluated in State Management Training Center The relationship between personality traits and skills management effectiveness by increasing the efficiency of teachers in schools was Neyshabur, the study population were managers of which 113 samples were selected. 50 director of primary school, 35, director of education and director of high school 28 cases against society. Eysenck research tools for studying personality questionnaires and standardized questionnaire to assess the skills and causal-comparative method to study the effectiveness of payment. The main hypothesis of this study confirmed that introversion and extroversion between administrators and teacher's performance there.

Another study by Shabistari et al (1370) The relationship between blood type and personality types Jung was done in Mashhad in this study population, women and men with high school graduates were 19 years of age, how to select participants randomly from each node that half of their blood were 30 men and half were women a total of 120 people, was tested research tool after analyzing the data, there was a significant relationship between blood groups and personality types.

#### External research

Silberman, Cayenne and Mahan (1998) research on dental students at the University of Mississippi were five groups concluded that 32 of them and 30 ESTJ type ESFJ and 30 women and 7 men and 7 women INFP were INTP.

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Silberman, Cayenne and Mahan (1998) research on dental students at the University of Mississippi were five groups concluded that 32 of them and 30 men ESTJ and 30 women, ESTJ and 7 men INFP and 7 women INTP.

In a study to investigate the relationship between personality A, job satisfaction and personality types A and B responded Results The ability to enhance male subjects in job A and job satisfaction are positively personality scores (Kurzin, 1992).

Gasta (1984) found that although the level of education in job selection criterion is but nevertheless the jobs go to the people to give them the opportunity to express their personality.

In research by Glass (1977) was carried out it was found that subjects who were Type A Behavior has academic degrees and higher tax revenues, respectively. These findings by Mathews et al. (1981) were supported. Recently researchers emphasized that in terms of personality psychologists who are type A better and more efficiently, and produce activity.

This research aims to study the characteristics 6 groups of medical students, pharmacy, technology, physiotherapy, nutrition planning and professional advisors were Rezler and Bakler (1977) stated that students who work more than five other groups have tended to think and feel.

Cattell (1957) also your personality factor questionnaire sixteen first evidence of introversion – extraversion and a second that he thought very close in Jung's opinion is received. An average of researchers and workers are more creative and innovative. In contrast extroversion in mechanical jobs and more jobs will require high vigilance and care.

Cattell (1957) in sixteen-factor personality questionnaire itself evidence of the first order and second order factor in extraversion and avoidance of incontinence that he thought very close to Jung's opinion is received. Construct validity was awarded Cattle Research. Introversion, on average, the researchers and workers are more creative and innovative. In contrast extroversion in mechanical jobs and more jobs will require high vigilance and care.

One of extensive research work in this field by Stephenson (1950) was conducted He not only extroversion versus introversion and ways of thinking, feeling, sensing, intuitive review But these features are also in the conscious and unconscious mind He has 16 compounds of the personality aspects that Jung was favored to put He Yong Based on the descriptions for each of the sixteen-character combinations chose five descriptive sentences, Since these statements are based on the cards that the participants in assessing their needs were arranged a certain character Stephenson's Q-sort method called.

### **3.1. IMPORTANCE AND NECESSITY OF RESEARCH**

Department of Education in each country as one of the the most important, most effective and most widespread social organizations responsible for the selection and transmission of cultural elements in society is emerging generation. It is a system that too fundamental and constructive role in the survival and persistence of human culture has played the overall pattern of society's institutions and formal organizations (Safi, 1374). Since the development of a society on how education and cultural enrichment of the community and the development of training centers for managers is seen as the most important factor in progress (Rauf, 1375). Educational management has a significant role both in the lift capacity building and on the other hand, due to the lack of resources and proper use in the development process indirectly increasing the country's productivity gives material (Wiles, translation Tusi, 1382). Since management training management is unique and cannot be compared with any type of management it must be understood that today's managers seek what? Where to go? What seek? Looking at the vast universe we find that in our era of efficiency and effectiveness ultimate aim and all valuable to all managers seeking higher performance and effectiveness and productivity are heightened and efforts in this direction is formed (Alvani, 1378). Give effect to the concept of success in achieving the goals or missions assigned to quantitative aspect of the case concerned the concept of efficiency is that most of the attention today is not only in the sense intended (Nasseri, 1383). Although the Task Manager to manage school despite the similarity of tasks, all managers do not work the same way, these differences may be in addition to the difference in level of knowledge, attitude and value system they are affected by different personalities of each of the stems (Ghafourian, 1382). According to aspects of the psychology of managers and their personality is one of the most important factors in their success (Nikpour, 1373); Personality and Individual awareness of the differences can help us in solving many difficulties. When we accept that human beings have the innate capabilities and acquired the difference was that after this we will expect the same behavior from all. We can individual differences in terms of emotion, reaction speed, sharp nose, methods, judgments and other aspects of behavior, examine (the Apostles, 1379) due to the fact that in every organization there are different kinds of work. Having the capabilities necessary to perform the

duties of personality, having the capabilities necessary to perform the duties of personality, so that people have to choose to prepare the necessary and sufficient motivation, it can respond to some problems related to lack of efficacy, loss of effectiveness, poor productivity and lack of job stability (Joukar, 1379) If individuals do not fit the job. After satisfying their basic need for jobs has become distraction and this in turn leads to job satisfaction, and reduce the effectiveness of the escape responsibility.

There is significant relationship between personality types and effectiveness of managers.

- Managers who have the personality type (ESTJ) are of high efficacy.
- Managers who have the personality type (ISTJ) are of high efficacy.
- Managers who have the personality type (ESTP) are of high efficacy.
- Managers with the personality types (ISTP) are of a low effectiveness.

The four types in this study patients.

- A) Type ESTJ: ESTJ personality type are those with a pragmatic, realistic, presenting facts and tangible and real and tend to seize business managers are well organized and the activities they love.
- B) Type ISTJ: those who are ISTJ personality type calm, serious, successful businesses, with a focus full attention, looking for logical and realistic facts are known.
- C) Type ESTP: ESTP personalities types are those who at the moment do very well solve the problem, do not worry, and enjoy anything happens, compatible and are patient.
- D) Type ISTP: those who ISTP personality types are quiet, cautious, spectators, cool observers and analyst life.
- E) Efficacy: Here order of effectiveness or degree of an organization to achieve goals.

#### **4. RESEARCH METHOD**

The aim of this study was to establish the relationship between independent variables and the dependent variable, personality types of management practices, the study is descriptive correlation nature of the study in Research because purpose of the study is to describe aspects of the phenomenon of generalized analytical studies researcher and objective results.

In addition, because this research tries to show analytical nature of the relationship between dependent and independent variables analyzed. Type of survey because it is done in school organization and in attitudes and behavior of individuals in their real work environment is discussed.

##### **Community sample**

Due to the realm of time and space research community, including community leaders the number in the 96-95 academic year, according to Education 170. According to Cochran, among them 120 persons were selected using random samplings.

##### **Data collection**

In the present study personality questionnaire (NEO) is used. In the present study personality questionnaire (NEO) is used. One of the most common methods for character recognition index (NEO) is. This index is used four dimensions of personality to sixteen identify character traits, the four personality dimensions: extraversion vs. introversion is based on (EI), sensing versus intuitive (SN), Thinking vs. Feeling (TF) and judging versus perceiving (JP) after EI orientation of the individual against the inner world of ideas (I) or outside (E) measures, the intuitive sense of confidence in information from the outside world (s) of the world of ideas gathered shows (N). Thinking dimension - feeling superior to the individual to assess the information in an analytical manner (T) or on the basis of values and beliefs (F)

shows the index finally judgment - perception, attitude toward the external world in order to complete the task (J) or Search information (p) shows (Robbins, translation Arabi and Parsaeian, 1379).

The questionnaire used to assess personality types that briefly managers (MBTI) <sup>1</sup> are called. MBTI is a personality assessment tool that identifies the individual trends. This test is used for various purposes of individual and organizational. In some cases, (MBTI) in recognition of individuals with regard to other issues and they see things a different way of helping, Myers-Briggs Type view highlights sixteen personality types. This test is based on Jung's theory of personality based on a study by a mother and daughter characteristic of people in everyday life is made.

**How Inventory Scoring:** Each of Question 5 options. Completely disagree (5), disagree (4), Neutral (3), agree (2) and strongly agree (1). Number of questions in the questionnaire that includes questions 6, 7 and 14 scores is reversed.

The measures were categorized by researchers in the following table due in managers of the acquired points divided in three degrees of efficacy. 75-30 low effectiveness, (120-75) Effect of average and above 120 highs.

**Table 1. Number of relevant questions in the questionnaire and personality (NEO)**

Number of Questions	Subject
15-16-18-25-28-29	Leadre spase
4-8-9-10-11-3-2-2627	
12-7-21	Decision
1-2-3-14-9	Rresults
5-30-20	Sources
13-22-24	Skill Evaluation

*Source: Author*

Credit Personality Inventory (NEO): This questionnaire has been proven in numerous studies to his credit. In assessing the internal consistency and test-retest reliability There are several methods including the internal consistency, reliability investigators types between 55% to 65%, for (EI) and 64% to 73% for (SN), 42% to 75% for (TF) and 58% to 84% for (JP) reported.

A group of researchers also examined the test-retest<sup>1</sup> reliability scores of the MBTI types.

The results of the study, White<sup>2</sup> (1966) on primary school teachers showed that the correlation test run twice in two years equal to 62% of (EI) and 57% (SN) and 61% for (TF) and 66% (JP) in a sample of 329 students within 14 months, respectively 48%, 85%, 73% and 63% in a sample of 41 students.

The research design Standardization (MBTI) on students of Mashhad University of Medical Sciences and the Faculty of Education and Psychology in garlic and other spheres Mashhad carried out in 1373 showed that the MBTI tool useful and valid for use on the Iranian population and students are featuring special character Identifies and psychological trends to determine, credits obtained in this study using Cronbach's alpha was as follows (in scale (EI) 70% - (SN) 68% - (TF) 73% and (JP) 78%) (-1373A flak Seyr and others).

In another study by Jalal Tehrani (1376) was conducted on students of Mashhad Ferdosi the validity of this test were calculated using split-half reliability coefficients were obtained as follows; 78% J.P = - 73% TF = - 63% SN = - 66% EI = .

The general validity of research results related to the validity of MBTI to 1975 show that total correlation coefficients test and also separately for each of the scale is significantly high.

Myers and his report on the MBTI Manual correlation coefficient of 80% for the retest is similar report.

## 5. RESULTS

In order to analyze data, descriptive statistics such as mean, standard deviation and inferential statistics such as frequency and to test research hypotheses and test the contingency table is used. In this section we provide descriptive information from the questionnaires that indicate the population characteristics and related cognitions of the investigation will be discussed.

**Table 2. Descriptive statistics personality types of managers responding to the personality questionnaire**

SD Effectiveness	Average effectiveness	Percent	Frequency	Personality Types
05/12	14/122	35	42	ESTJ
19/6	45/121	5/27	33	ISTJ
94/9	25/103	25	30	ESTP
50/12	70/70	5/12	15	ISTP
<b>90/19</b>	<b>80/110</b>	<b>100</b>	<b>120</b>	<b>Total</b>

Source: Author

How seen in Table 2. The prevalence of personality types ESTJ, ISTJ, and ESTP, ISTP respectively 42, 33, 30 and 15 from a total of 120 frequencies. A total of 42 patients with type ESTJ mean and standard deviation of 05/12 is the effectiveness of 14/122. The mean efficacy Personality Types ISTJ, ESTP and ISTP respectively, 45/121, 25/103 and 70/70 is. The sample size average score of 80/110 to 90/19 effectiveness and standard deviation were calculated.

<sup>1</sup>- test retest

<sup>2</sup>-Wight

The main hypothesis: there is no relationship between personality types of managers and their efficiency.

If we assume that X: variable personality types of managers and Y: variable effectiveness score, to test the main hypothesis we used the chi-square test and contingency tables Here we have two hypotheses.

H<sub>0</sub>: the variables X and Y independent.

H<sub>1</sub>: Variables X and Y are dependent.

If H<sub>0</sub> is not rejected, no correlation between personalities types of managers and their efficiency absent in

If the hypothesis H<sub>1</sub> is accepted that the relationship between personality types and effectiveness is confirmed.

**Table 3. Contingency table managers with the effectiveness of their personality type**

Personality types of managers						الثر الشخصي
Total	ISTP	ESTP	ISTJ	ESTJ		
9 5/7%	9 5/7%				Between 30 to 75 Low Low effectiveness Percent	

48 40%	6 5%	27 5/22%	9 5/7%	6 5%	Between 75 to 120 Modest effectiveness Percent	
63 5/52%		3 5/2%	24 20%	36 30%	Over 120 High effectiveness Percent	
120 100%	15 5/12%	30 25%	33 5/27%	42 35%	Sum Percent	<b>Total</b>

Source: Author

According to Table 3 to determine the effectiveness of defined variable: the type ESTJ a total of 42 cases of this type, 36 120 people with high effectiveness with high effectiveness and efficacy of 6 persons between 75 and 120 with moderate effectiveness. ISTJ type of 33 people to 24 people with high effectiveness of this type 120 with high effectiveness and efficiency of between 75 and 120 has the 9 patients with moderate effectiveness. ESTP type of people for a total of 30 type 3 cases with high effectiveness 120 with high effectiveness and efficiency of between 75 to 120 with 27 people with moderate effectiveness

**Table 4. Contingency table test statistics personality types of managers with effective**

Significant level	Value	
000/0	874/39	Pearson chi-square statistic
000/0	320/34	Likelihood ratio

Source: Author

Due to the number of table cells with less than 5, and able to increase the sample size there to resolve problem from Statistics Likelihood Ratio Instead of Pearson’s chi-square statistic is used.

**Table 5. The correlation between personality types and effectiveness of managers**

707/0	◌Cramer coefficient
000/0	Significant level
120	Samples

Source: Author

As can be seen in Table 5 for two different personality types and effectiveness of Cramer correlation coefficient is approximately 7.0.

First hypothesis: ESTJ personality types are managers who do not have a high effectiveness.

Assumptions are as follows:

H0: ESTJ personality types with high effectiveness are not managers.

H1: managers with high effectiveness are ESTJ personality type.

**Table 6. Table abundance effectiveness score**

Ratio	Count	Grouping		
86%	36	High effectiveness	1 Group	Effectiveness of the code number
14%	6	Middle effectiveness	2 Group	
<b>100%</b>	<b>42</b>		<b>Total</b>	

Source: Author

Of the 42 managers who have been ESTJ personal type p = 0/86 have high Effectiveness.

If the z-statistic greater than 96/1 rejects the hypothesis H0 and H1 accept the premise.

$$z = \frac{\sqrt{n}(p - p_0)}{\sqrt{pq}} = \frac{\sqrt{42}(0.86 - 0.5)}{\sqrt{(0.86)(0.14)}} = 6.73$$

Because the value of z-statistic of 96.1 is therefore assuming H0 is rejected and H1 recognize the people who ESTJ personality type they are of high Effectiveness.

**The second hypothesis: managers who are ISTJ personality types do not have a high degree of Effectiveness.**

The assumptions are as follows:

H0: Managers with ISTJ personality types do not have a high effectiveness.

H1: Managers with ISTJ personality types with high Effectiveness.

**Table 7. Table of Frequency Effectiveness score**

Ratio	Count	Grouping		
73%	24	High effectiveness	1 Group	Effectiveness of the code number
27%	9	Middle effectiveness	2 Group	
<b>100%</b>	<b>33</b>		<b>Total</b>	

Source: Author

Of the 33 people who were ISTJ personality type p = 0/73 have high effectiveness.

If the z-statistic greater than 96/1 rejects the hypothesis H0 and H1 accept the premise.

$$z = \frac{\sqrt{n}(p - p_0)}{\sqrt{pq}} = \frac{\sqrt{33}(0.73 - 0.5)}{\sqrt{(0.73)(0.27)}} = 2.97$$

Because the value of z-statistic of 96.1 is therefore assuming H0 is rejected and H1 recognize the people who ISTJ personality type they are of high effectiveness.

The third sub-hypothesis: managers who ESTP personality types are not high effectiveness.

The assumptions are as follows:

H0: managers with high effectiveness are not ESTP personality type.

H1: managers with high effectiveness are ESTP personality type.

**Table 8. Table abundance effectiveness score**

Ratio	Count	Grouping		
90%	72	High effectiveness	1 Group	Effectiveness of the code number
10%	3	Middle effectiveness	2 Group	
<b>100%</b>	<b>30</b>		<b>Total</b>	

Source: Author

Of the 30 people who were ESTP personality type p = 0/90 have high effectiveness.

If the z-statistic greater than 96/1 rejects the hypothesis H0 and H1 accept the premise.

$$z = \frac{\sqrt{n}(p - p_0)}{\sqrt{pq}} = \frac{\sqrt{30}(0.90 - 0.5)}{\sqrt{(0.90)(0.10)}} = 7.30$$

Because the value of z-statistic of 96.1 is therefore assuming H0 is rejected and H1 recognize the people who ESTP personality type they are of high efficacy.

Fourth sub-hypothesis: ISTP personality types are managers who do not have low efficacy.

The assumptions are as follows:

H0: managers ISTP personality types have low levels of effectiveness.

H1: managers ISTP personality types have low efficacy.

**Table 9. Table of Frequency effectiveness score**

Ratio	Count	Grouping		
40%	6	High effectiveness	1 Group	Effectiveness of the code number
60%	9	Middle effectiveness	2 Group	
<b>100%</b>	<b>15</b>		<b>Total</b>	

Source: Author

Of the 15 people who have been ISTP personality type  $p = 0/60$  had low effectiveness.

If the z-statistic greater than 96/1 rejects the hypothesis H0 and H1 accept the premise.

$$z = \frac{\sqrt{n}(p - p_0)}{\sqrt{pq}} = \frac{\sqrt{15}(0.60 - 0.5)}{\sqrt{(0.60)(0.40)}} = 0.80$$

Because the value of z-statistic of 96.1. Therefore, H0 is less than recognize the people who ISTP personality type they are of moderate efficacy.

## 6. CONCLUSION

This study aimed to investigate the relationship between five factors of personality and management practices was conducted. In order to evaluate hypotheses and test the contingency table was used.

Was the correlation coefficient for the two variables of personality types and effectiveness is approximately 7/0 and the significant level is almost zero the correlation between two variables is significant and can be argued that there is a relationship between personality type and effective manager.

The results of this study, the results of research Gusta (1984), Kurzin (1992), Poirier et al. (1998) and research Joukar Ghochani (1379), Mohamad Yaqubi (1380), Ghafourian (1382), Maleki (1383), Hamidi (1383), and Siadat et al (1384) confirms.

Gusta found that people go to jobs that give them the opportunity to express their personality. In a study done Kurzin showed the possibility of improving one's job is associated with the type of personality types, Poirier and colleagues believe that the personality of different ways and different strategies they chose, and this difference can also be seen in the results. Also in this Joukar Ghochani, Jacob, civil relationship between personality traits and job success is confirmed.

According to Table 6 in the first sub-hypothesis to the conclusion ESTJ personality type are the managers who have high effectiveness. The results of the study first sub theories about the Myers-Briggs personality type are confirmed. Myers-Briggs personality type explains this to say: ESTJ personality type are those people who have a pragmatic, realistic and tangible facts and are involved and the tendency to seize business and industry are good managers, organizing and directing the activities they love. This result, extroverted thinking type (E-T), which is in Jung's theories, came close. The two 4-preference preference of the above consideration, but corresponded, Intelligent, extroverted personality Jung writes: Dude, extroverted thinker, thoughts that life is governed by a passionate desire to make converts. Like a human would spend all their energy scientists are learning more and more world mentality. These people, any action based on analysis of objective data are clever (Jung, translation Maghbal, 1375).

Also, the result of the assumption by the Greets also there are many similarities,

Greets believes that people who are thinking T judge to be more motivated and better quality of life of those who approach them emotionally S follow (Greets, 1990).

In considering the second hypothesis according to Table 7 reached the conclusion those managers who are ISTJ type of high efficacy.

The results of this study support the idea that in describing the Myers-Briggs Type in your guide book it in this offer: ISTJ personality type are those who are quiet, serious, successful businesses, concentrating full attention, the pragmatic, formal, looking for facts clear and logical, realistic, visible and attention of all things structured. Milling Research also suggests that introverts have better performance in their duties is in compliance.

The findings also contradict Jung's theories about the introverted thinking type that says: This is the type of the thinkers and ideas within and dealing with his own personal conviction; towards the practical consequences of this type can be complicated, heavy and even excessive obsession and scrutiny due to the withdrawal of objective reality and abstraction, symbolic or mysterious to take. According to Morris introvert's behavior of calm, intelligent, disciplined but is unable to express purpose and from the organizational point of view of the role of managers who work with him by others that executives are extroverts and office managers in a quiet and introverted manager is working without the influence of external factors.

In the third sub-hypothesis according to Table 8 to the conclusion that managers who are ESTP personality type of high efficacy. The results of the hypothesis of this type are in compliance with the Myers-Briggs. He believes the problem is that these people do very well at the moment and not worried, anything happens to enjoy, Mechanical devices and like sports and adaptation and are patient In addition, Jung's theory of sensory extraverted type (ES) that two of the four Preference above consideration is consistent, Jung has described this type: This type of public function values and things are toned. Agreeableness well and are relying more on external stimuli (Daniels, translation Parsaeian and the Arabs, 1372).

The fourth sub hypothesis according to Table 9 to the conclusion that managers who are ISTP personality type of the effectiveness of the mean. The results and findings of this study on the hypothesis theories about the Myers-Briggs personality type is that people believe in this type of slow, cautious, spectators, cool, observer and analyst of life with curiosity, interested in the causes and virgin jokes at unexpected moments the use of logical principles in organizing a tangible reality.

Also, to some extent Jung's theory of sensory introverted type (IS) that two of the four Preference above and corresponded to consider. Jung writes: introverted feeling type of person who basically everything mentality of the filter passes in front of objective facts and things indifferent and sometimes ridiculous world sees the whole legendary lives, otherwise generally cold, indifferent and neutral (Daniels, translation Ismail Fasih, 1372).

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# CEO CHARACTERISTICS AND MANAGERIAL ABILITY (IRANIAN EVIDENCE)

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## Abstract

*CEO is backbone of an organization that is trying to create the best performance for the companies by choosing the right strategy. Characteristics of CEO refer to the major index in the managerial ability. The main purpose of this research is to examine Characteristics of CEO in the companies listed in Tehran stock exchange which first performance of company is measured via data envelopment analysis, and then the managerial ability is calculated using the model presented by Demerjian et al on 119 companies during 2009-2014. To calculate the managerial ability and examine Characteristics of CEO on it, Panel data regression and software Eviews 9 have been used. The results from research hypothesis testing indicated that Technical expertise of CEO puts a significant effect on the managerial ability; financial expertise of CEO does not result in increase in the managerial ability; there is not a significant relationship between education degree of CEO and the managerial ability. Significance of company size on the managerial ability indicates that the managerial ability increases by increasing the company size. Further, significance of institutional shareholders indicates that the managerial ability decreases by increasing percent of institutional shareholders. Increasing company's lifetime leads to increase in managerial ability.*

*JEL classification: G34*

*Keywords: Characteristics of CEO, Financial Expertise, Technical Expertise, Education degree of CEO, Managerial Ability.*

## 1. INTRODUCTION

Stock exchange is considered a place to mobilize savings and conduct it towards productive and useful investment (Barr et al, 1997). Thus, the study on subjects associated to this organization is of great importance. Measuring the managerial ability is the core of many important research questions such as: review the company's performance, investment decisions, executive compensation, corporate governance, and the economic impacts on the company's ownership and productivity differences on mutual economy. Findings of these studies indicate that special components of CEO including ability, talent, reputation and managerial practice play a major role in economy, finance and management. (Andreou et al, 2013) A large body of research has not been conducted on the managerial ability, for this measuring the managerial ability is tough. As a result, to measure this, the researchers have considered the factors including company size, return on stock, media assessment and fixed effects of CEO on company's decisions which make assigning all responsibilities of company directors difficult, because all the success factors of company cannot be assigned to the CEO's ability. In such cases, assigning performance criteria of company to CEO in determining the CEO's ability leads to their magnification. as a result, measuring the managerial ability cannot be authentic to a sufficient extent, thus use of data envelopment analysis is among suitable efficient and modern methods in calculating the managerial ability compared to the

variables such as return on stock and company size which have been being considered the criterion to calculate ability (Charnes et al 1978).

Managers have the ability to have a better understanding of internal and external conditions and high estimated power are related to accruals. managers with higher ability who are doing quality assessment, through their knowledge and understanding, identify profitable projects and investments in operating cash flow also improved (Demirjian et al,2013). Importance of management to the extent that when faced with a crisis, founders of Commerce and Industry, attract capable managers, the field for the start of the next evolution, the development of the guidance provided (Glvyyk, 1977). In addition, many experts from different institutions Success and failure are greatly manage them. According to Peter Drucker, the management of any organization is its members and life (Drucker, 1974). Management the most important fields of human activity knows and believes that the main task of managers at all levels and all social institutions is that the environment in the design, development and maintenance of the members to the group's activity in that, for certain goals to achieve (Harold Koontz et al, 1988). In the context of accounting the ability to manage one aspect of the firm's human capital, which as an intangible asset classified as an example of Demirjian et al (2013 and 2012) the ability to manage the performance of managers to competitors in a company's interest income is defined these sources of income include inventory costs, administrative costs, distribution and sale of fixed assets, operating lease, the company's research and development costs and intangible assets (Demirjian et al, 2012). The ability of top management can lead to management more efficient daily operations of the company, especially "during critical operations, decision management can be a significant impact on the performance of the company. In addition, during that company crisis continues Thus, managers are better able to make decisions regarding the resources will be required (Andrew et al, 2013). Investment projects worth more appropriate and efficient management staff is also capable administrators. As a result, in the short term is expected, managers are able to earn more money with a certain level of resources or using fewer resources, to achieve a certain level of income. (Demirjian et al, 2012) and, conversely, poor decisions and low-skilled Managers can push the company into bankruptcy (Leverty and Grace, 2012)

Also capable managers more knowledge and more in touch with customers and macro-economic conditions and are able to have a better understanding about the standards more complex, and it correctly implement (Demirjian et al, 2013). These managers are able to make judgments correct and accurate forecasts than others, and the ability to combine the best information to make reliable predictions, which leads to more quality reports, (Libby and Luft, 1993)

It is expected that by increasing the ability to manage, be more business value. In fact, the firm is run by efficient managers will be more valuable to investors.

Enterprise with strong leadership, less information and investors understand the value of such a company as well. In other words, managers can more capable by reducing the asymmetry of information; the intrinsic value of the company should be transferred to investors. (Bertrand, 2003) .Accruals competent administrators to managers with the ability to more accurately estimate low. For example, when estimating the amount of bad debts, an administrator with the ability to be a low historical rates (last) uses as an administrator with the ability to above may be adjusted from a history of use rates. The date by considerations of macroeconomic conditions, industry trends and changes in the type of customers is created, offset from managers capable expected depreciation rate and market value, and other estimates related to accruals more justifiable than reported them. In general, to maintain stability and keep the company strong, a capable manager is expected to report earnings of high quality.

According to research conducted by the ability to manage, improve performance and reduce information asymmetry and to improve profitability and borrowing capacity. (Demirjian et al, 2012). Management process to the effective deployment of human resources and material resources to achieve organizational goals. In other words, an effective manager is one who can with minimum effort, maximum benefit to his organization (Hendrickson and Van Breda, 1992).

Researchers have concluded that if the CEO makes better decisions on profit sharing or stock purchase, manage the company in a better way and measure their ability; all these affect the sale at company. Thus, it can say that the criterion "measurement of the managerial ability" gives this possibility to extend our

knowledge on special role of CEO in allocation of efficient resources. Management refers to the process of effective use of human resources and financial facilities to achieve the organizational goals. This comes to realize by means of CEO's major tasks such as planning, organizing, leadership and control regarding the value system governing the organization; the efficient CEO have the ability for better use of the existing resources in the research process of organizational goals. In other words, efficient CEO is called to a person who enables to make the most benefit at organization using the least facilities (Brett Cantrell, 2012). Management of the central company and program selection navigation appropriate to advance the goals and success of the company and as expressed in the success of directors, the company's success and failure of administrator's failure, given the importance of successful managers, knowledge management features and is necessary to find the causes of particular importance is the success of managers.

Given the importance of this issue, including numerous management features such as technical expertise, financial expertise, education, reputation, talent, and so on. (Demirjian et al, 2013) In this study, three major characteristics of the CEO checked: 1) financial expertise 2) technical expertise 3) Education CEO. CEOs always make attempt to have the best performance for the companies by selecting the suitable strategy. Selection of suitable strategy largely depends on the CEO's ability in analyzing the existing space and selecting suitable methods for corporate governance. Studies indicate that characteristics of a special CEO (knowledge, education, technical expertise and financial expertise) affect economic outputs (profit and earning). Thus, it affects the ability of company to the extent, which affects in practice. (Graham, 2012). Efficiency and development of each organization largely depends on proper use of manpower; CEOs at organizations are the policy makers and owners of power and the performance of organizations associate to their power; CEOs by use of resources can pave the way for growth and excellence or corruption and deviation and this depends on existential nature and how to use their power and benefits. (Silva, A. C.2010). The main questions of this research regarding effect of company's performance and efficiency on the managerial ability include:

- 1-whether competent CEO affects the managerial ability?
- 2-whether CEO's education status affects the managerial ability?
- 3-whether CEO's financial expertise affects the managerial ability?
- 4-whether CEO's technical expertise affects the managerial ability?

## 2. LITERATURE REVIEW

Demerjian et al (2013) in a research examined effect of the managerial ability on four qualitative characteristics of profit including diversity of restated financial statements, earnings persistence, quality of accruals and estimated error rate in bad debts and concluded that there is a positive relationship between extent of managerial ability and each of four above characteristics.

Andreou et al (2013) used the model of Demerjian et al (2012) to measure managerial ability and examined the relationship between managerial ability and company performance during the world crisis during 2008. Results indicate that there is a positive relationship between managerial ability and company performance and more competent CEOs have managed the resources of company, debts and capital expenditure in a more efficient way than the CEOs with lower ability.

Demerjian et al (2012) examined the relationship between managerial ability and earnings quality and concluded that there is a positive relationship between managerial ability and earnings quality. Particularly, they proposed a measure of managerial ability, based on managers' efficiency in generating revenues, which is available for a large sample of firms and outperforms existing ability measures. They found that our measure is strongly associated with manager fixed effects and that the stock price reactions to CEO (CEO) turnovers are positive (negative) when we assess the outgoing CEO as low (high) ability. They also found that replacing CEOs with more (less) able CEOs is associated with improvements (declines) in subsequent firm performance. They concluded with a demonstration of the potential of the measure. They found that the negative relation between equity financing and future abnormal returns

documented in prior research is mitigated by managerial ability. Specifically, more managers appear to utilize equity issuance proceeds more effectively, illustrating that our more precise measure of managerial ability will allow researchers to pursue studies that were previously difficult to conduct.

McVeigh and Leeves (2012) examined how managerial ability affects the Intentional distortions of financial statements. They perceived that the managers with higher ability more likely use the commitment profits; further, they have perceived that negative outcomes of the earnings management reduce among managers with greater ability; more specifically, they found the evidences on competent managers' more successful management of earnings.

Baik et al (2012) examined an unresolved issue in the literature on the relation between managerial ability and earnings quality. We also examine whether the strength of a country's investor protection system impacts this relation. Using multiple measures of earnings quality and managerial ability, we report that earnings quality is negatively associated with managerial ability. We also find that a strong system of investor protection mitigates this negative relation. Overall, our study adds to the literature on the impact of managerial characteristics on financial reporting decisions.

Chou and Ota (2012) in a research examined whether CEOs' ability provide beneficial information on company's future profits to the capital market? The results indicate that the return on stock in companies with competent managers than companies with poor managers reflect further future profits. Further they have shown that the CEO's ability puts a positive effect on analysts' remarks on company and persuades the investors to invest in company.

DeJong and Ling (2009) examine manager effects on accruals through both investment and accounting choices. As previously noted, this approach allows researchers to document a manager-specific effect, but it is constrained to managers who switch employers among the sample firms.

Francis et al (2008) examine the relation between earnings quality and CEO reputation, measured by the number of business press articles mentioning each CEO. The authors conduct their analysis for a sample of about 2,000 firm-year observations from the S&P 500 over 1992–2001 and find a negative relation between CEO reputation and earnings quality. They conclude that "boards of directors hire specific managers due to the reputation and expertise these individuals bring to managing the more complex and volatile operating environments of these firms." In other words, they suggest that the volatile operating environments or other innate characteristics of the firm are causing the lower earnings quality, not managerial actions.

Aier et al (2005) examine 456 firm-year observations over 1997–2002 and document an association between CFO expertise (e.g., years worked as CFO, experience at another company, advanced degrees and professional certifications) and restatements; they find that firms with CFOs with greater expertise experience fewer restatements.

### **3. RESEARCH METHOD**

The present research is an applied study in sake of type and nature and a prospective study which examines the hypotheses based on the last financial data. In this research, underlying information includes data of audited financial statements and information on CEO's education, CEO's financial expertise and CEO's technical expertise which will be extracted and calculated with referral to the database and the research models will be estimated based on it so as to provide the basis for hypotheses testing. The statistical population consists of the companies listed in Tehran stock exchange. The research time scope has been determined by considering the information close to the research and availability of associated information has been determined during a period of 6 years since the early 2009 till the end of 2014.

#### **Statistical population and sample group**

The statistical population consists of the companies listed in stock exchange during 2009-2014. The research sample consists of the companies which have been selected among the statistical population based on the conditions and features below:

-they should be active in stock exchange during 2009-2014

-in terms of increase in comparability, their financial period ends in the last day of last month of the year

-they should not be among banks and financial institutions (Investment companies, financial intermediaries, holding companies, banks and leasing).

-the companies which their information are available

-they should not have change in financial year or activity during the years under study

#### 4. DATA ANALYSIS INSTRUMENTS

Descriptive and inferential statistics will be used to analyze the research data. To explain the collected data, descriptive statistics (Mean, Median, quartiles, variance) are used; to analyze the hypotheses testing, inferential statistics (multivariate regression analysis, t-test and f-test) are used. Further, software Excel and Eviews9 will be used to analyze data and extract results of research. \

##### The research model

In this research, the model below is used:

$$MA_{i,t} = B_0 + B_1 PROFIN_{i,t} + B_1 PROTech_{i,t} + B_1 EDUG_{i,t} + B_2 Size_{i,t} + B_4 INST_{i,t} + B_5 Lev_{i,t} + B_6 Age_{i,t} + B_6 B/M_{i,t} + \varepsilon_{i,t}$$

CEO's financial expertise: PROFIN

CEO's technical expertise: PROTECH

CEO's education status: EDUG

The natural logarithm of total assets per company per year: Size

Leverage ratio of total debt to total assets per company per year: Lev

Percent of institutional shareholders in each company: INST

History of acceptance in stock (difference between year T and the accepted years in stock): Age

Book value to market value: B / M

##### F-Limer Test and Hausman test

With regard to the reasons mentioned, panel data have been used in this research, but it requires specifying the estimation method before estimating models. For this, F-Limer Test has been used. For the observations with their test probability greater than 5%, integration method is used; for the observations with their test probability less than 5%, panel method is used. Panel method is made using two models of fixed effects and random effects. To determine to use which model, Hausman test has been used. The observations with their test probability less than 5%, fixed effects and observational model with their test probability greater than 5% has been used. As presented in table 1, F-Limer probability is less than 5% in both research models, thus panel method is used to estimate model. Since F-Limer probability is less than 5%, Hausman test should be made to specify fixed and random effects. with regard to the results from table, chi-square became significant at 5%, i.e. null hypothesis under random effects is rejected and fixed effects exist.

**Table 1. Results from F-Limer Test and Hausman test**

test	Statistics	Freedom degree	Prob	Result
F-Limer Test (company efficiency model)	16.26	(-118,590)	0.000	Panel method
F-Limer Test (managerial ability model)	3.23	(-118,587)	0.000	Panel method
Hausman test (company efficiency model)	19.07	8	0.015	Fixed effects
Hausman test (managerial ability model)	381.13	8	0.000	Fixed effects

Source: Author

### Estimation of model and analysis of results

After examining the classical assumptions on regression and stationary of research variables and specifying the model estimation method, now the model should be estimated regarding results from F-Limer Test and Hausman test. When the number of companies falls greater than time periods and the panel method is used for estimation, variance inconsistency might raise. In this research, Breusch - Pagan-Godfrey test has been used to detect variance inconsistency and Durbin-Watson statistics has been used to detect the autocorrelation between variables. GLS test has been used to detect the relationship between variables under confirmed variance inconsistency. Fixed first-order autocorrelation has been used for autocorrelation problem. It should be noted that the variance inconsistency has been confirmed in the used model and GLS test has been used and also the autocorrelation problem based on test has not been confirmed. Ultimately, software Eviews9 has been used to detect the relationship between variables.

## 5. RESULTS FROM RESEARCH HYPOTHESES TESTING

Before presenting the main research model and the hypotheses related to it, firstly the results related to the efficiency model of company have been presented in table 2.

**Table 2. Results from research model estimation**

$VRS_i = \beta_0 + \beta_1 SIZE_i + \beta_2 MS_i + \beta_3 Foreign_i + \beta_4 T_i + \beta_5 FCF_i$					
Variables	Symbol	Coefficient	Standard deviation	t-value	Prob
Company size	SIZE	0.003	0.004	0.792	0.429
Foreign investment	FOREIGN	0.003	0.001	2.103	0.036
Company share	MS	0.012	0.004	3.062	0.002
Acceptance years at stock	T	-0.001	0.000	-3.954	0.000
Operating profit	FCF	0.002	0.001	1.597	0.111
Width of origin	C	0.646	0.021	31.093	0.000
Determination coefficient	Adjusted Determination coefficient	Durbin-Watson	F-statistics	F prob	
0.996	0.995	1.732	1100.141	0.000	

Source: Author

In table 2, f-value has equaled to 0.0000 and since it is under 0.05, null hypothesis is rejected at confidence level (95%), i.e. the model is significant. Value of Durbin-Watson statistics equals to 1.732 which displays lack of autocorrelation. The results associated to determination coefficient indicate that almost 99% of the changes in dependent variable are explained via independent and control variables of model. Adjusted R2 at confidence level (99%) indicates high explanation of the independent variables on dependent variable. After estimating the efficiency model of the company, the error term of this model has

been considered as the variable of managerial ability and the main research model is made to test the hypotheses.

The research hypotheses are as follows:

- 1-CEO's education status affects the managerial ability.
- 2-CEO's financial expertise affects the managerial ability.
- 3- CEO's technical expertise affects the managerial ability.

To test these hypotheses, the estimation results from the model presented in table 3 have been used. F-value equaled to 0.0000 and since this value is under 0.05, null hypothesis is rejected at confidence level (95%), i.e. the model is significant. Durbin-Watson statistics value equals to 2.057 which displays the lack of autocorrelation. The results related to the determination coefficient and adjusted determination coefficients indicate that almost 99% of changes in dependent variable are explained via the independent and control variables of model. At confidence level (95%) regarding t values, it can observe that most of variables have become significant. Further, results indicate that variables of CEO's financial expertise and CEO's technical expertise have not a significant effect on managerial ability. In general, with regard to coefficient of CEO's financial expertise and lack of its significance at confidence level (95%), the second research hypothesis is rejected. This indicates that there is not a significant relationship between CEO's financial expertise and managerial ability. Lack of significant relationship indicates that increasing CEO's financial expertise and/or CEO's financial expertise does not lead to increased managerial efficiency. With regard to coefficient of CEO's technical expertise and significant of this coefficient at confidence level (95%), it can confirm the third research hypothesis. This implies that there is a significant and positive relationship between CEO's technical expertise and managerial ability. The positive significant relationship indicates that having technical expertise will lead to increased managerial ability. Results indicate that variable of CEO's education level has not become significant at confidence level (95%). Indeed, however education has positive influence on managerial ability, this influence is not significant. With regard to coefficient of CEO's education and lack of its significance at confidence level (95%), the first research hypothesis is rejected. This implies that there is not a significant relationship between CEO's education and managerial ability. Among all control variables, all variables have become significant at confidence level (95%). Positive significance of company size on managerial ability indicates that the managerial ability increases by increasing the company size. Further negative significance of institutional shareholders indicates that managerial ability reduces by increasing percent of institutional shareholders. Increased company's lifetime has led to increased managerial ability.

**Table 3. Results from estimation of managerial ability model**

$TM_i = \beta_0 + \beta_1 Profin_i + \beta_2 Protech_i + \beta_3 Educ_i + \beta_4 SIZE_i + \beta_5 LEV_i + \beta_6 StockHolder_i + \beta_7 T_i + \beta_8 BM_i$					
Variables	Symbol	Coefficient	Standard deviation	t-value	prob
CEO's education level	EDUC	0.000	0.000	0.277	0.782
CEO's financial expertise	PROFIN	0.000	0.001	0.276	0.783
CEO's technical expertise	PROTECH	0.003	0.000	5.820	0.000
Company size	SIZE	0.008	0.001	5.378	0.000
Leverage degree	LEV	0.004	0.001	4.438	0.000
Institutional shareholders	STOCK HOLDER	-0.006	0.002	-3.681	0.000
Acceptance history at stock	T	0.981	0.004	250.842	0.000

$$TM_i = \beta_0 + \beta_1 Profin_i + \beta_2 Protech_i + \beta_3 Educ_i + \beta_4 SIZE_i + \beta_5 LEV_i + \beta_6 StockHolder_i + \beta_7 T_i + \beta_8 BM_i$$

Variables	Symbol	Coefficient	Standard deviation	t-value	prob
Stock book value to market value	BM	0.001	0.000	4.947	0.000
Width of origin	C	-0.691	0.006	113.872	0.000
Determination coefficient	Adjusted Determination coefficient	Durbin-Watson	f-statistics	F prob	
0.997	0.996	2.057	1419.867		0.000

Source: Author

In table 4, summary of results from research hypotheses testing has been displayed.

**Table 4. Summary of results from research hypotheses testing**

Hypothesis	Title	Type of effect	Significance/insignificance	Acceptance/lack of acceptance
First	1-CEO's education status affects the managerial ability.	Positive	insignificant	lack of acceptance
Second	2-CEO's financial expertise affects the managerial ability.	Positive	insignificant	lack of acceptance
Third	3- CEO's technical expertise affects the managerial ability.	Positive	Significant	acceptance

Source: Author

## 6. CONCLUSION

Management refers to the process of effective use of human resources and financial facilities to achieve organizational goals. This process comes to realize by means of CEO's major tasks such as planning, organizing, leadership and control regarding the value system governing the organization; the efficient CEO have the ability for better use of the existing resources in the research process of organizational goals. In other words, efficient CEO is called to a person who enables to make the most benefit at organization using the least facilities (Hendrickson and Van Breda, 1992). The characteristics which are measured for CEO include CEO's financial expertise, technical expertise and education level which are the research independent variable; managerial ability has been recognized as the dependent variable of research. Managerial ability in companies can be a determinant in company's ability and failure or success in company's performance. With regard to the related research, managerial ability has improved company's performance and reduced the information asymmetry and improved profit making and borrowing capacity. This research intends to examine effect of CEO's characteristics on managerial ability in companies listed in Tehran stock exchange. Thus, since the results from this research can be used in formulating the rules and regulations of stock exchange, it is an applied study. Further, since this research intends to find the relationship between several variables, it is a correlational study with the prospective method. To prepare the literature review and theoretical background, related books, articles and theses as well as the websites containing articles related to the research variables have been used. In this section, to collect data and information, financial statements of companies and their notes have been used for analysis

which access to the information has been provided through internet database of Stock exchange; software Excel has been used to calculate variables and process them. Multivariate regression model has been used to test research hypotheses. In this method, multivariate regression equation is calculated which summarizes the measured prediction values in a formula. The equation coefficients for each variable is calculated and determined based on its significant in predicting the criterion variable. The correlation degree between predictive variables is displayed in multivariate regression equation via the coefficient.

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# THE EFFECT OF ORGANIZATIONAL BEHAVIOR ADVANTAGES ON THE JOB PERFORMANCE AND EMPLOYEE'S INTERMEDIARY ROLE IN THE IMAM REZA HOSPITAL IN AMOL

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## Abstract

*Due to competitive conditions between hospitals in this study, the effect of organizational behavior advantages on the job performance and employee's intermediary role in the Imam Reza Hospital in Amol will be discussed. The present study in term of aim is applied and based on the nature and data collection method is survey descriptive and in term of time is cross-sectional. The study population included all employees of the branches of Imam Reza Hospital in Amol consists of about 240 people. The sampling method used in this research is simple random sampling. The number of samples using Cochran formula is 148 people. For Organizational Behavior Questionnaire, Luthans (2004) standardized questionnaire is used. For Job Performance Inventory Hersey and Goldsmith (2000) Inventory is used. Experience Questionnaire, based on a standard questionnaire Zarantonlo and Schmidt (2010) and intelligent questionnaire and individual behavior questionnaire made by researcher and validity and reliability of questionnaires were approved. In this study, to test hypotheses, Kolmogorov-Smirnov test for normality of the data and path analysis techniques used. The results showed that less experienced personnel have a significant negative impact on organizational behavior, job performance and personal behavior and intelligent staff has a significant positive impact on job performance and personal behavior and ultimately organizational behavior and individual behavior has a positive impact on job performance.*

*JEL classification: D23*

*Keywords: Organizational behavior, Job performance*

## 1. INTRODUCTION

In the past, researchers conduct studies in order to investigate the relationship between occupational and organizational effectiveness, often the behavior of their attention. This behavior applies to things, official duties and responsibilities, as stated in the job description, the (Saatchi, 2012). The conditions governing organizations, increasing competition and the need for their effectiveness in such circumstances, generation requires them to reveal valuable employees, a generation that can be learned from them as soldiers (Dipaola et al, 2012). Undoubtedly, the staffs are distinguished effective organizations of ineffective (Podsakoff et al, 2004). Employees tend to foot beyond the formal requirements of their job (Morrison et al, 2005). The performance and development of any organization depends largely on the proper application of human resources. To the extent that companies and organizations, naturally, this massive force can also be added to the problems. Managers in relation to various issues constantly try to control their employees. Some managers on the question of employee satisfaction can be rewarded through and encourage the work increased, insist. It assumes that workers and their subordinates must accept their orders. Although today because many employees are under financial pressure, more attention and their willingness to work on economic issues, but gradually people want to do with the concept, calling for greater job autonomy in their work, to provide a great feeling to give them (Zali, 2011).

However, a recent survey shows that most researchers today's organizations are complex and dynamic environment. They believe that should be a framework for measuring, evaluating, planning and performance improvement and transformational learning organizations develop today. Experts and researchers believe that the main issue in all organizational analysis and organizational difficult to imagine which is not subject to evaluation and performance measurement, they are based on job performance and the development of organizational theory and function as the main theme in the space operation (Zali, 1998).

Performance measurable results, organizational decisions and actions which represent the success and achievements are earned (Marr et al., 2003). Job performance is a complex phenomenon, perhaps the simplest explanation for it will be a set of activities aimed at achieving the goals of the organizations. When the performance of different valves for different purposes are studied, as well as the appropriateness of different performance evaluation models used, it measures the performance of organizations should happen based on appropriate indicators. In this respect, indicators of employee satisfaction, customer satisfaction, efficiency, organizational effectiveness and financial results and the market are examples of performance indicators (Sila, 2007). One of the factors that influence organizational effectiveness is related to psychological issues in various ways, such as improving relations with the spirit of the personnel, the character and habits of people, as well as situations to avoid inefficiencies and shortages, absenteeism, slow, wasting labor, anxiety, confusion, increased organizational efficiency, quality and quantity. Today, after human and social capital, organizational behavior can be viewed as a competitive advantage in organizations. Considering that the main problem today's organizations is the lack of attention to the needs of employees and consequently dissatisfaction personnel, therefore, applying the principles of organizational behavior cannot solve these problems (Zali, 1998).

Luthans et al believe that organizational behavior, based on psychological factors, led to the creation of human and social capital and improve the performance of the organization. Today, many researchers believe that organizational behavior, organizations can provide them with a sustainable competitive advantage (Luthans, 2006). Imam Reza Hospital in Amol is one of the country's hospitals, with a specialized and experienced staff is trying to using the principles of organizational behavior improves job performance are its box. So, evaluation of organizational behavior on job performance by staff as an indicator for evaluation of the hospital can provide the information and solutions to improve customer loyalty and create competitive advantage. Therefore, given that the bank's organizational behavior can have an important impact on organizational performance, the main question is: Is organizational behavior affects the performance of the staff of Imam Reza Hospital in Amol? Because the principles of organizational behavior by Imam Reza Hospital in Amol staff makes better job performance and customer satisfaction, which ultimately loyal customers to the **Hospital**.

## 2. THEORETICAL FOUNDATIONS

### **Organizational behavior:**

Organizational behavior, behavior that are useful to the organization, yet as part of the activities are not considered core job. This behavior is often the employees are made to support a business or brand that creates added value to the customer and ultimately create a competitive advantage (Elanain et al., 2008).

The concept of performance:

The concept is to display the output of an individual, and the unit used in the performance of an organization is more than the cost of production work unit it will be less. In today's competitive world, if we want to increase the performance of your work should be less manpower, less money, less time, less space and generally with fewer resources, have more production. The performance of an organization is more than any other factor knowledge, skills, abilities, attitudes and behavioral conditions (Saatchi, 2012). The performance can be born, balance and interaction between man, technology (hardware and software) Materials and energy organizations and systems. The relationship between these factors is established by

information among the human factors of the highest importance, because ultimately the effectiveness of other factors related to the human condition and his behavior.

**Job Performance:**

Yield is the sum of behaviors associated with jobs that show people (Griffin, 2010). Performance measurable results, decisions and actions an organization that represents the success and achievements gained are (Neely et al., 2003). Organizational performance is a complex phenomenon, which may be the simplest explanation for it, set of activities aimed at achieving the organization's goals (Sila, 2007).

**Individual behavior:**

Individual behavior features that distinguish one person from another person, such as age, work experience, personality, education and gender (Moshabaki, 2006). A person's character is formed to join the organization and is the exclusive attitudes also has the ability is special. When a person joins the organization in addition to the character and attitude and abilities and his perception of the organization, the impression that he is the organization, the motivation affects him. All these factors plus the amount of learning within the organization he formed the behavior of the individual in the organization (Robbins, 2000)

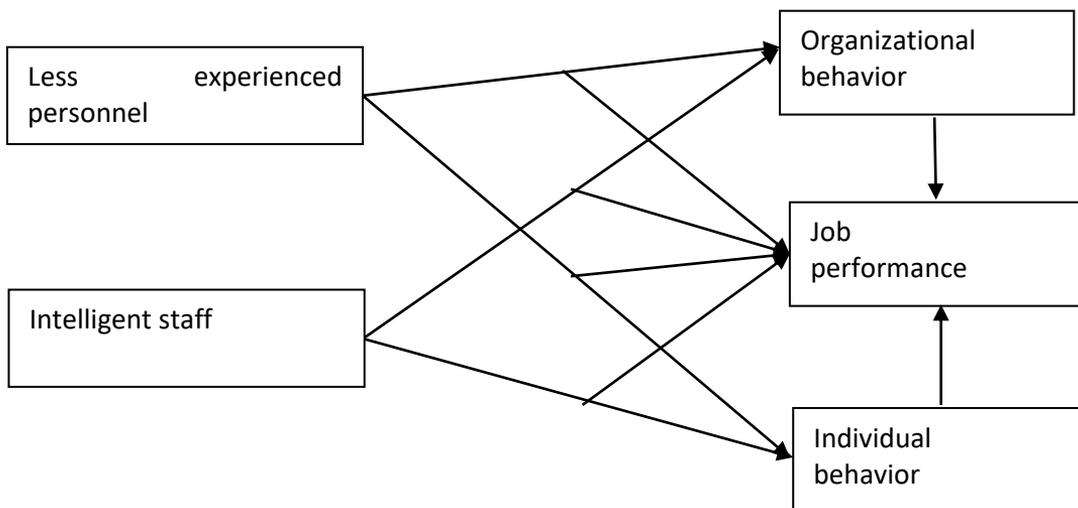
**Experience**

Experience is one of the sources of learning has been seen that 70 percent of learning is done through it. The share of three learning is experience 70%, education 15% and training skill 15% (Babaei, 2004).

**Being smart:**

Being smart involves the ability to learn, apply knowledge, expertise, and the results used to define a person under its influence "(Abdullah Zadeh et al., 2009: 33).

**Conceptual model:**



It should be noted that the conceptual model is based on Chen (2014) has been prepared.

**Hypotheses:**

1. Less experienced personnel affects organizational behavior of employees of the Imam Reza Hospital in Amol.
2. Less experienced personnel effects on job performance of employees of the Imam Reza Hospital in Amol.

3. Less experienced personnel affects individual behavior of employees of the Imam Reza Hospital in Amol.
4. Intelligent staff affects organizational behavior of employees of the Imam Reza Hospital in Amol.
5. Intelligent staff affects job performance of employees of the Imam Reza Hospital in Amol.
6. Intelligent staff affects individual behavior of employees of the Imam Reza Hospital in Amol.
7. Organizational behavior affects job performance of employees of the Imam Reza Hospital in Amol.
8. Individual behavior affects job performance of employees of the Imam Reza Hospital in Amol.

### 3. RESEARCH METHODOLOGY:

Since the results of this research to provide effective solutions in the field of organizational behavior benefits on job performance and the mediating role of employees of the Imam Reza Hospital in Amol will be used as part of applied research. The research is descriptive and survey research component. The study population included all employees of the branches of Imam Reza Hospital in Amol. It is estimated that about 240 people have been used to calculate the sample size of the sample. By substituting 240 in the above formula sample size is 148 samples. Organizational Behavior Questionnaire is Luthans (2004) standardized questionnaire that contained 4 variables and 16 items and is based on Likert scale.

Job Performance Inventory is Hersey and Goldsmith (2000) Inventory. This questionnaire has 3 variables and based on Likert scale with 12 items and points (low to high). Individual Behavior Questionnaire, developed by the researchers that this questionnaire has 3 variables and 9 items based on Likert scale and points (low to high) including age (items 1 to 3), gender (items 4 to 6), education (items 7 to 9).

Experience Questionnaire, based on a standard Zarantonlo and Schmidt (2010) questionnaire which has 4 variables and 10 items and based on the Likert scale with points (low to high). Intelligence questionnaire is a questionnaire developed by the researchers that these variables have 2 and 4 items based on the Likert and points (very low to very high), which includes variables out (items 1 and 2), knowledge (items 3 and 4). Questionnaires have seen a number of professors and experts and according to the comments of the necessary changes in the questionnaire are given. Cronbach's alpha coefficient was used to determine the reliability of the investigation according to the table (1) according to the Cronbach's alpha coefficient higher than the minimum amount is 70% higher indicate that the use of questionnaires reliability are very high. In this study to test the hypothesis and research questions, the Kolmogorov - Smirnov test for normality of the data path analysis techniques used.

**Table 1. Reliability estimates based on retest (Cronbach)**

Measured Variables	Cronbach's alpha coefficient
Organizational behavior	0.812
Job performance	0.830
Less experienced personnel	0.832
Intelligent staff	0.805
Individual behavior	0.876

*Source: Author*

### 4. RESEARCH FINDINGS

#### Kolmogorov-Smirnov test

By examining the normality variables through the Kolmogorov-Smirnov test and multivariate normality test in LISREL software normality of variables due to having all values are significantly higher than the normal 0.05.

**Table 2. Check the normality of variables**

Variables	Z statistic	Significance level	Hypothesis result
Organizational behavior	1.025	0.271	Is normal
Job performance	0.852	0.740	Is normal
Individual behavior	1.452	0.57	Is normal
Less experienced personnel	1.250	0.860	Is normal
Intelligent staff	0.740	0.587	Is normal

Source: Author

**The main research hypotheses test by path analysis**

In this study, the variables with Latin abbreviation explained and they have been specified in the table below, should also be noted the hypotheses (relations) will be determined in significant cases. In other words, if a significant number greater than 1.96 or less than -1.96, the hypothesis is confirmed. In test hypotheses using structural equation modeling, firstly, the application exits the suitability of the models are fitted structural hypotheses (About  $\chi^2$  to df under 3, so  $\chi^2$  is amount and down right. RMSEA=0.078 also indicates that the relative fit structural equation modeling. The amount of GFI, AGFI and NFI respectively is 0.96, 0.92 and 0.98 which reflects the proper fit of the model. Secondly coefficient t denotes the direction and intensity of the impact and the significance of their relationship.

**Table 3. Introducing elements of the structural model**

Represented in the diagram	Variables	Variable role
LEP	Less experienced personnel	Independent
HIP	Intelligent staff	Independent
OB	organizational behavior	Dependent and independent nature
JP	Job performance	Dependent and independent nature
IB	Individual behavior	Dependent and independent nature

Source: Author

**Hypotheses test**

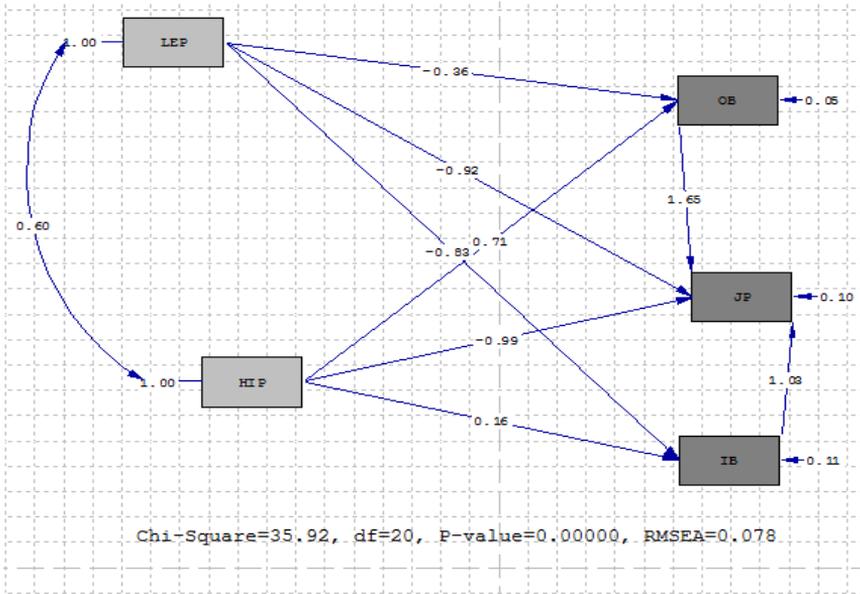
**First hypothesis:** Less experienced personnel affects organizational behavior of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, less experienced personnel to the effect -0.36 and a significant amount -23.21 organizational behavior; if 1 unit or 100% change in personnel have little experience; organizational behavior unit 0.36, or 36 percent reduced and therefore given the significant factor (p-value) first hypothesis is confirmed.

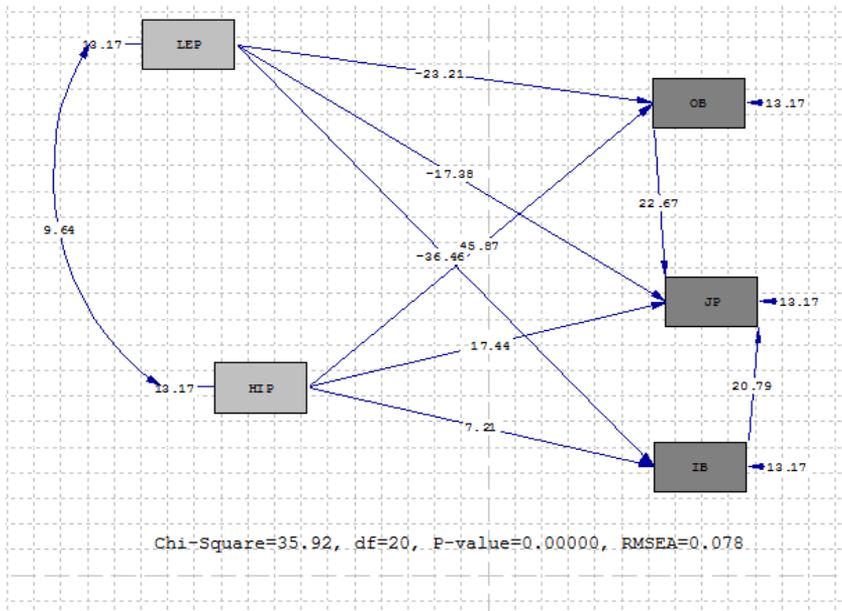
**Second hypothesis:** Less experienced personnel effects on job performance of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, less experienced personnel to the effect -0.92 and a significant amount -17.38 organizational behavior; if 1 unit or 100% change in personnel have little

experience; job performance variable rate of 0.92 units or 92 percent reduced and therefore given the significant factor (p-value) second hypothesis is confirmed.



**Figure 1. The structural equation modeling in estimated standard (path analysis)**  
 Source: Author



**Figure 2. Structural model in meaningful coefficients**  
 Source: Author

**Third hypothesis:** Less experienced personnel affects individual behavior of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, less experienced personnel to the -0.83 and significant impact on the behavior of individual -36.46; if one unit or 100% change in personnel have little experience; changing individual behavior as much as 0.83 points or 83 percent reduced and therefore given the significant factor (p-value) third hypothesis is confirmed.

**Fourth hypothesis:** Intelligent staff affects organizational behavior of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, intelligent staff and significant impact on the amount of 0.71 to the 45.87 level on organizational behavior; if one unit or 100% change in personnel is being clever; the organizational behavior unit at the rate of 0.71 or 71% increase and therefore a significant factor due to the absence of t (p-value) in the critical fourth hypothesis is confirmed.

**Fifth hypothesis:** Intelligent staff affects job performance of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, intelligent staff and significant impact on the amount of 0.99 to 17.44 on the job performance; if one unit or 100% change in personnel is being clever; the job performance of 0.99 units or 99% increase and therefore a significant factor due to the absence of t (p-value) in critical fifth hypothesis is confirmed.

**Sixth hypothesis:** Intelligent staff affects individual behavior of employees of the Imam Reza Hospital in Amol.

According to the diagram significant coefficients, intelligent staff and significant impact on the amount of 0.16 to 7.21 on the behavior of individual employees; if one unit or 100% change in personnel is being clever; the individual behavior of 0.16 units or 16% increase; although this hypothesis is confirmed, the factor that requires reforms in Imam Reza Hospital in Amol track down that recovery.

**Seventh hypothesis:** Organizational behavior affects job performance of employees of the Imam Reza Hospital in Amol.

Due to the significant coefficients charts, organizational behavior has a significant effect on the rate of 22.68 on job performance; this hypothesis was significant due to having or not having a significant factor in the range of 1.96 to -1.96 defined critical; due to the lack of statistics (P-value) in the critical region of a hypothesis (researcher) has been approved.

**Eighth hypothesis:** Individual behavior affects job performance of employees of the Imam Reza Hospital in Amol.

Due to the significant coefficients charts, individual behavior has a significant effect on the level of job performance is 20.79; this hypothesis was significant due to having or not having a significant factor in the range of 1.96 to -1.96 defined critical; due to the lack of statistics (P-value) in the critical region of a hypothesis (researcher) has been verified and the result of individual behavior has a significant positive impact on job performance.

**Table 4. Results hypothesis**

Hypothesis	t static	Results
1. Less experienced personnel affects organizational behavior of employees of the Imam Reza Hospital in Amol.	23.21-	confirmed
2. Less experienced personnel effects on job performance of employees of the Imam Reza Hospital in Amol.	17.38-	confirmed
3. Less experienced personnel affects individual behavior of employees of the Imam Reza Hospital in Amol.	36.46-	confirmed

Hypothesis	t static	Results
4. Intelligent staff affects organizational behavior of employees of the Imam Reza Hospital in Amol.	45.87	confirmed
5. Intelligent staff affects job performance of employees of the Imam Reza Hospital in Amol.	17.44	confirmed
6. Intelligent staff affects individual behavior of employees of the Imam Reza Hospital in Amol.	7.21	confirmed
7. Organizational behavior affects job performance of employees of the Imam Reza Hospital in Amol.	22.67	confirmed
8. Individual behavior affects job performance of employees of the Imam Reza Hospital in Amol.	20.79	confirmed

*Source: Author*

## CONCLUSIONS

This paper examines the impact on job performance advantage of organizational behavior and the mediating role of employees in the bank, which plans to review the variable pay 8 hypothesis, first hypothesis test showed less experienced personnel, organizational behavior affects Imam Reza Hospital in Amol and corresponded the findings of the Melo (2007) and Abbaspoor (2009), as all research concluded there is a strong correlation between work experience in organizational behavior and performance. Second hypothesis test showed less experienced personnel affect the job performance of employee of Imam Reza Hospital in Amol and findings corresponded with findings of the Melo year (2007) and Abbaspoor (2009), as all research concluded there is a strong correlation between work experience in organizational behavior and performance. The third hypothesis test showed less experienced personnel affects individual behavior of employee of Imam Reza Hospital in Amol corresponded with the findings of Abbasi in 2011, so Abbasi in 2011, in a study entitled Effect of Organizational Behavior on Organizational Performance in trade and agriculture were in Shiraz, concluded that work experience and training has a positive impact on organizational performance. The only difference was that individual behavior was evaluated in this study. The fourth hypothesis testing showed that being smart personnel, affects organizational behavior of employee of Imam Reza Hospital in Amol that correspond the findings of Shahrestani (2008) as the factors affecting organizational behavior at Mammoth to managers, as Shahrestani (2008) in a study as to identify the factors affecting organizational behavior for managers at Mammoth company concluded there is a significant relationship between the intelligence expertise in the management of organizational behavior characteristics mammoth companies to succeed. Fifth hypothesis testing showed clever bank staff effects on job performance and findings corresponded with findings of Madadi and Mohammad Zadeh (2006), as Mohammad Zadeh and Madadi (2006) in his study examines the relationship between the dimensions of organizational behavior MAPNA and performance to the conclusion that there is a significant relationship between individual behavior and organizational performance personnel. The sixth hypothesis testing showed that being smart personnel affects individual behavior of employee of Imam Reza Hospital in Amol in 2012 corresponded with the findings Koster, as Cameron in 2012, in a study on the impact of organizational behavior, organizational performance manufacturer Germany concluded that the behavior of corporate training and intelligence personnel based manufacturer upgraded and improve performance and customer satisfaction are the seventh hypothesis testing showed the impact of organizational behavior on the job performance of employee of Imam Reza Hospital in Amol that correspond with the findings of Cameroon in 2010, as Cameroon in 2010, in a study of the impact of

organizational behavior on the performance of LG's staff concluded that the relationship between organizational behavior and performance of LG.

Eighth hypothesis testing showed that the impact of individual behavior on the job performance of employee of Imam Reza Hospital in Amol corresponded with Madadi and Mohammad Zadeh (2006), as Madadi and Mohammad Zadeh (2006) in his study examines the relationship between the dimensions of organizational behavior MAPNA and performance to the conclusion that there is a significant relationship between individual behavior and organizational performance personnel.

### **PRACTICAL SUGGESTIONS:**

Given the importance of organizational behavior on job performance in today's organizations for greater participation of staff in organizational performance are as follows:

1. Holding seminars and practical courses for personnel to apply the principles of organizational behavior.
2. Encourage employees to contribute more to improve job performance
3. Encourage employees to provide feedback about the organization
4. Create intimate setting for support personnel
5. Avoid any criticism to comment
6. Conducting training to increase skills, experience and training of human resources in attracting and retaining customers.

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# A STUDY OF THE EFFECT OF OFFICE AUTOMATION ON THE PERFORMANCE OF THE STAFF AT THE ISLAMIC AZAD UNIVERSITY OF KERMANSHAH

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## Abstract

*Today the information technology as one of the modern forms of human technology has not only undergone profound changes but it is also rapidly affecting the life patterns, research methodology, training, management, transportation, security issues, and other fields of human life. In this way, this study deals with evaluating the effects of office automation on the performance of the employees at the Islamic Azad University, Kermanshah branch. The statistical population involves all the staff and managers who use the office automation at the Islamic Azad University of Kermanshah, the number of whom is 74. The sampling method in this research is census, and 74 questionnaires of the 5-point Likert scale were designed and distributed in spring 2016. The research method was descriptive survey and it was practical in terms of objectives, and regarding the runtime it was cross-sectional. The multivariate linear regression method and the software SPSS were used in data analysis. The research results indicate a positive and significant effect of the office automation on the increased satisfaction of the staff, the increased loyalty of staff, the increased trust of staff, the increased efficiency, and saving the staff expenses at the Islamic Azad University, Kermanshah branch.*

*JEL classification: J50*

*Keywords: Office automation, Satisfaction, Loyalty, Trust, Efficiency, Costs saving, Islamic Azad University of Kermanshah.*

## 1. INTRODUCTION

Information technology is a lifeline that leads to a new territory of technological capabilities and innovations that brings us with it into the post-industrial economy and information-based society. Today, information and information technology have such a significant impact on different aspects of economic, cultural, political, and social life of individuals and organizations that cannot be disregarded. The impact of information and information technology is worth studying in creating both new golden opportunities and organizational challenges. Undoubtedly, globalization of economy, culture and many other modern developments cannot be imagined without considering the information technology. With the arrival of the digital revolution, successful organizations must effectively face the intense global competition, high concentration on customers, and increasing pace of change. Today, the intention of any organization is to have an active presence in the electronic virtual world, because this is an appropriate space for doing scientific research activities, increasing the trade pace and getting close to the customers. Therefore, lack of attention to this superior technology of the modern world will severely weaken the organization.

## 2. THEORETICAL BACKGROUND

Nowadays, the information technology has got a key role in defining the strength and civilization of communities. Hence, in the last two decades the developed and technology-holder countries have noted the information technology as the fundamental axis of development so that each country in turn has implemented special national and regional plans for developing this technology. Information technology is

among the infrastructure of the movement of communities and future generations in all fields and it has always been and still is an important platform and tool for the growth of other sectors. This matter, along with planning of other countries shows the depth of influence of information technology and disregarding which may lead to occupying no place in the modern age. Therefore, the necessity of the vision of future and global movements requires a special attention of our own country too (Ahmadi, Araghi, 2003).

In a general definition of information technology, it can be said that any kind of technology that can be used in receiving, saving, processing, and presenting information is called information technology (Mahdavi, 2001).

The organizations are required to go beyond the basic needs of their customers, provide the customer expectations, and focus their attention on creating satisfaction, loyalty and trust through engendering long lasting mutual and profitable communications for both sides instead of just satisfying the customers' needs.

Information technology would enhance the competitiveness of the industry through adding to the variety of products and improving the quality and customer satisfaction and facilitate the administrative process (Sarafizadeh, 2003).

Determining the effect of these technologies and electronic services on organizations and users is required. Such an evaluation would make manufacturers and the public aware of limitations and strengths and weaknesses of these technologies to a great extent, and also indicates the acceptance rate of these technologies, and hereby it specifies the areas of focus for development and improvement. In this study the relationship between applying information technology and the variables of satisfaction, loyalty and trust will be studied. Due to their importance in trade dealings and in electronic purchase, the most important issue of which is trust, these three variables are selected and studied.

Haleh Sattari (2007) in her dissertation entitled "an evaluation of the E-readiness of organizations to implement the electronic government program" points to the development of information technology and intense integration and dependence on telecommunication technologies and innovations in the field of computer networks that led to a new model in the application of information and communication technology. In this dissertation it is mentioned that in addition to inner functions, information technology offers digital coverage of the external functions of the governments too and even results in changes in the administration tasks. Information technologies, especially internet, would create new values and interests such as intercommunications of the government, government communications with non-government organizations and citizens, communications between government and business, and communications within the communities.

Nematbakhsh et al. (2011) dealt with a study entitled the effect of informatics systems on the performance of the transmission repair company (Akhtar Bargh), and the statistical results affirmed that the informatics systems are influential on all aspects of a company performance.

Leonard Wi et al. (2003) in their article entitled integrity and commitment in marketing relationships in non-western industries, recognized making the appropriate and effective relationships between the buyer and seller as the key to the success and progress of trade and found investment in this case as quite significant and noted that this investment and allocation of resources required for applying IT can be effective in the long run. It has also mentioned the increased trust and maintaining customer information as a value for the customer and recognized creating such a value for the customer as a means of progress and customer loyalty to any enterprise.

Galster (2003) in a study entitled "evaluation of the performance of different complex human-machine systems in multiple stages and levels of automation" at the Catholic University of America states that introducing automation to the high-level complex systems requires an understanding of the multiple designing principles of that system.

Jewel Hayman Anderson (2004) in his article entitled "the relationship between the marketing and the product brand in the web-based professions forum" realized the web-based relationships and marketing relations as an advantage in trade and counted the marketing methods such as B2C, and B2B as significant

in developing trade and considered the role of information technology in changing, profitability, and maintenance of customer loyalty as inevitable.

Kay (2004) in a research entitled "studying and designing the various levels of automation system" in University of California stated that designing the automation system has recently increased more and more in order to optimize portfolio and different administrative levels in saving costs, human force and time.

Automation makes it easy to do some services and enhance efficiency. The automation process requires providing guidelines and charts depicting the system activities. Designing the automation system is based on the behavior and performance of the system and different structural processes of the system will be formed accordingly.

### 3. RESEARCH HYPOTHESES

Main hypothesis 1: applying office automation has a positive and significant effect on enhancing satisfaction among the Islamic Azad University staff, Kermanshah branch.

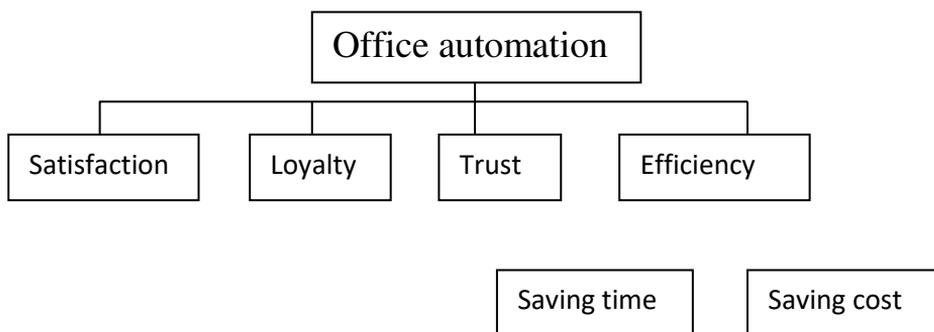
Main hypothesis 2: applying office automation has a positive and significant effect on enhancing loyalty among the Islamic Azad University staff, Kermanshah branch.

Main hypothesis 3: applying office automation has a positive and significant effect on enhancing trust among the Islamic Azad University staff, Kermanshah branch.

Main hypothesis 4: applying office automation has a positive and significant effect on enhancing efficiency at the Islamic Azad University, Kermanshah branch.

Subhypothesis 1: applying office automation has a positive and significant effect on time saving for the staff at the Islamic Azad University, Kermanshah branch.

Subhypothesis 2: applying office automation has a positive and significant effect on costs saving for the staff at the Islamic Azad University, Kermanshah branch.



The conceptual model

Source: Author

**Information:** information involves developed, interpreted and understandable data. Information, in general, is the receiver's knowledge and understanding of the data presented (Jafarnezhad Ghomi and Abbasnezhad, 2006).

**Technology:** involves knowledge, skills and methods relating to providing and producing goods and delivering services which is the result of the intellectual and power and human recognition and the combination of existing rules in the nature (Mohammadnezhad Alizamini, Kavousi, 2008).

**Information technology:** a series of processes of collecting, saving, processing and marketing information that are formed on the communication infrastructures (mainly based on computer and telecommunications infrastructures) (Jafarnezhad Ghomi and Abbasnezhad, 2006).

**Trust:** ensuring of the reliability of a person or system based on the results. This trust comes in the form of faith to the opposite side. Trust is the axis underlying the commercial transactions (Rahman, Bignall, 2001).

**Loyalty:** loyalty refers to a strong commitment for repurchasing a product or a superior service in future, such that the same brand or product is bought despite the potential effects and marketing efforts of competitors (Abdolvand, Abdoli, 2008).

**Satisfaction:** satisfaction is the pleasure or disgust of the purchaser to the performance of the product, of course, after comparing the performance (or the result) of the product purchased to what is expected (Kotler, Armstrong, 2005).

**Efficiency:** is a ratio showing a comparison between some aspects of the performance of a unit with costs incurred for meeting that purpose (Robbins, 2007).

**Islamic Azad University:** a non-profit organization responsible for providing educational services for the public.

#### 4. RESEARCH METHODOLOGY

In this study library and internet methods were used in collecting the data required for the sections of literature review and backgrounds, and for the next level on the affirmation or rejection of the research hypotheses the field method work was used. This study, in terms of research objectives, is a practical study, and in terms of considering the results, is result oriented. With regard to the data collection it is a descriptive study and among the methods of the descriptive studies, it is survey. According to various divisions of the survey in terms of quality and carefulness of reviewing the present study is cross sectional; in other words, the statistical sample will be studied only in a specific period for data collections required for the study.

In the fieldwork study involving editing, distributing and collecting questionnaires, the aim of which is to obtain information for rejecting or supporting the research, the questionnaires are designed on the Likert five-point scale.

##### The Statistical Population, Data Collection Method, and Sample Size

The statistical population in this study involves all the staff and managers who use the office automation in the Islamic Azad University of Kermanshah, the number of whom equals 74. With regard to the limited number of population the sampling method is census. Therefore the number of population equals the sample.

##### Reliability

Cronbach's alpha coefficients are fluctuating between zero and one; accordingly the more that coefficient gets close to 1, the more consistency of the items of a scale will be indicated (Habibpour and Safari, 2011). With regard to the fact that the Alpha coefficient to all the research variables is higher than 0.7, it can be stated that the questionnaire enjoys good reliability.

##### Inferential Statistics

In order to specify which of the parametric or non-parametric tests can be used by the researcher, the test of normality distribution of data (Kolmogorov-Smirnov) was taken at first for the variables by SPSS.

**Table 1. Results of Kolmogorov-Smirnov test**

Hypothesis	Mean	Standard deviation	Significance level	Result
The variable of office automation enjoys a normal distribution	4.38	0.14	0.467	Not rejecting H <sub>0</sub>
The variable of satisfaction enjoys a normal distribution	4.55	0.23	0.004	Rejecting H <sub>0</sub>

Hypothesis	Mean	Standard deviation	Significance level	Result
The variable of loyalty enjoys a normal distribution	4.48	0.29	0.057	Not rejecting H0
The variable of trust enjoys a normal distribution	4.27	0.41	0.052	Not rejecting H0
The variable of efficiency enjoys a normal distribution	4.30	0.25	0.009	Rejecting H0
The variable of time saving enjoys a normal distribution	4.15	0.31	0.001	Rejecting H0
The variable of cost saving enjoys a normal distribution	4.48	0.43	0.000	Rejecting H0

Source: Author

With regard to the results and significance level in the bottom row of the table to the Kolmogorov-Smirnov test that is shown in table 1, the significance level relating to all the research variables is less than 0.05 and therefore the hypothesis of normality of variables is rejected.

## 5. RESEARCH FINDINGS

### Collinearity test and simple linear regression

**Hypothesis 1:** applying office automation has a positive and significant effect on enhancing staff satisfaction at the Islamic Azad University, Kermanshah branch.

The result involves six outputs. The first output is the independent variables (which in the simple linear regression is only one variable), and shows the removed variables and the method used in determining the regression. The second output represents a multiple correlation coefficient, coefficient of determination, adjusted coefficient of determination, standard error and the Durbin-Watson statistic, respectively. One of the assumptions regarded in the regression is that the errors are independent of each other. If the hypothesis of error independence is rejected and the errors are correlated, there will be no possibility of having regression. In order to study the independence of errors from each other the Durbin-Watson test is applied. Since the Durbin-Watson statistic 1.571 is located at the distance of 1.5 and 2.5, the hypothesis of lack of correlation between errors is not rejected and the regression can be used. The third output involves regression analysis of variance to study certainty of a linear relationship between two variables. In this hypothesis sig. is less than 5 percent. Therefore the assumption of linearity of the relationship between the variables is accepted. In the fourth and fifth output, linearity shows a situation where an independent variable is a linear function of other independent variables. If linearity is high in a regression equation, it means that there is a high correlation between the independent variables, and it is possible that, despite the high R<sup>2</sup>, the model does not enjoy a high validity. In other words, although the model looks good, it still does not have significant independent variables.

With regard to the fact that there are not small eigenvalues and the status indicator is less than 15 in the first hypothesis, collinearity between the independent variables is impossible; in other words there are no serious problems in using the regression.

And, in column B the fixed value and the coefficient of independent variable in the regression equation are entered respectively. In this hypothesis the regression model is described as I model 1.

$$Y = \alpha \pm bx_1$$

$$Y = 2.665 + 0.261X_1 \qquad \text{model 1}$$

Considering that in not standardized coefficients scale variables are not the same, but in the standardized coefficients scale variables are the same and it is possible to compare the variables, therefore the standardized coefficient are utilized for measuring the effects of the independent variable on the dependent variable. In this hypothesis applying the office automation has a positive and significant effect on

increasing the staff satisfaction at the Islamic Azad University of Kermanshah to 0.261. The final output is related to the descriptive statistics of the values estimated by the regression, errors, standardized estimated values, and standardized errors.

In testing, all the hypotheses are similar to the first hypothesis. The summary of the hypotheses results are described in table 2.

**Table 2. Summary of the hypothesis results**

Hypothesis	Title	Rejection or support of hypothesis H0
Main H1	Applying office automation has a positive and significant effect on enhancing staff satisfaction at the Islamic Azad University, Kermanshah branch.	Rejected
Main H2	Applying office automation has a positive and significant effect on enhancing staff loyalty at the Islamic Azad University, Kermanshah branch.	Rejected
Main H3	Applying office automation has a positive and significant effect on enhancing staff trust at the Islamic Azad University, Kermanshah branch.	Rejected
Main H4	Applying office automation has a positive and significant effect on enhancing efficiency at the Islamic Azad University, Kermanshah branch.	Rejected
Sub1	Applying office automation has a positive and significant effect on time saving for the staff in the Islamic Azad University, Kermanshah branch.	Rejected
Sub 2	Applying office automation has a positive and significant effect on costs saving for the staff in the Islamic Azad University, Kermanshah branch.	Rejected

*Source: Author*

## 6. CONCLUSIONS

The main objective in this study is to study the effect of office automation on the performance of the staff at the Islamic Azad University, Kermanshah branch. As it was stated before, the population under study involves the staff of the Islamic Azad University of Kermanshah. The test results are aligned with the studies by Sa'adatmandi (2009), Lak (2005), Alem Tabrizi (2005), Barouti (2006), Ali Nemat (2011), Logan (2000), Hemphill (2002), Leonardo (2003), Wang (2002), Yowel (2004), and Galster (2003).

### Executive Suggestions

Main hypothesis 1: although it is attempted to engender the office automation in the Islamic Azad University of Kermanshah, it is still far from the world standards. Therefore in this process, this university must think about top services, eliminating or reducing the disadvantages of existing systems, providing the required fields for the appropriate use of the office automation and etc. Therefore with regard to the test results, using the office automation may increase the employees' and clients' satisfaction and meets the expectations of the clients in comparison to the traditional system.

Main hypothesis 2: with regard to the fact that the use of office automation in the Islamic Azad University of Kermanshah has a positive and significant effect on the loyalty of employees, so use of the office automation will increase the staff loyalty to the Islamic Azad University system and courtesy and respect for the client will grow.

Main hypothesis 3: with regard to the fact that the use of office automation in the Islamic Azad University of Kermanshah has a positive and significant effect on the trust of employees, so use of the office automation will increase the awareness of the clients and staff and enhance the work order and discipline in employees and reduce the stress and mental pressure.

Main hypothesis 4: as it was stated, according to the results of the fourth hypothesis applying the office automation has a positive and significant effect on the criteria of saving time and cost. However, since the Islamic Azad University of Kermanshah is not equipped with modern technologies in this field, therefore to take advantage of these positive effects, the university must pay enough attention to this matter, and equip itself with the latest systems of automation as soon as possible.

As it was stated, the office automation can reduce the unnecessary referrals and shorten the response time to clients, decrease the elapsed time and linger, so lead to the reduction of administrative costs. It can reduce the volume of daily tasks and prevent the loss of files and also shorten the processing time and access to information.

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# EXAMINING THE EFFECTIVE FACTORS ON FLUCTUATIONS OF HOUSING PRICE IN TEHRAN

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## Abstract

*Dramatic increase in housing price in recent years in Iran has been recognized as the main concern for people and officials. That is why studying effective factors in increasing housing price is of paramount importance. In the present research, the effects of some important variables including land price, construction costs, the number of granted facilities for housing, exchange rate, total index of stock, household income and the number of houses on housing price in Tehran have been investigated. In order to analyze the effect of the above variables on housing price, the self-explanatory model with distributional lags was estimated by using seasonal data during 1380-1393. In addition, in order to examine the speed of moderation of dynamic model in a long-term model, error correction model was also examined. The findings of the estimated model indicate the fact that major and minor economic variables have great power in explaining the housing price behavior and fluctuations.*

*JEL classification: C22, D12, D22, E31, R31*

*Keywords: Fluctuations of housing price, Auto regressive distributed lag model, Error correction model, Tehran.*

## 1. INTRODUCTION

Housing is one of the factors that play a significant role in gross domestic product (GPD) in many countries. Investigations show that in many countries, buildings include more than half of stable gross domestic capital in which housing is 20 to 50 percent. The role of housing in GPD is from 2 to 10 percent in different countries. In the economics of Iran, housing is important for changes in GPD and in the last 20 years, it has had many significant effects on the fluctuations of economic growth.

Due to already strong connection with other economic parts, housing plays a crucial role in economic development.

It can act as growth and development engine in economics due to high demand to the data to other parts of economics. Despite this, in the last two decades, housing faced various fluctuations of price in urban areas of the country. Instability and wide-spread fluctuations in housing price, especially in large cities could be the most dramatic feature of economics in the country. If one could identify the effective factors in housing price and fluctuations, it could be important in decision makings related to housing whether in private sector or by the policy makers.

## 2. PREVIOUS EMPIRICAL STUDIES

During the last years, in Iran and other countries, many studies have been conducted about effective variables in housing price and fluctuations. In the following, some findings of such studies will be discussed.

### Foreign studies

By focusing on behavior of housing price and Paris, Mays and Valies (2003) investigated the quality of companionship and effectiveness of fundamental variables in demand and supply with regard to housing price in this city. They used an ARDL model and error correction model in order to estimate the price relations. Estimating the model by using monthly data from 1982-1992 suggest the significance of fundamental variables except for employment and cost.

Abolson et al. explained the fluctuations of housing price during 1970-2003 in the economics of Australia. The hypothesis for the model was a classic hypothesis according to which, the housing price changes result from lack of balance in supply and demand. The results of the long term estimation was based on DOLS which indicate the positive effect of disposable income, good value index and consuming services (the representative of price expectations) and the negative relationship among interest rate, share price and housing price.

Chen et al. examined the relationship between housing price in the two cities and effective factors in it which include vacant new-constructed buildings as the representative of extra supply factor (demand), disposable income, GPD and stock market index which is active only in Shanghai. The results demonstrated that in Beijing, the household income, house availability and stock index was the Granger causality of housing price. There was no significant relationship between housing price and GPD. Moreover, the mutual relation was identified only between housing price and stock. In Shanghai, GPD of stock market is the Granger causality for housing price and at the same time, housing price is the Granger causality for household income and vacant houses' availability which indicated the effect of house construction costs on GPD in Shanghai given the high level of construction activity in this area.

Johnstone and Watuwa examined the effect of housing price in 18 large cities of Canada. By using the data, GMM method of panel data were applied for estimating the model and its extracts. The results of model emphasized the role of three critical factors including household income, population (in positive sense) and change in house availability (in negative sense) in determining housing price. Furthermore, the negative effect of unemployment rate was investigated and the reason was immigration to other areas and reduction in housing demand as a result of increase in unemployment rate. Another finding of the study was related to insignificance of interest factor rate (Johnstone, Watuwa, 2007).

### Domestic studies

Gharashi (1385) examined the influence of oil income along with other factors affecting through supply and demand on housing during 1350- 1383. The results of the research showed that urbanization rate, renting rate, per capita, granted credits from housing bank, tax on the houses, unemployment rate and building material price index had positive effect on housing price. GPD and state expenditures in housing supply season and building registrations have negative effect on housing price.

Agheli Kohneh Shahri (1386) analyzed the factors in investment demand in urban buildings. By using auto regressive approach with distributional intervals of ARDL showed that the price of building materials and the output of the stock with negative factors and building registrations with positive factor around 93 percent explain changes in investment on residential urban houses.

Askari, Chegini (1386) analyzed the factors affecting housing price level and fluctuations in the long term and short term, respectively among different provinces during 1370-1385. In this article, panel data method was used. The results showed that in the short term, market price index for securities, general level of prices in the previous period, land price, construction price, oil price, investment in private sector, total household expenditure, interest rate for bank loans and factors such as this were effective in determining housing price fluctuations.

Sameti, Moayani (1386) examined the causes for growth of prices in land and housing markets in which the data for Isfahan during 1371-83 were used for estimation by using OLS method. The results revealed that there was a direct relationship between GNP and land price growth. In addition, reducing per capita land significantly caused increase in price of land and consequently, houses.

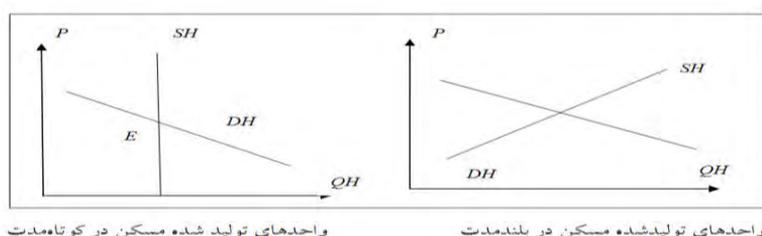
Dorudian (1387) analyzed housing price fluctuations in Tehran and its effective factors by applying VAR and using seasonal data related to 1371-1385. The results show that despite positive effect of the first lag between housing price and current housing price, the negative effect of prices in two previous periods was observed in current prices. Three factors including land price, construction cost and interest rates had positively significant effect on housing prices in the short term. Cash volume has positive effects and exchange rate has negative effect on housing price. The volume of newly constructed houses with one lag has negative effect on housing price. Among the results, the negative factor is formed of two components including household income and the number of households and the effects of gold price and stock index were against theoretical fundamentals.

Abasi Neghad, Yari (1388) examined the effect of oil shocks on housing price in Iran by using auto regressive model with ARDL distributional lag. The results suggested that during 1352-1384, the effect of population growth rate variables, cash growth rate, facility payment growth rate for housing bank and positive and negative oil shocks on housing price was significant and conformed by theory and the effect of inflation rate on housing price growth was insignificant in the above-mentioned period.

Nasrolahi et al. (1388) explored the effectiveness of Dutch disease and the effect of bank facility rates on housing price in Iran. The applied method in the research was ARDL and was available for the period of 1350-1383. The results of the research indicated that oil income factors were positive as expected and the positive factor for construction cost was correspondent to the theory. However, the obtained factor for GPD was negative while highly significant.

### 3. THEORETICAL UNDERPINNING OF HOUSING PRICE

Supplying houses in short term is stable, vertical and linear and reacts slowly to positive demand shocks since constructing a house takes a long time. Downward balance for house supply is also slow since buildings wear slowly during a long time. House supply curve has positive slope in the long term which is due to increase in land value during long term (Asgari, Chegini, 1386).

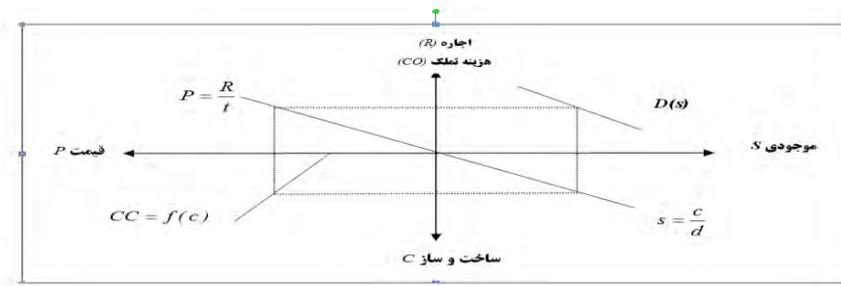


However, given the geographical limitations, construction regulations and other problems related to construction, house supply curve could be totally vertical in the long term. Depaskal and Weyton introduced four square model for explaining how to determine price in the long term as it is shown in the following graph. Here, two squares in the right indicate the market for using space (estate market) and the other two squares in the left are asset market. Estate market is a market in which buildings are purchased or rented for residence. Asset market is a market in which buildings are purchased with the purpose of investment (Abedin Darkoush, Rahimian, 1388).

In this graph, northern vector shows the rent for each square meter (R). The western vector which is related to housing price (p) indicate household payment price for one square meter. The southern vector shows the size of new housing construction (C) while the eastern vector suggests housing availability (S).

In the top right of the graph, you can find demand for housing which in balance equals house availability. Accordingly, descending demand curve suggest that house demand is reversely related to renting level. In this sense, the higher level for house rent, the fewer demands for it. The position for demand curve is determined by factors such as the number of demanding families or their income. Since the volume for

house availability is roughly stable in the short term, the demand is determined by current house availability.



However, in the present analysis, the level of housing price is determined in the top left part of the graph. Price curve in this part is explained by the ratio of rent to investment rate. When there is higher level of investment with increasing housing supply, there will be lower level of price. The price curve is ascending since it is presumed that with increase in the rent, the housing price will increase due to integration between rent and housing price. In price relation ( $p=R/i$ ), ( $i$ ) plays the role of investment rate which is mainly influenced by interest rate. However, factors such as renting expectation level and other risks such as taxation behavior of government affect  $i$ . Here, it is hypothesized that investment rate is external. In the bottom left part of the graph, the volume for new housing construction is determined. Graph slope suggest that with increase of prices in housing market, there will be more new housing constructions. If housing constructions lead to less costs in construction,  $f(c)$  curve will be more vertical. In other words, if supplying sections such as land and materials are more efficient, there will be little increase in housing construction land price or material price and therefore, the curve will be more vertical. However, if production supply is not increasing due to lack of land, especially suitable land or lack of ability in producing primary materials for responding to the demands of the construction, the curve will be more leveled, that is, by little increase in new construction and as a result of land supply and material costs, housing price will increase.

However, it seems that construction reaction to increase in housing price could be affected by institutional factors. Among them, one could refer to rules and regulations in housing construction which is not taken into account by the model. Accordingly, encouragement, facilitation, and facilitating rules for constructing houses especially rules supporting mass production could increase the new construction curve.

Finally, as shown in the graph,  $f(c)$  curve has not passed from the coordinate origin but crosses the vector which suggests that if there is no new construction, housing will have market value.

However, in the fourth quarter, there is a normal relation between new construction volume and housing availability which is a positive relation. The relation  $s = \frac{c}{d}$  suggest that housing availability will increase

in the long term if there is an increase in new construction  $c$ . However, the intensity depends on wearing rate ( $d$ ). The higher  $d$  is in each lag, the more the need will be for constructing new houses for stabilizing housing availability. In fact, wearing rate determines  $S$  curve. In this sense, the higher the wearing rate, the more vertical the  $S$  curve will be which means lower volume of new construction will be added to long term housing availability since major parts of new houses will be spent on replacement of worn buildings. Instead, lower wearing rate which means higher  $S$  curve indicate the addition of higher volume from newly-built houses to house availability in the long term. In long term balance, construction volume is equal to wearing rate. It is clear that each of the four quarters are affected by each other in the sense that rent level determines housing price and it determines the volume for new housing construction which subsequently leads to determining housing availability which finally results in determining the rent.

External changes in investment and demand rate are among the factors that affect long term values for all model variables. Increase in investment rate will decrease housing price and if so, the volume for new construction and long term housing availability will decrease while rent level will rise. External increase

in housing demand is as a result of increase in the number of families or their income by presuming that housing availability is stable in the short term. The increase is according to model presupposition for housing price which leads to rise in construction volume and long term housing availability and the market will be in the long term balance again.

The previous model was a static model which only showed different balance points while could not show the temporal path for transfer from a balance point to another point. One of the dynamic models is -depository dynamic model. The model supposes that housing price is determined in a period by current value of other variables in the model. On one hand, since housing is a long-lasting product, housing availability depends on the historical value of these variables. It is simply supposed that demand for ownership houses during the period of  $t$ ,  $D_t$  depends on the number of household members  $H_t$  and ownership  $U_t$ .

$$(1) D_t = H_t(a_0 - a_1U_t)$$

$a_0$  is the ratio of families that can become the owner of the houses if the cost for using houses will be zero.  $a_1$  is the reaction of house ownership demand to changes in house ownership costs. The function for house ownership costs is as follows:

$$(2) U_t = P_t(R_t + M_t - I_t)$$

where:  $P_t$  is the current price level,  $R_t$  is the current interest rate,  $M_t$  is the house maintenance costs and  $I_t$  is expected housing price increase rate. Interest rate is considered as the cost for capital opportunity and also loan taking cost for purchasing a house.  $M_t$  include taxation on assets and wearing costs which requires repair and maintenance for keeping up the quality of the house. Housing price in  $t$  is determined in such a way that demands for ownership houses equal house availability:

$$(3) D_t = S_t$$

By replacing equations 1 and 2 and using equation 3, the housing price equation will be

$$(4) P_t = (a_0 - s_t / H_t) / a_1(R_t + M_t - I_t)$$

Accordingly, the current housing price will be so high if house availability will be less than the number of families. If there is less interest rate, wearing speed and more expected housing price, the current level of housing price will be higher. Change in house supply is as follows:

$$(5) S_t - S_{t-1} = C_t - \delta S_{t-1}$$

The equation shows that growth in housing availability equals new constructions  $C_t$  minus a percentage of building in previous period which are worn. It is supposed that  $ES_t$  determines long term house balance. If  $S_t$  equals  $ES_t$ , there will be no new constructions. If we suppose that there is no wearing with the increase in demand, the value of developed land such as those on which the buildings are constructed and housing price will increase which leads to temporary new construction and as a result,  $ES_t$  will increase. By increasing demand for new construction, bare land demands will increase which increase house availability. This relation is noted in Equations 6 and 7:

$$(6) ES_t = -\beta_0 + \beta_1 P_t$$

$$(7) C_t = \tau(ES_{t-1} - S_{t-1})$$

Where  $\beta_1$  suggest that how higher prices will lead to development of bare lands. When land supply is limited, and which is due to geographical limitations,  $\beta_1$  will be smaller. The less potential the bare land has (smaller  $\beta_1$ ), the value increase in housing price will be higher after positive shocks.

Therefore, it is expected that with creasing house demand, housing price will rise in the central parts of the city in which the land may not be vacant. The model supposes that building height will be constant. In practice, house availability could increase by constructing higher buildings.

However, having  $\beta_0$  with negative mark in equation 6 suggest that the land has uses in constructing houses as well as other valuable uses such as agriculture. Hence, housing price level should be equal to agricultural value as well as user change costs. It is possible to consider  $\beta_0$  in addition to costs for changing the land use since it makes construction costs larger.  $\tau$  in Equation 7 suggest the speed according to which new housing construction reacts to the deviation between current and balanced availability. It should be noted that in Equations 6 and 7,  $ES_{t-1}$  should be higher than  $S_{t-1}$  in order to cause a construction that sustains the current housing availability.

By using Equations 5 and 7, the relation between price and availability growth will be:

$$(8) ES_{t-1} > S_{t-1} \text{ if}$$

$$(9) S_t - S_{t-1} = \tau(-\beta_0 + \beta_1 P_{t-1} - S_{t-1}) - \delta S_{t-1} \text{ if}$$

$$ES_{t-1} \leq S_{t-1}$$

$$S_t - S_{t-1} = -\delta S_{t-1}$$

Finally, the stable level of house availability does not increase forever.  $S^*$  is in such a way that the level of prices in  $P_{t-1}$  will be constant forever. By applying  $S_t = S_{t-1}$ ,  $S^*$  will be obtained as follows:

$$(10) S^* = \tau(-\beta_0 + \beta_1 P_{t-1}) / (\delta + \tau)$$

Equation 10 shows the level of availability when prices are constant forever. Stable balance also includes an equation for price. The equation could be obtained easily given the Equation 4:

$$(11) P^* = (a_0 - \frac{S^*}{H_t}) / [a_1(R_t + M_t - I_t)]$$

By replacing  $s^*$  from Equation 10, the final relation for the price in stable balance could be obtained. According to the stable balance condition, price P will be:

$$(12) P^* = (a_0 H_t (\delta + \tau) + \tau \beta_0) / \left[ \left( -\frac{S^*}{H_t} \right) [H_t (\delta + \tau) a_1 (R_t + M_t - I_t) + \tau \beta_1] \right]$$

It is expected that in stable balace, housing price and availability will be constant. Hence,

$I_t$  will be zero in stable balance. By putting  $I_t = 0$  in the equation, the balance price will be determined in a condition that the number of families, interest rate, maintenance and model parameters will be constant.

In equation  $P^*$ , the level of household income is not taken into account but the income can increase balancing price of houses. Increase in income raises the demand for houses. In this case, house demand and price balance will be shown in Equation 13 and 14, respectively:

$$(13) 0 \leq \mu \leq 1$$

$$D_t = (\mu y_t) / [(R_t + M_t - I_t)P_t]$$

$$(14) P_t = (\mu y_t) / [(R_t + M_t - I_t)S_t]$$

It is supposed that income growth increases  $a_0$  and decreases  $a_1$ . In practice, rarely stable balance condition occurs since the variables of the model will not be stable for a long term. In addition, future expected values for fundamental variables of the model especially price will rarely be equal to current value and  $I_t = 0$  scarcely happens.

#### 4. CLARIFYING MODEL VARIABLES

In the present study, given the general relations in Iranian economics, the following model was proposed by using ARDL approach and seasonal data from 1380-1393 for Tehran:

$$HP = f(LP, CC, HN, BL, SPI, ER, HI)$$

Where:

Hp: housing price, Lp: land price, CC: construction costs, HN: housing number, BL: granted facilities for houses, SPI: stock price index, ER: Exchange rate, HR: Household rate.

The data for the research were taken from the website of central bank of Islamic Republic of Iran, Iranian statistics center, Ministry of Roads and Urban Development, housing economic quarterly journals and the website of Tehran municipal.

#### 5. RESEARCH METHOD

The applied method in the present research is based on analogous argument resulting from analyzing theoretical and empirical issues. Given the fact that the used data are real and historical, the current study is retrospective and data were collected descriptively. With respect to hypotheses, the research is among contextual ex post facto. The purpose for ex post facto studies is to examine the causal relations through studying the available results and previous context by hoping to find the cause for something happened. The research adopted a causal method and applied Auto-regressive distributed lag approach.

##### Auto-regressive distributed lag approach

Generally, dynamic model is a model in which lags of variables are stated as follows:

$$Y_t = aX_t + bX_{t-1} + \dots + cY_{t-1} + u_t$$

In order to reduce hindsight bias related to model factor estimation in small samples, it is better to use a model that takes a large number of lags for variables into account:

$$\phi(L, P)Y_t = \sum_{i=1}^k b_i(Lq_i)X_{it} + eW_t + u_t$$

The above model is an Autoregressive-Distributed Lag (ARDL) model with wide lags in which:

$$\phi(L, P) = 1 - \phi_1L - \phi_2L^2 - \dots - \phi_pL^p$$

$$b_i(L, q_i) = b_{i0} + b_{i1}L + \dots + b_{iq}L^q \quad i=1, 2, \dots, K$$

Where L: lag operator, W: a vector from stable variables such as Y-intercept, virtual variables, temporal trend or external variables with stable lags. Microfit estimates the equation for all statuses and possible

orders of values  $(m + 1)^{k+1}$ . M is the maximum lag determined by the researcher and k is the number of explanatory variables.

In order to measure long term factors in the model, dynamic model was used. Long term factors related to X variables will be obtained by the following relation:

$$\theta_i = \frac{\hat{b}_i(1, q_i)}{1 - \hat{\theta}(1, p)} = \frac{\hat{b}_{i0} + \hat{b}_{i1} + \dots + \hat{b}_{iq}}{1 - \hat{\theta}_j - \dots - \hat{\theta}_p}$$

### Error correction model

The lag uses the leftover of the long term relationship as error correction model which gives the following relation:

$$\Delta Y_t = a + b\Delta X_t + cU_{t-1} + e_t$$

Error correction factor means estimating c factor while it is appeared with a negative sign (as expected). It indicates the speed in error correction and inclination toward long term balance. The factor suggests that in each period, what percent of lack of balance variable will be balanced and become closer to long term relation.

## 6. MODEL ESTIMATION

After examining the static nature of variables and linearity among them, it is established that all of the model variables are static except for exchange rate, housing facilities, the number of houses and construction costs. Moreover, the value for coefficient of available variables in the model is low and therefore, it could be argued that coefficient between these variables is insignificant and there is no linearity here.

### The fitness of Autoregressive-Distributed Lag (ARDL)

#### The results of short term fitness for the model

The results of short term fitness are based on Showartz bizin criterion by using Microfit software:

**Table 1. Estimating the short term model**

Significance	Statistics t	Factor	Variable
0.018	2.47	0.05	Housing price with one lag
0.034	2.19	0.10	Housing price with two lags
0.007	2.81	0.19	Housing price with three lags
0.000	6.03	0.36	Land price
0.040	2.12	0.17	Land price with one lag
0.012	2.58	0.40	Construction costs
0.004	3.07	2.32	Construction costs with one lag
0.036	2.68-	0.08-	The number of houses
0.045	2.17-	0.13-	Facilities for the housing section
0.527	0.61	0.038	Stock price index
0.041	2.15	0.16	Real exchange rate
0.030	3.77	0.18	Household income
0.479	0.71-	2.13-	Constant factor
	0.89		Determination factor
	1.88		Watson Camera
	0.000		Goodness of fit

Source: the results of the researcher- Microfit output

As shown in Table 1, The factor for housing price are statistically significant with one, two and three lags while having positively significant effect on housing price since expecting higher price in future causes higher price in the present time. With respect to farming products, increase in price will cause price reduction in future since higher price will cause the farmers to cultivate more in the next year. However, since all of the farmers have the same idea, as a result, the production in the next year dramatically goes up and the prices will fall by increasing product supply (spider web model). However, with respect to houses, since producing it takes one or two years, therefore, the producer cannot immediately increase the supply and thereby, the price in the one, two and three seasons ago have positive effect on housing price.

The values for the present and past variables are among the key factors in house provision while positively affecting housing price since the higher the land price, the higher the housing price will be.

By increasing construction costs in the previous and current periods, the construction costs increase and thereby the housing price will rise. As observed, the variables have a positively significant effect on housing price variable.

The higher the number of houses as representatives for supply is, the lower the price of houses will be. As observed, this variable has a negatively significant effect on housing price in the present time.

By granting facilities to the housing and guiding it toward houses, the number of houses will increase and the supply will grow significantly.

Stock price index did not have a significant effect on the housing price in this research. increase in exchange rate has made the imported materials more expensive and on the other hand, it raises the inflation which will be reflected in housing price since by raising the exchange rate, housing price will rise.

**The results of fitness of the model in the long term**

The results related to the long term model are as follows:

**Table 2. Estimating the long term model**

Significance	Statistics t	Factor	Variable
0.000	5.08	0.28	Land price
0.000	3.79	1.02	Construction costs
0.004	2.67-	0.045-	The number of houses
0.032	2.21-	0.074-	Facilities for houses
0.531	0.63-	0.020-	Stock index price
0.041	2.19	0.089	Exchange rate
0.026	3.80	0.097	Household income
0.485	0.70-	1.14-	Constant factor

*Source: The results of the researcher- Microfit output*

Given the above table, all of the independent variables in the long term will have effects on housing price except for stock price index and the model’s Y-intercept. Housing price, construction costs, exchange rate and household income have positively significant effects on housing price in the long term while the number of houses and house facilities has negatively significant effects on the housing price.

**7. CONCLUSIONS**

Given the findings in this study, the results will be as follows:

Variable factor for housing price with one, two, and three lags are statistically significant while having positively significant effect on housing price in the current period. With the increase in land price, housing price will also rise. By increasing construction cost during previous and current period, construction costs will rise and thereby, housing price will increase. The number of houses will have negatively significant effects on housing price in the current period. By having more granted facilities to houses and guiding it,

the number of houses will increase leading to more supply. Stock price index did not have a significant effect on housing price in this study. By increasing exchange rate, housing price rises. By increasing household income, the demand for houses will increase leading to higher housing price.

In the long term, all of the independent variables of the model affect housing price except for stock price index and Y intercept. Housing price, construction costs, exchange rate and household income had positively significant effect housing price while house numbers and facilities to houses had negatively significant effect on land price in the long term.

## **SUGGESTIONS**

Since house facilities play the most important role in housing price fluctuations, it is suggested that the officials be cautious in their policy makings.

The variable of household income shows that houses for applicants is a normal good and by rising income, the demand for the good will increase and its supply should be correspondent with income changes in the country.

The effect of exchange rate demonstrate replacement of the two assets in financial markets which confirms Dutch disease in Iranian economics which requires appropriate measures to be taken in order to prevent its consequences.

Given the effectiveness of housing price and land price, implementing the policies related to removing land value from the whole housing price as a 99 year rent, it could play a crucial role in relative stability or control of housing price fluctuations.

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# THE STUDY OF THE EFFECT OF MARKETING MIX, QUALITY OF SERVICE AND BRAND EQUITY ON CONSUMER'S PURCHASE DECISION

## (CASE STUDY: BIRJAND'S CHAIN STORES)

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### Abstract

*In today's world companies and organizations not only are competing to gain market products and services, but also are trying to align customers' subjective perception with themselves (product, brand, company). The purpose of this study has been to examine the effect of marketing mix, quality of service and brand equity on consumer's purchase decision in Birjand's chain stores. This is a descriptive-correlation and applied research. The study population consists of customers of Birjand's chain stores that according to sampling relationship of Morgan's table 254 of them were randomly selected and research's validated questionnaires were distributed among them. The data using structural equation models were analyzed. The results showed that service quality and brand equity influences consumer's purchase decision but marketing mix has no effect on consumer's purchase decisions.*

*JEL classification: M31*

*Keywords: Brand Equity, marketing mix, consumer's purchase decision, service quality.*

## 1. INTRODUCTION

The increasing development of economic and trade relations in the international arena and the functional complexity of various economic systems and organizations operating in different national, regional and etc levels, have caused to create common systems and interconnected formations. In today's changing environment companies for survival must adjust themselves with changes and be flexible. Providing an adequate infrastructure is of features and main and inseparable components of modern societies and in the competitive world of our era companies are successful that are one step ahead of their competitors in the area of activity (Johnes and Perrott, 2008; Sangeetha & Mahalingam, 2011). In today's competitive world, in order to survive, organizations need to use marketing techniques and marketing specialized research. Studies have shown that companies' unsuccessfulness emanates of their inability to take advantage of marketing techniques. These companies ignore market developments and customers' consumption patterns changes and sell instead of turning to advanced marketing and prefer more profits to customer satisfaction. Marketing, however, is a war but not with a gun, but also as Albert Emrey says in this regard: "Marketing is a civilized war that in most of these battles, companies and organizations succeed that using more favorable words, ideas and intellectual discipline, in other words, those have up to date and coherent marketing management to take steps in fighting with competition scenes (Constantinides, 2004: 124).

Any marketing activity affects the brand equity. The elements of marketing mix are also as a set of controllable marketing variables possessed by company's managers and decision makers that if the relationship between these variables with the brand equity and especially its dimensions are achieved, company's decision makers can better decide on how to use elements of the marketing mix and thus can achieve the maximum brand equity and finally stable profitability (Heidar Zadeh & Zarbi, 1387: 21-58).

From the customer's viewpoint, the value of the brand is based on the associations created in consumer's mind (Pappu & Quester 2006; 317-329). The brand equity concept has been examined from different views, such as the manufacturer, retailer and customer but so far no consensus has been achieved among experts. Although manufacturers and retailers are interested in strategic applications of brand, investors would like to see this concept from financial view. In their opinion, the brand equity is the value of total assets, when it is sold or stipulated on the balance sheet. Proponents of financial perspective consider the brand equity as the incremental cash flow resulting from brand products than non-brand products. Marketers to differentiate brand valuation from other assets look this concept from customer's view. In their views, the brand equity is added only when the customer feels the increase in his favored values. The power of a brand relies on things the customers have learned, felt, seen and heard about the brand over time. Aker defines brand equity as: "a different effect of awareness of brand on the customers' response to brand marketing". The most comprehensive definition of brand equity commonly accepted is one offered by Aker in his view, brand equity is a set of assets and liabilities that are relevant to the brand (Atilgan et al, 2007). Branding is a very practical strategy to differentiate the service and manufacturing industries and in today's world companies and organizations not only are competing to gain market products and services, but also are trying to align customers' subjective perception with themselves (Product, brand, company) (Usakli & Baloglu, 2011). But often there is not a proportionality between managers' cognition of customers' perceptions and expectations and their real perceptions and expectations and it would damage the quality of services (Prayag, 2007).

Customers or services receivers evaluate the quality of services by comparing their perceptions and expectations with services received (Vargo & Lusch, 2004). In better words, the customers are responsible for judging the quality of service and the quality of service is formed based on customers' needs and expectations. Acquiring new customers and keeping existing customers have always been known as two major approaches in service organizations and differentiating in various service sectors is considered as a key factor to implement these approaches. If the look of organization to the issue of quality of services is as an effective element in providing differentiated services, the importance of evaluating the quality of services offered to customers appears more than ever. Evaluating the quality of service, due to being subjective, heterogeneous and inseparable, is a process with many difficulties. Unlike commercial goods and products which have specific features such as length, width, height, weight, color, etc, services can involve numerous subjective and qualitative features. Furthermore, customers' expectations of received services may be formed based on a range of factors such as previous experience, personal requirements and others' opinion and it will lead to expand the gap between customer's expectations and services received from organizations (Amin et al., 1390). Therefore, in order to understand consumer's behavior, it is very important to recognize the structure of consumer's mind involvements and this word is often used to understand consumer's behavior regarding a particular issue. Many researchers consider this variable as the most important variable in marketing literature because of its high predictive value in buying behavior (Heidar Zadeh & Taghi Pouriyan, 1391). In recent years, this concept because of studying and examining buyer's behavior has received much attention, because it has very effect on consumers' purchasing and their communication behavior (Bhattacharya & Saha, 2013).

Given the importance of marketing mix and the quality of services as the factors affecting the branding and its impact on consumers' purchasing decisions, we can refer to these factors as fundamental strategies in increasing sales of products and services as well as maintaining existing customers and attracting new customers with the aim of providing further benefit to customers. Now the main question is that: what are the effects of marketing mix, quality of service and brand equity on consumer's purchase decision in Birjand's chain stores.

## **Research background and theoretical framework**

### **Marketing mix**

The traditional marketing mix was first raised by McCarthy and consists of product, price, place and promotion. Yoo et al. (2000) according to traditional marketing mix elements suggest price, store mental image, distribution volume, cost of advertisements and price preferences as the elements of customers' perception of marketing mix. Price is considered as a quality indicator or products' benefits. Store mental

image is an important external indicator for customers to understand the quality of products. High distribution volume is when products are available in a large number of stores in a market. Advertisement is an appropriate criterion for quality of products. On the other hand, price preferences are as means of promoting sale (Yoo et al, 2001: 195-211).

### **Brand equity**

The concept of brand equity that emerged in the early of 1980s has attracted the attention of marketing marketers (Bravo et al, 2007: 58). Brands as companies' valuable and long-term asset should be managed. In consumer marketing, brands are the primary distinction between competitive suggestions and can be posed as critical factors for the success of companies (Wood, 2000).

Wood also suggested that the effort to define relationships between customers and brands led to emergence of "brand equity" concept. In marketing, brands are often the starting point, the distinction between products and offered services and products and services competing in the market, so that it plays a vital role in the success of organizations. In recent years, the issue brand and especially brand equity have attracted the attention of researchers in the field of marketing and academics, and so far has been the subject of extensive research. Identification of constituent structures of brand equity and examination of different marketing activities that strengthen these structures on one hand, and providing models for measuring brand equity on the other hand has become an irrefutable thing for different companies and industries. Although current research has focused on conceptualizing brand equity, so far no consensus about how to measure it and which structures must include a process measuring brand equity, has been reached (Atilgan et al, 2007).

Today, many organizations have come to believe that one of their most valuable assets is the brand of their products and services. Many researchers have also noted that creating a powerful brand is one of the key factors for achieving competitive advantage and long-term survival in the market (Santos et al, 2013).

Personal interaction between service provider and customer affects the customer's attitude through two ways. Firstly, to what extent the employees act in line with expectations and demands of customers and secondly, emotional reactions that employees show during interaction with customers (Biedenbach et al, 2007).

Companies that utilize personality and brand equity as part of their overall positioning strategy properly can affect consumers' perceptions much more than gradual and more stable methods relating to other communication strategies (Burke, 1994). Brand equity is brand status and its ability to import and raise expectations that the consumers use these expectations to define the ideal product group and it indicates that how the consumers see the product group and how to compare the suggestions of product group and finally buy this product group (Passikoff, 2006).

### **Quality of Services**

Today, the issue of quality of services is a global business with commercial value and has possessed about 20 percent of world trade. The service sector is one of the key economic sectors of each country. Advanced countries around the world after equipped with industry, mine and agriculture labor now have realized the increasing importance of services as the driving force for growth and development. The essential thing is that in the culture of each country the place, role and performance of customer must be defined and explained properly and providing service to the customer should be mentioned as a value and be acted so as to the organizations put in the right direction, consequently it will result in customer's satisfaction and more importantly customer's happiness and loyalty (Jamal & Anastasiadou, 2009; Kassim & Abdullah, 2010; Tsoukatos & Mastrojianni, 2010). The quality of service has been defined as: subjective comparison done by the customer between the quality of service that customers want to receive and what they really gain. The quality of service is considered as an organizational asset and an important factor in company's financial performance and marketing (Kassim & Abdullah, 2010). The quality of service is a stable criterion which shows how much the offered service matches with customers' expectations (Foroughi et al., 2001). Evaluation of the quality of services is more complex than the

evaluation of the quality of products; because services have a heterogeneous, inseparability of production and consumption, perishable and intangible inherent nature (Kbaba, 2006).

Lee et al. (2010) describe the quality of services as a general opinion and attitude relating to service excellence and believe that notice to the quality of service is a reflection of the amount and direction of difference between customer's perception and expectations. The results of research done by Kheng et al. (2010) showed that the improvement of the quality of service can increase customer loyalty. Also, the results showed that reliability and empathy of the quality of services have significant role in increasing customer loyalty. Customer Satisfaction has been considered as the main outcome of marketing activities and processes related to services, maximum increase in purchase and consumption with post-purchase phenomenon such as attitude change, customer retention, brand loyalty, positive mouth to mouth communication and complaint-like behavior (Arambewla & Hall, 2006).

### **Purchase decision making**

According to definition of Chifman and Kanouk (2004), decision making is selecting a way of two or more options possible, when the person has a choice between shopping and no-shopping, a choice between brand A or brand B, or a choice for spending time on work A or B, it is said that person is in a position to make decision (Lin and Chen, 2000).

Customer's purchase decision making depends on special exchange behavior created after an overall assessment of consumers or customers about a product. Purchase intention is a perceived reaction toward person's attitude about an issue. It means that customer's purchase decision making has been formed by an assessment of products or attitude toward a brand with combined external stimuli factors (Lin et al., 2003).

Purchase decision making refers to the possibility that customers in a purchase position buy a particular brand of a product category (Crosno et al, 2009).

## **2. RESEARCH BACKGROUND**

Huang and Sarigöllü (2012) have investigated the relationship between brand awareness and brand equity and marketing mix. The results showed that there is no relationship between brand awareness and sales, market share and brand equity. Also, the hypothesis of the influence of advertising on brand awareness has not been verified. The analysis in this study indicates that there is a positive relationship between distribution and brand awareness and between price and advertisement.

Beristain and Zorrilla (2011) in order to investigate the ways of increasing brand equity in chain stores examine these two variables: store image and price. The results showed that store image is considered as an important factor for retailers to increase their store's brand equity. In this study the relationship between image and quality, loyalty and brand awareness has been evaluated meaningful and positive and also the results indicate a positive relationship between price and loyalty, awareness and a negative relationship between price and quality. Kim and Hyun (2010) in a study entitled "the effect of marketing mix and company image" examined the relationship among marketing mixes which includes brand equity in industry, performance of distribution channel, pricing based on value and after-sales service, with company image on three aspects: brand equity including brand awareness, perceived quality and brand loyalty. In this study, the variable company image as a moderating variable moderates the effect of marketing mixes on brand equity. The results showed that the performance of the marketing mix has a positive relationship with brand equity and company image moderate the effect of marketing mixes on all three components of brand equity.

Villarejo and Sanchez (2005) in Spain conducted a study on the relationship between some elements of the marketing mix and brand equity about a category of durable goods which was on the basis of Aker's theory about brand equity. Hypotheses believed that marketing activities (advertisement and pricing) impact on brand equity. Findings showed that there is a positive relationship between the amount of advertisements and three aspects of brand equity, including perceived quality, brand awareness, and brand

imagination. Price promotion had a negative effect on brand. Moreover, a positive relationship was observed between brand awareness and brand imagination.

### 3. RESEARCH HYPOTHESES

1. Marketing mix influences on consumer's purchase decision making.
2. The quality of service influences on consumer's purchase decision making.
3. Brand equity influences on consumer's purchase decision making.

#### 3.1. RESEARCH METHODOLOGY

The present study in terms of aim is a practical one. In terms of data collection and analysis method, it is a descriptive and non-experimental study and in terms of implementation, it is a survey study. The most important and most useful way to classify the variables and the role that research plays is to divide them into two independent and dependent variables, independent variable is measured, manipulated and selected by the researcher to measure its impact on or its relationship with another variable (dependent). Independent and dependent variables in this study include:

- A. The dependent variable is: consumer's purchase decision.
- B. The independent variable is: marketing mix, quality of service, brand equity.

The study population consists of customers of Birjand's chain stores that according to sampling relationship of Morgan's table 254 of them were randomly selected and research's validated questionnaires were distributed among them. In order to analyze data and perform structural equations model, LISREL software was used.

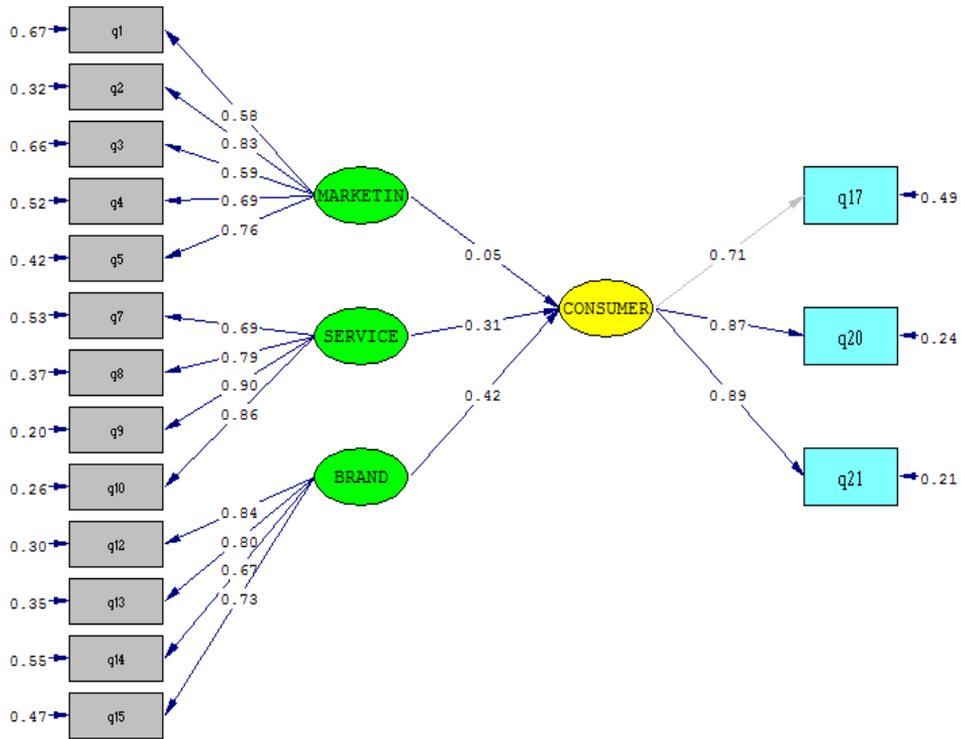
Structural equations model is a comprehensive statistical approach to test hypotheses about the relationship between observed and latent variables (Hoyle, 1995). Through this approach we can test the acceptability of theoretical models in particular communities using correlation, experimental, and non-experimental data.

The necessity of structural equation model in this study: one of the strongest and most appropriate analysis methods in research of behavioral and social sciences is multivariate analysis, because the nature of such issues is multivariate and they can not be analyzed by two variables methods (that each time only one independent variable with one dependent variable is considered). Multivariate analysis refers to a series of analysis methods that their main characteristic is the analysis of K independent variables and N dependent variables. Covariance Structures Analysis or Causal Analysis or Structural Equations Model is one of the main methods of analyzing structures of complex data. Hence, because there are several independent variables in the present study that their impacts on the dependent variable must be examined, the use of structural equation modeling will be necessary. The present study is retrieved from villa Terry and Ferdinand model (2015) who examined the effect of marketing mix, quality of service and brand equity on consumer's purchase decision.

#### Findings

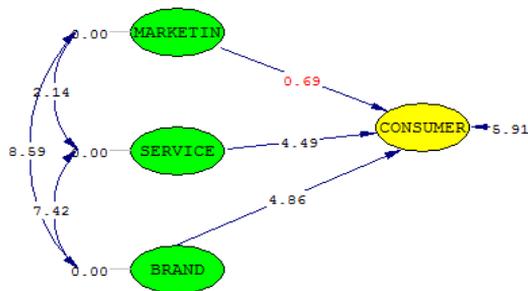
The general research model in T-value state has been shown in above Figure and as you can see the indicators of fitting model in this Figure are close to available and prescribed standards. As the above figure shows all significant coefficients except marketing mix are greater than 1.96 indicating the approval of confirmatory factor analysis in the second stage.

The results indicate the suitability of the RMSEA index. RMSEA value is equal to 0.067. The limit value for RMSEA is 0.08. Given the LISREL output, the value of calculated  $\chi^2$  is 209.45 that compared to 98 degrees of freedom is less than 3 and given the significant lack of P-Value, it implies on good fit of Chi-square statistic. Indices AGFI, GFI and NFI are equal to 0.87, 0.91 and 0.95, respectively.



Chi-Square=209.45, df=98, P-value=0.00000, RMSEA=0.067

**Figure 1.**  
Source: Author



Chi-Square=209.45, df=98, P-value=0.00000, RMSEA=0.067

**Figure 2.**

Source: Author

**Table 1.**

Fitting Indices	Recommended values (Momeni, 1392)	Values in this study
$\chi^2/df$	$\geq 3$	2.137
Adjusted Goodness of Fit Index (AGFI)	$\leq 0.8$	0.87
Root Mean Squared Error of Approximation (RMSEA)	$\geq 0.08$	0.67
Normed Fit Index(NFI)	$\leq 0.9$	0.95
Non-Normed Fit Index(NNFI)	$\leq 0.9$	0.96
Comparative Fit Index(CFI)	$\leq 0.9$	0.97
Incremental Fit Index(IFI)	$\leq 0.9$	0.97
Goodness of Fit Index(GFI)	$\leq 0.9$	0.91
Pnfi	$\leq 0.5$	0.77

Source: Author

First hypothesis of study: marketing mix influences on consumer’s purchase decision making.

Research hypotheses

H0: Marketing mix does not influence on consumer’s purchase decision making.

H1: Marketing mix influences on consumer’s purchase decision making.

As in Figure 2 can be seen, in T-value state significance factor is between -1.96 and 1.96 which represents the factor analysis is rejected. Therefore, hypothesis H1 is rejected and hypothesis H1 is accepted, it means that marketing mix has no effect on consumer’s purchase decision making.

Second hypothesis of study: the quality of service influences on consumer’s purchase decision making.

Research hypotheses

H0: The quality of service does not influence on consumer’s purchase decision making.

H1: The quality of service influences on consumer’s purchase decision making.

As in Figure 2 can be seen, the model of first hypothesis of study in T-value state has been plotted. In this state all significance factors are larger than 1.96 indicating the approval of confirmatory factor analysis. Therefore, hypothesis H1 is rejected and hypothesis H1 is accepted, it means that the quality of service influences on consumer’s purchase decision making.

Third hypothesis of study: brand equity influences on consumer’s purchase decision making.

Research hypotheses

H0: The brand equity influence on consumer’s purchase decision making.

H1: The brand equity does not influence on consumer’s purchase decision making.

As in Figure 2 can be seen, the model of first hypothesis of study in T-value state has been plotted. In this state all significance factors are larger than 1.96 indicating the approval of confirmatory factor analysis. Therefore, hypothesis H1 is rejected and hypothesis H1 is accepted, it means that the brand equity influences on consumer’s purchase decision making.

#### 4. CONCLUSIONS

As was observed with respect to obtained results, factor analysis in the first hypothesis, was not confirmed, it means that marketing mix does not influence on consumer’s purchase decision making.

Consequently, this hypothesis is not confirmed that is not consistent with the results of Kim and Hyun (2010). Therefore, selecting appropriate distribution channels for distribution of products in valid stores of Birjand can cause easier access to desired products and thereby brand equity strengthens. Also, proper planning regarding price as one of the marketing mix factors such as lower prices per more purchase, amount of discount, and discount methods is considered.

Strong public relations and advertisements in the city are also considered as promotion factors in marketing mix. In addition, selling quality products with warranty and guarantee and after sales service can affect consumer's purchase decision.

Also, the results obtained of the second hypothesis confirm the factor analysis, it means that quality of service influences on consumer's purchase decision making. Consequently, this hypothesis is confirmed that is consistent with the results of Lee et al. (2010) and Kheng et al (2010). Therefore, since the quality of service provided has positive effect on consumer's purchase decision making and poor services will result in negative impacts on consumer's purchase decision; so administrators need to continually improve the quality of services provided and more supervision on services provided.

In addition, according to the results, factor analysis in third hypothesis has been confirmed, it means that the results showed that brand equity influences on consumer's purchase decision making. Consequently, this hypothesis is confirmed that is consistent with the results of Burke (1994). Hence, companies by taking advantage of capable managers should codify comprehensive plans regarding brand as well as great advertising regarding product. Also, the company must consider subjective position introduced for a brand as a key factor in strategy design, operation and development of products and services.

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# EVALUATION OF QUALITY OF LIFE IN URBAN INFORMAL SETTLEMENTS IN URBAN MANAGEMENT PERSPECTIVE, CASE STUDY: CITY OF MAHSHAHR

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## Abstract

*Today the city, urban planning and urban management is facing with the quality issues more than anything. Formation and development of the concept of quality of life in nearly half a century has become the key concept in the field of global issues and humanitarian issues. Statistics indicate that the population of the metropolitan cities and many medium-sized cities in the fragile habitats in urban slum settlements have taken the place of the poorest areas. Urban population groups are usually living residents the area below the poverty line or the maximum level. City of Mahshahr is one of the industrial cities of the country and the province of Khuzestan, which due to the oil industry in recent decades faces with the phenomenon of irregular migration Informal settlements. The city studied and identified as a total of seven informal settlements by Ministry of Urban Development and the City. In this study paid attention to quality of life in urban settlements. This study aimed to identify the quality of life in urban informal settlements of Mahshahr of urban management perspective to the satisfaction of the citizens' quality of life the settlements. Also urban management practices and be able to improve the situation. Descriptive analytical method is applied to nature with studies and international experience in the quality of urban life and its indexes, various indicators are extracted and with the limited number of directors and are located of Mahshahr urban management specialists in terms of the indicators examined. The analysis of the questionnaire data showed Level of satisfaction with the overall quality of urban life and all its four indicators, not even in the middle between low and medium.*

*JEL classification: I31*

*Keywords: Quality of life in urban informal settlements Index - Urban Management of Mahshahr*

## 1. INTRODUCTION

The concept of life, or QOL over the decades has emphasized the Scientists have been reviewing various scientific fields and multiple indices Sometimes has been the opposite. Due to the multidimensional concept of quality of life and is interdisciplinary, from different perspectives and in a wide range of Studied and practiced. For example, physical and mental quality of life, Quality of life, disability, quality of life, quality of life of children, the quality of urban life and ... Each of which can be examined more specific as to the quality of life of patients with schizophrenia, Quality of life in patients with organ transplantation, quality of life for residents of nursing homes, Quality of life for children in the orphanage, the quality of life of residents of informal settlements or Suburbs and many other similar and different dimensions (Hall, 2002).

During the last two centuries of urban growth and the increase in urban areas in the world. The quality of urban life is widely regarded by scholars and urban planning put urban problems. Investigate this phenomenon in urban informal settlements it is also a measure of the perspectives that are of interest to planners and City managers is to provide better service to these areas. (Guided, Shah Hussain, 2004)

There was a relationship between domestic and foreign literature research on the quality of urban life.

Researchers from different scientific disciplines, the concept of quality of life in the 1930s have studied so far (Ulengin et al., 2001). The initial research efforts in the field of urban life and its indexes, World of Western scholars (Camp Bell, Kavrz ,Rvdgrz In, 1976; Green, Vrvf, Feld,1960, etc.) in various disciplines

such as sociology and Psychology began working there (Tuan Seik, 2000). And try to find indicators and issues related to health and Mndyhay people living in cities have social and psychological benefits. Western thinkers in the field of comparison and evaluation of the quality of life based on different geographical regions Such as cities, states, provinces, and nations, and through the use of relevant indicators of the Can be Louis, 1976, Boyer and Savagy 1981, Blvmkvyst and others, 1988 Stover and Loon; Sophie 1992 and 1993 have been reported. Liu five indicators, Boyer and Savagy indicators, six, and five indices Stover and Levon indicators to provide a 15-fold (Ulengin et al., 2001).

The documentary research on the quality of urban life in Asia than done. Documentary research, including research in Asia as people like Kim and Shin of South Korea, January in Thailand, Hong Kong and Shen Li, Wang and Fu Chi, Taiwan, China and Singapore pointed (Tuan Seik, 2000). Dr. Fu in Singapore using a sample size of 1903 and 2187 in 1997 and 1998, the indices of 14-fold and 18-fold from the previous studies, research, Subjective evaluation of the quality of urban life, which is the final 1997 Was presented at the first international conference on quality of life in cities and then proceed to Objective assessment of the quality of urban life, has completed its work and it has continued. In Iran, there have been studies that indicators such as urban life quality index was introduced. Dahlia (2004) The study examined the quality of urban life in the city of Khorramabad that The indicators are introduced for measuring quality of urban life, including social, Leisure, conceptual and aesthetic, economic and physical infrastructure, Communication and transportation and the environment. Imani (2006) Quality of life in the town of Kavos dome is examined the main indicators are presented, including facilities and health services, communications, environmental, Physical, social and economic.

### **Statement of the problem**

The concept of quality of life, while attention has been earliest studies of the health and rehabilitation of the disabled, disability, sex, physical and mental, the elderly, children and women. In fact, the definition of the concept of layers of people and were used, due to social, economic, cultural and physical problems and many His life has been great (Amin, 2006). But now this concept to all human groups and in different forms and Extends the quality of urban life of residents of informal settlements is one of them. The overall objective of raising the quality of urban life, modification and the evolution of the concept of sustainable development has been little growth. Preliminary studies on quality of life in cities and urban areas in developed countries and Developing, from 1970 onwards focused attention (Pourjafar et al., 2005) In the meantime, however, little consensus exists on the definition of quality of life, but it can be a simple definition and application of "satisfaction with one's life" as he (Tuan Seik, 2000).

Despite the fact that in the system of planning and urban management to topic Quality of urban life, and especially the residents of informal settlements and little attention has been Unlike many other countries, even in reference to the provision and monitoring of specific issues, Axes, indicators and levels of satisfaction and quality of life of citizens (Especially in urban areas as the main focus for environmental and human life) and There have been problems associated with it. Thus, given the lack of data In this regard, helping to improve the quality of life of citizens who At the national level and at the level of central government and local governments (the most significant and most prominent example The political system of municipal and city councils) have been performed. In the meantime, the quality of life for the calculation and modeling priorities and expectations Real needs of citizens, development of criteria and indicators of quality of life in urban and essential will be a basic requirement. In order to fully understand and define the precise measurement informal urban quality of life, identifying and developing the initial step appropriate and local indicators in addressing the issue of the quality of urban life.

## **1.2 IMPORTANCE AND NECESSITY**

The necessity and importance of the quality of urban life are as follows:

1. One of the main topics addressed in the general policies of the Islamic Republic in the 20 years, the issue of quality of life, health, food security, physical education, poverty alleviation and support groups Vulnerable and social justice groups. In this regard, the Ministry of Cooperatives,

Labor and Social Welfare as trustee of the issue is that the findings of this study can provide useful data for future planning in the ministry.

2. Quality of Life in a society and its influencing factors can achieve Planners and Decision makers in the system to help the effective design and applications finally, to enhance the well-being and satisfaction of the population will result.
3. Low levels of quality of life in a community, a very important factor in the increase Social ills in the society would, therefore, seem to address this issue and Influencing factors include ways to enhance the quality of life, provided that finally, prevention and harm reduction and social distortions will result.
4. Due to the quality of life in the topic has been paid and the subject of many scientific disciplines Neglected, the need to address this issue and a comprehensive collection of literature is important and necessary.
5. Given the geographical location and the cultural, social, economic and physical unofficial places of Mahshahr, to see how the quality of life for its citizens and
6. Do check the quality of life in urban management system has successfully targets, tools, opportunities, Threats, Challenges, capabilities and practices to include in your planning and to prioritize them?

Therefore, to identify indicators of the quality of urban life from the perspective of urban management Informal settlements in of Mahshahr must consider two things: First, it should be good indicators of the political, social and economic Iran of Mahshahr extracted and examined the second city of the parameters of interest from the perspective of urban management. These two points in this article, the main focus of studies and surveys on it.

### 1.3 OBJECTIVES

The main objective of this study was to assess quality of life in urban informal settlements in urban management is of Mahshahr perspective and its sub-goals are:

1. Identification of indicators and international experiences and the quality of urban life.
2. The implementation of global indicators of quality of urban life in the city and of Mahshahr Urban management system from the perspective of managers and professionals such indicators can be used in mining, Application and measurement of informal settlements in of Mahshahr.
3. Access to the satisfaction of the residents of informal settlements and the quality of existing services in of Mahshahr.
4. Access to the status quo and current trends in the management of urban services in informal settlements in of Mahshahr.
5. Evaluation of strategies, policies and programs in the field of urban management, urban quality of life in urban informal settlements of Mahshahr.

## 2. LITERATURE

- Khadem et al. (2010) is discussed a study of subjective quality of life as In urban areas, the subjective quality of life in urban areas (city Nurabad Lorestan). In this study, quality of life is a multidimensional concept of physical development and approval of facilities, social capital, subjective well-being, the local environment and the peace of the city, its dimensions are in Nurabad.

- Ali Akbari et al. (2010), a research on the subjective quality Urban Life in Iran Come to the conclusion that the quality of urban life in the intensity of Urbanization has affected society and studies to assess the quality of urban life As necessary, along with a little research and Physical and urban development plans at the national and local cities to be considered.

- Hussein task friends and colleagues (2010), in a study to determine the degree of importance Indicators of the quality of urban life in Tehran, studies on urban management, the first year, 3. Numbers of Tehran to assess the importance of quality of life From the perspective of urban professionals and managers, as well as studies and international experience Quality of life in urban areas resulting from various factors Different experiences and then extract the spatial and temporal parameters By the number of managers and professionals of the importance of urban management Tehran The quality of urban life, criteria and categories of political and administrative circumstances, Urban systems and especially the localization of metropolitan Tehran.

- - Tuan Seik A study in the Journal (2000), Habitat International, 24, PP31-41 to study the quality of urban life in Singapore.

- - Profect, Michuel and Power, gorden in 1992 to plan to have the quality of life in the City of London.

- Ibrahim et al. (2003), suntosand martins (2007) - also using subjective measures of quality of life in urban areas have to study.

- Dos in 2008 proposed a conceptual framework for measuring the quality of urban life is the relationship between the environment and quality of life shows.

- Mccreaetal (2006) and Brereton et al. (2008) also using objective and subjective indicators of quality of life have been devoted to the study.

## **2.1- RESEARCH QUESTIONS AND HYPOTHESES**

1. Does the world experience in the field of urban life quality or performance benchmarks in the informal settlements of Mahshahr as well?

2. What level of quality of urban life in what has been done and their possible indicators?

3. satisfaction of citizens living in informal settlements in urban of Mahshahr of Directors regarding the amount and quality of life What is the service?

4. Does the individual variables of age and gender on the quality of life for urban residents of informal settlements in of Mahshahr influence?

5. How can the quality of life in urban informal settlements of Mahshahr upgrade? What is urban management strategies, policies and programs?

According to the hypothesis that these questions can be stated as follows: It seems the quality of life in urban informal settlements in of Mahshahr can be used to upgrade the urban management.

## **3. METHODOLOGY**

Achieve the goal of science and scientific knowledge will be possible, But when done right methodology. In other words, in terms of research, Credit is not the subject of investigation. The researcher should note that Credit Research results strongly influenced by the way in which credit has chosen for his research (Khaki, 2007).

Survey questionnaire survey will take place using the techniques in of Mahshahr. Population (target population) study, which included a number of resident Using stratified sampling based on population and informal neighborhoods Morgan will be extracted and the pattern selection will be random.

### **3.1- INTRODUCED VARIABLES AND INDICATORS**

Parameters examined in this study, in five economic class, housing, social and cultural rights, Health and the environment, infrastructure and utilities The Importance of urban management approaches were examined. These classes are reduced by eliminating the four-store house.

50 variable parameters of the above classes, in the questionnaire survey and the Importance of urban management perspective were asked to remove the 16 variables, 34 variables the final questionnaire was used to measure citizen satisfaction.

### **3.2- RANGE AND SCOPE OF RESEARCH**

Informal settlements in of Mahshahr Special features such as orientation and migration in these settlements, mainly in the provinces and Formed in different periods and the city is a lag in the Creates countless corners of the city.

The formation of this phenomenon in of Mahshahr Result of rapid industrialization and Irregular migration induced by Migration issues of war on the one hand, the economic problems and lack of management unit and Coordinating the development of this phenomenon is the underlying.

Settlements identified in the city include:

- Taleghani town;
- Shahid Rajai Town;
- Former council houses;
- Final of sharifi;
- Ravaged Nopazh;
- Karyabi;
- Camp Yahyakhan;
- Madani town.

All sites listed above (except civil settlements) are located within the city.

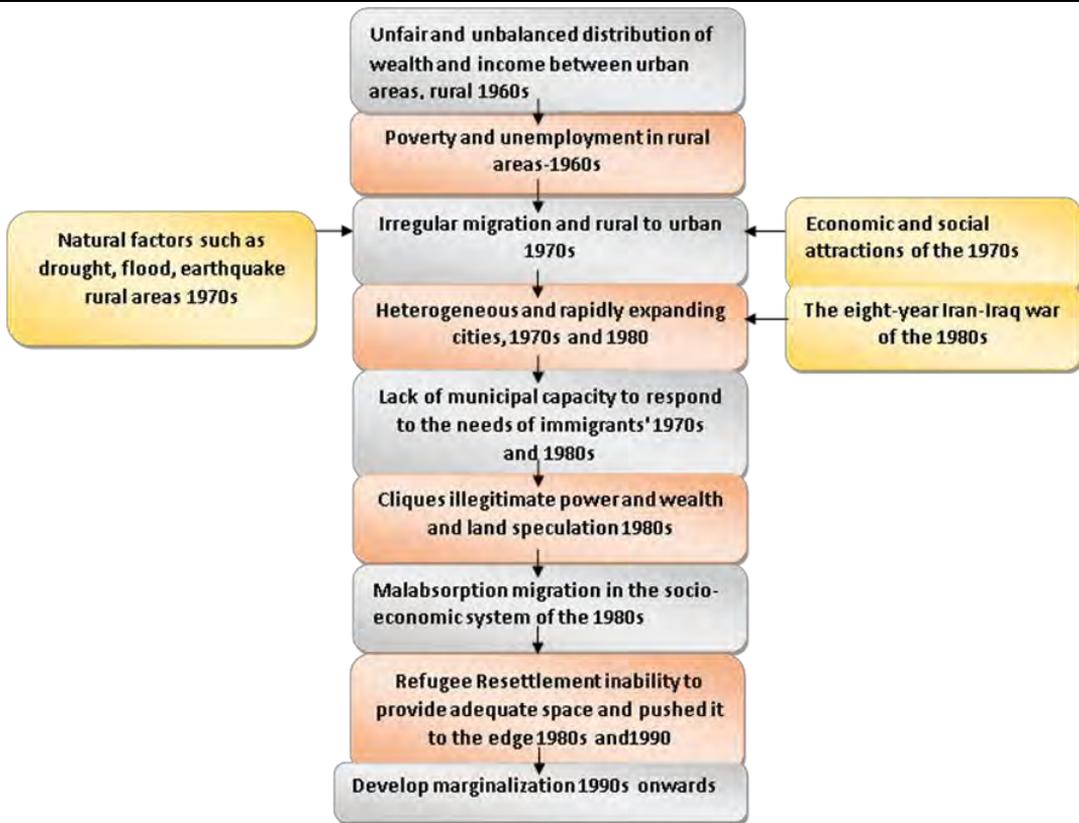
## **4. CONCEPTS, THEORETICAL PERSPECTIVES AND RESEARCH**

### **Quality of Urban Life**

However, the quality of urban life are different concepts of quality of life and The definition and example of the quality of life in the city and its issues, and Certainly limited, but the extent of the problems of urban and binding of with almost all the issues of everyday life and Most of the urban life in human society, and the quality of urban life Quality of life has been very close together, and the same can be said (Pourjafar et al, 2005).

Today, in light of the influence of the quality of life in urban issues, the new approach is based on planning that considers urban planning to the psychological needs, environmental, social and economic as well as satisfaction, happiness, Security, high-quality housing, access to services, employment expectations, social identity, sense of place, etc. In addition to physical objects - functional note. In fact, life satisfaction at different geographical levels as a single neighborhood, community, and regional and local occurred It has been shown that the levels of geographic influences on life satisfaction (Mc Crea et al., 2004). And so that is taken the concept of quality of life and quality of urban life and the concept of autonomy.

At the municipal level, the city can find scores and quality of life Planners in benchmarking and comparative evaluation of quality of life in other cities Similar to previous studies in a specific city or region help. Using the combination of Different levels of life satisfaction scores and scores and City of monitoring indicators will be similar. Comparisons with other cities and Or applicable national and international level. These indicators and methods are well adapted over time. Comparison of the quality of life in urban projects (based on the results and indicators of a specific city or region) has been performed commonly in many countries, such as Australia (Stokie, 1998) and the US (Besleme et al., 1998).



**Figure 1: The process of urbanization and the spread of marginalization in of Mahshahr**

*Source: Author*

In any event, however, to determine the suitability up Quality of urban life is beyond a particular scientific field. (Shokuei, 2006) But various studies, different definitions and even a few guns from Quality of urban life that are some of the most important ones are as follows:

- Some indicators of quality of life in neighborhoods or Neighborhood unit as a connection suggest where Indicators of social well-being and happiness, specifications and characteristics of the land, across all of the intended crime and economic power (Schyns,Boelhouver, 2000).
- The quality of urban life may be a good feeling from a combination of factors related to the sense of place or places, such as readability identity, collective memory and historical sense. What is important here is directly related to the affective (emotional) that we made with the environment around us. In other words, our feelings or our mental and emotional reaction between the form and its main components (Profect et al., 1992).
- The quality of urban life often by subjective indicators using measurements in order to collect the subjective perception and evaluation of urban life and citizen satisfaction By objective indicators and the use of secondary data and weighting of each indicator The urban environment is done, although the objective and subjective indicators of the quality of urban life Rarely are interrelated and interdependent (McCrea et al. 2004).

According to the above definitions and the principal elements of them, it can be Quality of urban life and operationally defined as follows:

"The quality of urban life, word contains two sets of subjective indicators (qualitative) and objective (quantitative) that with regard to the social, cultural, economic, political and Environmental seek material and spiritual needs of citizens and Planning Maximum satisfaction from life.

## 5. MAIN ARGUMENT

### Descriptive Analysis

Concurrent with the development of the quality of urban life in human societies, as well as indicators have increased in quality and quantity. For example, while the standard or Group of economic indicators in 1960, including four or five or index variable, Institute for Quality of Life Studies in Jacksonville In 2007, the 12 indicators have been included. Classification criteria and indicators of quality of life in urban have qualitative and quantitative growth.

Table 1 shows the respondents' satisfaction with the quality of urban life in the form of a cross.

Looking at the table, we find that in any medium Mean satisfaction even there. Overall levels of satisfaction with the following criteria: economic indicators (2/57), social and cultural factors (2/50), indicators of infrastructure and utilities (2/39), and health indicators environment (2/32).

The economic indicators exist in the highest level of satisfaction, the index of employment opportunities (2/77) and the lowest satisfaction, the cost of food and clothing (2.24).

There exist the social and cultural indicators, the highest level of satisfaction of the index and the response to the emergency department (2/88) and the lowest satisfaction index and per capita number of sports and recreational spaces (2/04).

There exist the index of infrastructure and utilities, the highest level of satisfaction, the utility index (2/74) and the lowest satisfaction, the development of distressed areas (1/97).

There exist the indicators of health and environment at the highest level of satisfaction, the life expectancy (56/2) and the lowest satisfaction, the extent of health services (1).

If the simple weighted average quality of urban life was studied as a general indicator of the quality of urban life are considered, Citizen satisfaction with informal settlements City MAHSHAHR is equal to 47/2, between low and medium Indicates the quality of life of the citizens of poor neighborhoods.

Given that the indicators examined in this paper in the form of a questionnaire City managers and residents MAHSHAHR informally circulated and the importance of each of these indicators in the results of the questionnaire is scored. Indicators and 34 variables in four categories as the basis for assessment of quality of life in urban informal settlements located in MAHSHAHR.

Reviewing and analyzing the results of the questionnaire was MAHSHAHR and citizen satisfaction living in informal settlements and urban quality of life measures the indicators show that the simple model Measure the quality of urban life and overall life satisfaction put to the researchers.

While the results of the initial substrate suitable for urban management to identify weaknesses and Municipalities provide further strength to the survey, the reasons for satisfaction or Dissatisfaction of citizens of different indicators to detect and fix problems Weaknesses, the quality of urban life and satisfaction among residents of informal settlements to promote.

**Table 1. Respondents' satisfaction with the quality of urban life**

Average satisfaction		Indicators	Category index
2.57	2.24	Cost of food and clothing	<b>Economic</b>
	2.60	Health care costs	
	2.73	Monthly income	
	2.87	Career Opportunities	
	2.51	Public and private sector investment	
2.50	2.24	Social participation	<b>Social and Cultural Rights</b>
	2.28	Level of education	
	2.53	And the per capita number of training centers	
	2.04	And the per capita number of sports and recreational spaces	

Average satisfaction		Indicators	Category index
	2.43	Status of accountability and time of the fire	
	2.88	Status of accountability and time during emergency	
	2.78	Status of accountability of the police and being on time	
	2.19	Public Security	
	3.28	Distribution and access to mosques and other religious places	
2.32	2.24	Establishment and sewage discharge	Health and environment
	2.36	Atmospheric surface water disposal	
	2.46	Collection and disposal of garbage and waste	
	2.34	Urban green space and its expansion	
	2.44	The number and density parks (Park)	
	2.41	Habitable space	
	2.25	Public health	
	2.48	Child mortality	
	1.94	Expansion of health services	
	2.03	Number of hospitals and medical centers of population	
2.39	2.56	Life expectancy	Infrastructure and utilities
	2.31	Public transport	
	2.67	Drinking water facilities	
	4.28	Electrical installations	
	4.28	Gas installations	
	2.35	Fit and proper distribution of land	
	2.64	Status of housing standards	
	2.03	Pathways and streets	
	1.97	Upgrading of old texture	
2.04	Municipal facilities and equipment		
2.47	<b>Overall quality of urban life</b>		

Source: Author

### 5.1. INFERENTIAL ANALYSIS

Table 2 shows the results of the hypothesis of equality of means for each of the four-store urban quality of life by 5/3 (between medium and high) with the use of Student's t-test, the test is examined. Average satisfaction with 5/3 in all four categories of equality is rejected and given the negative mean difference, all the indicators are satisfied significantly as an average of less than 5.3.

**Table 2. The hypothesis of equality of the means of satisfying the four-store urban quality of life by 3.5**

Test Value = 3.5						Category index
1-a=0.95		Mean difference	Significant Two-sided	Degree of freedom	t	
Upper limit	Lower limit					
-0/8530	-1/0048	-0/9289	0/000	379	-21/073	Economic
-0/9353	-1/0642	-0/9998	0/000	379	-27/499	Social and Cultural
-1/0443	-1/1750	-1/1097	0/000	379	-34/317	Infrastructure and utilities

Test Value = 3.5						Category index
1-a=0.95		Mean difference	Significant Two-sided	Degree of freedom	t	
Upper limit	Lower limit					
-1/0784	-1/2814	-1/1799	0/000	379	- 37/776	Health and environment

Source: Author

**Table 3. Analysis of variance equality mean satisfaction four Class urban quality of life**

Significance	F	Mean square	Degrees of freedom	Sum of squares	Class indexes
0.000	47.575	31.305	3	93/915	Intragroup
		0.658	1516	998/350	Intergroup
			1519	1092/265	Total

Source: Author

In Table 3, assuming equal means the satisfaction of a four-store urban quality of life Using analysis of variance was tested and the results are presented. The hypothesis (equality of mean satisfaction in four classes) was also rejected. This means that the average satisfaction of the four classes among citizens in informal settlements there are significant differences in MAHSHAHR.

**Table 4. Effect of gender on satisfaction with Overall quality of urban life**

Significance	F	Mean square	Degrees of freedom	Sum of squares	Subjects
0/309	2.081	0.123	1	0.123	Intragroup
		0.0591	378	22.357	Intergroup
			379	22.480	Total

Source: Author

In Table 4, using analysis of variance to assess the impact of gender on the overall index Quality of urban life. It shows Sex respondents to rate their satisfaction with the overall index does not affect the quality of urban life. In general, studies indicate that the effect of gender on Overall quality of urban life.

**Table 5. Effect of different ages on Overall quality of urban life satisfaction index**

Significance	F	Mean square	Degrees of freedom	Sum of squares	Subjects
0.336	0/2271	0/0134	3	0/402	Intragroup
		0/059	376	22/270	Intergroup
			379	22.672	Total

Source: Author

Table 5 shows the results of the effect of age on overall satisfaction index indicates the quality of urban life. According to this table, the effect of age, the satisfaction of the overall index is the quality of urban life.

## 6. CONCLUSIONS

Quality of urban life is the subject of the second half of the twentieth century and it has increased the importance of the day. In most developed countries, national and local institutions for monitoring, measuring, formulating and Update urban quality of life and overall quality of urban life is Continually and often are active annually.

After reviewing and analyzing the quality of urban life, 34 indicators in four categories: economic, social, cultural, health and environment, Infrastructure and utilities, respectively. Considering the population of 46,508 people the informal settlements in MAHSHAHR, and the Morgan, Each sample of 380 residents were selected. Class neighborhoods in the city's unofficial MAHSHAHR They were questioned about the quality of urban life. For ease of analysis by computer on a Likert questionnaire was used.

214 of the respondents were male and 166 were female. 112 people eighteen to thirty, thirty to forty-five years, 98, 87 and 83 people over forty-five to sixty years have been sixty years.

No Mean satisfaction even in moderate (score 3) also failed. Overall Satisfaction Index also points to the following: economic (2/57), Social and Cultural (2/50), infrastructure and urban services (2/39) and Health and the Environment (2/32).

Given the simple weighted average urban quality of life, as a general indicator of the quality of urban life, urban informal settlements MAHSHAHR citizen satisfaction index of Overall quality life 2/47, between low and medium. This rating reflects the quality of life of poor people's settlements.

The economic indicators, the highest level of satisfaction, job opportunities and the lowest satisfaction index, the cost of food and clothing there.

The Social and Cultural indicators, the highest level of satisfaction of Status of index and the response to the emergency and the lowest satisfaction index and per capita Number of sports and recreational spaces there.

The index of infrastructure and utilities, the highest level of satisfaction, the electrical installations and the lowest satisfaction index, the index of old texture improvement there.

Indicators of health and environment at the highest level of satisfaction, the satisfaction and the lowest life expectancy, the extent of health services there.

Hypothesis of equality of mean satisfaction indicators 5/3 in each of four categories: main index using the t-test is rejected due to negative Difference, all the four categories of indicators, significantly lower than the mean satisfaction are 5/3.

As previously stated hypothesis in this study as it looks Quality of urban life in informal settlements can be found in MAHSHAHR Using promote urban management. Been asked to prove that it should be said that to test our hypothesis, we must assume independence (zero correlation coefficient) Between satisfaction with the quality of urban life and urban management methods, tested.

If a significant test, confirmed the hypothesis is confirmed. Table 6 significant independent variables and satisfaction with the quality of urban life urban management methods to show the interdependence of severe both variable implies. Therefore, the hypothesis is confirmed. And according to the A high positive correlation coefficient and its numerical value, we can conclude that Improve urban management methods directly on satisfaction the quality of life in urban informal settlements MAHSHAHR is positive. In other words, the quality of urban living in informal settlements in MAHSHAHR Can be used to upgrade the urban management.

**Table 6. Hypothesis test using the correlation coefficient between satisfaction with the quality of urban life and urban management**

Urban management methods	Satisfaction with the quality of urban life	Significant correlation coefficient test.	Variables
0.722 (**)	1	Pearson correlation coefficients	Satisfaction with the quality of urban life
0.000		Significant test	
50	380	N	

Urban management methods	Satisfaction with the quality of urban life	Significant correlation coefficient test.	Variables
1	0.722 (**)	Pearson correlation coefficients	Urban management methods
	0.000	Significant test	
50	50	N	

Source: Author

### 6.1. SUGGESTIONS

It is recommended that urban management MAHSHAHR short-term action plans for improving the quality of life in urban informal settlements based on scientific studies and expert implementation:

1. Conduct a community-based programs, creating a sense of belonging for the strengthening of the neighborhood, The Council was established to assist in the neighborhood, empowerment and In particular increased participation in neighborhood areas.
2. Planning for the training of managers working in different parts of the city As mayor, city council members and other executive agencies to acquire the ability to For each of the following: People trust Providing conditions and areas of cooperation and Official and voluntary participation of citizens Group thinking and belief in collective Nonpartisan action (positive view of the matter Any percussion hits and pinion).
3. Assignment of responsibilities related to those areas by taking Their capacity to provide their contribution in the field of social work, Established centers such as loan funds and providing support services to those in need.
4. Improvement of municipal services, including the cleanliness and garbage collection areas, enabling easy purchase daily necessities, providing convenient access to and use of public transport and ...
5. Beautify the streets, creating green space suitable for the development of centers of fruits and vegetables and general supplies stores offer a reasonable price, the local police, Appropriate interaction with the police in the neighborhoods, improved street lighting at night, Efforts to reduce vehicle traffic in the neighborhood and ...
6. Establishment of pharmacy boarding houses, inns culture and cultural services and the promotion of ideas and communication facilities and services in the public sector and...
7. Presence cultures, dialects and different levels of education and income, Different social situations, needs and social realities suggest that For cultural projects and integration of the local population, The competent authorities and scholars need to be around people, by providing a coherent program Follow-priority social needs, the cultural and artistic neighborhoods According to the accepted norms and values of society upgrade.

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# POLITICAL CONNECTIONS AND STOCK RETURNS

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## **Abstract**

*Since the political connections of companies with the government are significant factors in determining the company's value, we therefore investigate the relationship between the political connections of companies and stock returns. To conduct this research, we selected 116 listed companies in the Tehran Stock Exchange during 2010 -2015. Multivariate regression was employed to test the hypotheses, and the results of the analysis rejected those hypotheses, that is to say, stock returns have no direct relationship with the political connections of companies. Additionally, stock return premiums of the companies having political connections does not increase when their shareholder are governmental institutions.*

*JEL classification: G14, G34*

*Keywords: Political connections, Stock returns*

## **1. INTRODUCTION**

The political connections of financial firms are noteworthy factors which influence financial reporting quality and the cost of ordinary shares and consequently company returns (Chaney et al., 2012). Companies are largely inclined to communicate closely with government and politicians because these connections bring many benefits, such as the privilege of market access, tax breaks, easier access to credit, government subsidies (Aning Sejaty, 2009). Instead, the politically connected companies may share the benefits gained from these connections with politicians (Aning Sejati 2009, Bushman et al., 2004). Such economic context at a community level is called "relationship-based economics" (Chen et al., 2011).

The politically connected companies easily achieve capital resources and other benefits through their connections which cause them to rely less on high-quality financial reporting (Chaney et al. 2012, Aning Sejaty, 2009).

Political connections have also significant aspects in Iran, and the presence of politically connected managers and owners of most companies which is due to the governmental nature of those companies and large industries as well as the Iran's governing economic system economy altogether are translated into the governmental economy.

The positive relationship between political connections, economic criteria and the company's value is clearly visible. Given that the political connections of a company with the government are the important factor in determining the company's value, this study tries to investigate whether the improvement of political connections with government is directly reflected in company's stock returns?

Previous research has indicated that the relationship between stock returns and the political connection of companies with government is a direct one. (Civilize et al., 2015); however, the type of political connections is examined in this study.

## 2. THEORETICAL FOUNDATIONS

**Political connections and relationship-based economic systems:** relationship-based economic systems are known by weak legal requirements and lack of transparency (Rajan and Zingales, 2008). People in this system require a degree of ambiguity in order to protect their connection against a healthy competition (Aning Sejaty, 2009). The economic systems of some East Asian countries have achieved impressive economic growth in recent decades. The World Bank published a report titled “East Asian miracle” in 1993. This report represents 8 countries that achieved miraculous economic growth between 1965 and 1990. These countries were Japan, Hong Kong, Singapore, South Korea, Taiwan, Indonesia, Thailand and Malaysia. The economic systems of these countries are fully relationship-based. The Malaysian government assists and protects the companies having close connections with key government officials (Aning Sejaty, 2009). Fisman believes that political connections while compare with the economic base of a company is the major determinant of the profitability of companies in the developing and East Asian countries. He believes that the gain of the politically connected companies is largely dependent on the decision of the government which highly respects them (Fisman, 2001). In politically connected companies, the access to capital resources is not much dependent on the reported earnings because the political connections lead to easy access to credit and the capital resources of government-owned banks (Boubakri et al., 2012; Chin, John 2004; Cull,Xu 2005).

**Accruals quality and political connections:** Many studies indicate that compliance with accounting standards alone cannot guarantee the quality of the financial statements and the items included because other factors also influence the quality of financial statements and reporting. Financial statements prepared by an economic unit are under the influence of various factors in addition to accounting standards. The lobbying activities of managers and owners of financial firms in political circles is an important and considerable factor (Aning Sejaty 2009; Faccio, 2006; Cheney et al., 2012). The political influence and connections not only affect the financial position of financial firms, but also affect the motivation of managers as to the preparation of financial statement and reporting; hence, a dramatic difference between the quality of financial statements of politically connected companies and that of non-connected ones is anticipated. The quality of financial statements is an interesting issue in the accounting literature, which has attracted the attention of many experimental researchers in the context of positive accounting theory. The quality of financial statements is mainly measured through accruals quality (Palepu, 2003). Ball et al. argue that accrual quality is under the influence of extra- and intra-organizational factors. According to the political cost hypothesis presented by Watts and Zimmerman, politicians are capable of influencing company’s resources by employing the wealth distribution policies. Cash rewards are also one of the main factors contributing to managers’ wealth. Changes in cash flow can be influenced by tax, specific regulations and related information to political costs; therefore, managers are forced to consider regulation and rules that influence company and control them if it is possible.

The hypothesis claiming that larger companies suffer more political costs than smaller ones is not rejected regarding the research conducted by Watts and Zimmerman about the relationship between political costs and the size of companies. They concluded that tax rates over time and between all companies and industries is not the same (Digan, 2003).

Digan and Hallam (1991) indicated that companies with higher market share related to their industry will most likely have more political costs (Digan, 2003).

In another study conducted in Australia, Panchapaksan and McKinnen employed other criteria to measure the size of company. These criteria included “the market share of relevant industry, return on investment, the number of employees, the number of shareholders, social responsibility reporting and news coverage”. In sum, the hypothesis of this study was the relationship between market share, the number of employees, the number of shareholders, social responsibility reporting, news coverage and the amount of political costs, and the results showed that company size, market share, the number of employees, the number of shareholders, social responsibility reporting and news coverage have a similar effect on the political costs (Pour Heydari, Hemmati, 2004)

**The definition of political costs:** Zimmerman defines the political costs as follows: politicians and customers often use accounting information in order to compare the efforts made for the reallocation of resources among themselves as the company cost. This reallocation may be made by government regulations and rules (tax rates, import and export taxes, customs duties, the right to property and company's asset) or by custodian groups and legislators such as labor unions. Therefore, any successful attempt for the redistribution of company resources to outside is known as the political costs (Zimmerman, 1986).

**Accounting and the political process:** the benefits of the information obtained from the political process are not fully captured because of the cost of information, the absence of effective market for the capitalization of future flows resulted from it as well as transaction costs.

Individual voters are not encouraged to vote because they suspect that their votes be ignored while observing the absent service. Moreover, vote buying is illegal and there are incentives for politicians to disclose, and therefore vote buying is costly. Land bargain is also more costly than securities one.

The shareholders, in the market, who own a small part of the company have little incentive to monitor company managers, and in the political process the voters, too, are not determined to monitor government agents and their representatives; however, it is assumed that these two processes are also different in terms of centralizing costs of the benefits of additional monitoring.

According to the hypothesis, the centralizing costs of the benefits gained from reduced management expediency (negligence) are lower in the market process than that of the political process. It should be noted that the difference between the political and market processes is due to differences in transaction costs and property rights for improved monitoring. If the costs in both processes are equal and positive, people have the same motivation for collecting data.

Accounting research to date has assumed that transaction costs in the political process are extremely larger than those in the market process; therefore, voters are less inclined to acquire knowledge.

In the economic theories related to the political process it is assumed that politicians are looking to maximize their wealth; therefore, the political process hypothesis is a competition for transferring wealth.

Taxes and regulations lead to wealth movement through government services, subsidies, tariffs, etc. Participation in the political process is not free of charge and requires affording information reception costs. Companies, too, operate in a political environment and necessarily incur costs through the financial process. Consequently, companies in order to carry on their activities are forced to negotiate with authorities and justify them to continue their activities. Even companies participate in the political activities related to elections to take benefit from legislation advantages, and they incur costs (Marx 2001).

**The nature of the political process:** the political process makes politically sensitive companies to choose methods to delay earnings. However, it is likely that the political process creates incentives to reduce the variance of reported earnings. Variance is significant in cases where it is likely for the regulations to be set in the period of high earnings while being ignored in later periods with lower earnings. This asymmetry is consistent with the cost of information. The media often calculate the percentage increase in comparison with the same period in the previous year.

This usage type of accounting figures causes managers to strive for reducing the variance in reported earnings. Higher percentage and increase usually attract attention and are used as an evidence of the presence of a crisis or monopolization.

Two theories are introduced in the political process, and according to one of them, the political process is a method to deal with the known weaknesses in the market (protecting the public interest) while the other shows self-interest is the case in the political process as in the market and the political process is a field for creating wealth (Solomons, 1978).

**The impact of the political processes on accounting methods:** in this part, the economic theories of the political process in accounting are used and developed. In particular, what incentives for managers will be created in choosing accounting methods if accounting figures (for example, earnings) are employed in the

political process for supporting government regulation (for example, taxing on windfall profits) or in the management of existing regulations (for example, the pricing of public goods and services)? Some of the incentives of method selection are created as a result of the political process (Shabahang, 2002).

The usage of earnings figures by politicians and legislators has introduced the hypothesis that the managers of companies are encouraged to use those accounting methods (for example, accelerated depreciation method) that reduce reported earnings. Low reported earnings reduce the adverse measures taken by the government, whereas they increase the chance of establishment of governmental subsidies. If politicians and legislators do not adjust the earnings figures to choose reducing accounting methods of earnings, the management will be motivated to choose earnings reducing methods in the current year not until the nullification of choosing the methods of accounting for third parties incur costs.

Politicians try to reduce inflation through various programs and legislation (for example, wage and price controls, fuel price controls, restrictions on the imports and fiscal and monetary policies). Some of these programs employ accounting figures.

For example, the executive order 12092 was issued in 1978. The aim of this order was to reduce inflation through controlling government contracts pricing. However, companies that had not increased the amount of their earnings were not subject to this order. This is another example of how the political process creates incentives for managers to choose accounting methods that reduce earnings. (Arnold 1990).

**The Effects of Political Connections:** Ball et al. (2006) suggested that financial reporting practices in Malaysia are heavily influenced by political factors. Chaney et al. (2012) examined the relationship between political connections and accruals quality. Using the multi-country data analysis, the mentioned study indicated that accruals quality of politically connected companies is lower than that of the non-connected ones. Moreover, developing connections with the stronger political centers has a lower correlation with accruals quality. Finally, they found that only the non-connected companies have a negative correlation between accruals quality and cost of debt. They believe that the negative consequences of low quality reporting are very low for the politically connected companies. Carretta (2012) examined the relationship between audit committee independence and demand for higher quality audit. The results indicated a positive relationship between audit committee independence and audit fees. The findings support the hypothesis that audit committees with greater independence demand higher audit quality. Secondly, this relationship is weaker in politically connected companies. Moreover, the selection of large audit institutions in companies with political connections has negatively influenced the attitudes of the audit committee as well as audit quality. Boubakri et al. (2012) investigated the effects of political connections on the company performance and the financing decisions. They found that the companies firstly improve their performance by establishing political connections and increase their debts. Secondly, political connections have a strong correlation with the changes in operating leverage and performance. Thirdly, politically connected companies have easier access to credit resources. Datta and Gong Li (2012) examined political connections and the value of companies. The results indicated that the political connections influence the value of companies and leads to fluctuations in the value of politically connected companies, more than what the market can explain. They suggested that the efficiency of the politically connected companies is significantly different from their non-connected counterparts. They concluded that the existence of such connections in each country leads to the growth of the global corruption index and crony capitalism, and higher probability of renterism. Boubakri et al. (2012) examined political connections and the cost of capital. The results show that politically connected companies have lower capital cost than their non-connected counterparts. Therefore, the investors also expect lower cost of capital. This indicates that politically connected companies are less risky. The findings indicate that the benefits of the political connections outweigh the costs of its political connections. Politically connected companies generally benefit from soft budget constraints and in recessionary times, the government helps them financially.

According to the political cost hypothesis proposed by Watts and Zimmerman (1978), politicians have the power to affect upon company resources by using wealth re-distribution policies. Moreover, the main factors affecting company wealth are the cash rewards. Changes in cash flows can be affected by taxes,

specific regulations and information about the political costs. Therefore, managers must consider the laws and regulations that affect them, and control them if it is possible.

According to the research conducted by Watts and Zimmerman (1978) on the relationship between political costs and company size, larger companies incur greater political costs. Watts and Zimmerman concluded that tax rates vary over time and across companies and industries.

Having the knowledge about the impact of political decisions and procedures on the company’s cash flows is of particular importance and is considered to be one of the critical resources of each commercial entity since in order to influence the political process, political groups incur costs that can include the costs of campaigns and supporting politicians, part of which are normally incurred by the companies over time. This study may increase managers’ knowledge and help them recognize the importance of political costs.

Bellis and Gul (2012) examined the relationships between political connections and costs of debt. The findings indicated that from the viewpoint of the capital market and auditing firms, politically connected companies are riskier than other companies.

Boubakri et al (2012) suggested that the politically connected companies have lower costs of ordinary shares in comparison with other companies.

**Stock Returns:** There are many studies in the literature of financial management and accounting that have been conducted to identify the effective factors in stock returns. Sharpe (1964), Lintner (1965), and Mossin (1966) presented the capital asset pricing model based on the Markowitz framework. This model assumes that investors use the Markowitz logic to set up the portfolio. It also assumes that there is an asset (risk-free asset) which has a certain return. This assumption is very important since it helps us in determining the value of the assets through a desirable discount rate that is used in the valuation model. In other words, if the rate of return on an investment is estimated, it can be compared with its expected rate of return calculated by CAPM model, and therefore, it is determined whether these assets are underpriced, overpriced or properly priced.

The early cross-sectional studies on stock returns such as the one done by Nicholson (1960) did not sufficiently receive attention because of the small samples used to perform empirical tests. Since the Compustat and CRSP databases appeared, researchers have been able to create samples large enough (and of sufficient quality) to provide reliable results. Therefore, some years after the development of CAPM model, there was no reliable way to test the capability of model to predict variables such as price-earnings and book-to-market ratio.

### 3. RESEARCH HYPOTHESES

Based on the research, hypotheses are formulated as follows:

Stock returns are directly related to the political connections of the companies.

Stock return premiums of politically connected companies are different among industries.

Stock return premiums of politically connected companies are higher when governmental institutions hold an equity stake in the company.

### 4. METHODOLOGY

This study examines the relationship of political connections and shareholder value added with stock returns. For this purpose, models and variables are used that are summarized in table 1:

**Table 1. List of variables and the methods used to measure them**

Variable	Variable name	Symbol	Measuring methods
Dependent	Stock returns	Rit	Stock returns of company
Independent	Political connections	HighConnit	The level of political connections is

Variable	Variable name	Symbol	Measuring methods
			calculated by adding the amount paid by the company to the government as stated, divided by total assets.
Controlled	Company size	Sizeit	natural logarithm of total assets
	Book-to-market ratio	B/Mit	The ratio of book value to market value of equity
	Shareholder value added	SVAit	Shareholder value added is a measure of a company's performance and return. The term is used to describe the difference between the wealth held by the shareholders at the end of a given year and the wealth they held the previous year. In this study, the following equation was used to calculate it: (Rahnamay Roudposhti, Fereydoun; Nikoumaram, Hashem; and Shahroudiyani, Shadi (2006)) Market value of total debts - Market Value of the company = SVA
	Operating return	ORit	Operating return on equity is calculated by dividing operating profit by equity.
	Financial leverage	Levit	Ratio of total liabilities to total assets

Source: Author

### Hypothesis test:

To test the research hypotheses, following the regression models of Civilize et al. (2015), the relationship between political connections and stock returns has been measured.

In order to test the first and second hypotheses, the following multiple regression (model 1) is used:

Model (1)

$$\text{Rit} = \alpha + \beta_1 \text{HighConnit} + \beta_2 \text{SVAit} + \beta_3 \text{ORit} + \beta_4 \text{Sizeit} + \beta_5 \text{B/Mit} + \beta_6 \text{Levit} + \epsilon_{it}$$

To test the second hypothesis, model (1) was estimated separately in different industries. Then, the mean paired difference test was carried out.

To test the third hypothesis, we classified the study population into two classes based on equity ownership and relationship with government (one class consists of the bureaucratic state shareholders in the board while the other consists of the bureaucratic state shareholders among shareholders), and model (1) was estimated.

**Study population and sample:** The study population consists of all the companies listed in the Tehran Stock Exchange. The scope of research is extended from 2010 to 2015, including 5 years, and the samples are selected according to the following criteria:

- (1) to be listed in the Tehran Stock Exchange from 2009
- (2) does not have more than 3-month trading delay
- (3) the company's fiscal year to end in March.

(4) the selected companies are not of investment companies or financial intermediaries.

Finally, regarding the above conditions, 116 companies were selected as the final sample among the companies listed in the Tehran Stock Exchange.

**Findings:** Descriptive statistics of the variables used in the study is provided in table (2):

**Table 2. Descriptive statistics of the variables**

Variable name	Levit	Bmit	Sizeit	Orit	SVAit	HighConnit	Rit
Number of samples	580	580	580	580	580	580	580
Average	0.579	2.604	12.520	0.213	0.194	0.285	0.310
Middle	0.603	2.422	12.485	0.165	0.159	0.240	0.255
Mod	0.381	1.552	10.501	0.00	0.00	0.080	0.42
SD	0.121	1.018	1.000	0.167	0.160	0.190	0.243
Coefficient of skewness	-0.357	0.971	0.196	1.0126	0.176	0.960	0.690
Slenderness ratio	1.206	1.145	-0.104	0.936	1.251	0.810	-0.601
Range	0.382	6.320	6.720	0.900	0.780	0.962	0.992
Minimum	0.380	0.950	10.030	0.00	0.00	0.00	0.00
Maximum	0.752	7.471	16.742	0.902	0.780	0.962	0.990
Quarter	0.482	1.825	11.847	1.089	0.072	0.142	0.116
	0.603	2.423	12.487	0.165	0.162	0.252	0.256
	0.680	3.235	13.190	0.293	0.269	0.381	0.512

Source: Author

The correlation coefficients of the variables are presented in table 3:

**Table 3. Correlation coefficient matrix of the variables**

Variable name	Levit	Bmit	Sizeit	Orit	SVAit	HighConnit	rit
Rit	0.017	0.042	0.005	-0.053	-0.012	0.038	1.0000
	0.625	0.285	0.0886	0.175	0.765	0.314	
HighConnit	-0.014	0.001	-0.050	0.010	0.011	1.000	0.040
	0.685	0.976	0.185	0.0802	0.765		0.0316
SVAit	-0.013	-0.034	-0.056	0.014	1.000	0.013	-0.012
	0.475	0.378	0.144	0.741		0.0765	0.765
Orit	0.069	-0.008	0.035	1.000	0.014	0.011	-0.053
	0.069	0.0846	0.351		0.742	0.0805	0.0175
Sizeit	0.91*	-0.038	1.000	0.035	-0.054	-0.051	0.004
	0.017	0.335		0.351	0.0144	0.0182	0.0886



Sig. (2-tailed)	df	t	Paired Differences				Rpol - RnonPol	Pair 1	
			95% Confidence Interval of the Difference		Std. Error Mean	Std. Deviation			Mean
			Upper	Lower					
0.367	349000	-0.916	0.021	-0.057	0.018	0.360	-0.018		

Source: Author

As can be seen in table (5), we have the degrees of freedom of 349 and P-value is equal to 0.365. This indicates that at a confidence level of 99%, the stock return premium of politically connected companies in different industries is not different.

The third hypothesis: The third hypothesis test results are provided in table (6).

**Table 6. The third hypothesis test results**

Explanatory variables	Model variable coefficient ( $\beta_i$ )	Predicted mark	T-statistic	P-value
(Constant)	0.168	-	0.819	0.415
HighConnit	0.068	+	0.751	0.455
SVAit	-0.131	-	-1.451	0.146
Orit	-0.010	-	-0.110	0.914
Sizeit	0.012	-	0.781	0.435
Bmit	0.010	-	0.594	0.555
Levit	-0.009	-	-0.063	0.951
"Durbin-Watson" statistic = 2.073 F- statistic = 0.775 and P-value = 0.671			Adjusted R <sup>2</sup> = 0.006 R = 0.107	

Source: Author

As can be seen in table (6), the F-statistic is equal to 0.676 and P-value is equal to 0.670. This indicates that the linear regression model is not statistically significant at a confidence level of 99%.

Regarding the third hypothesis, it can be concluded that the stock return premium of politically connected companies does not increase when the governmental institutions hold an equity stake in the company because the HighConnit explanatory variable beta is equal to 0.067, t-statistic is equal to 0.750 and the significance level of the variable is equal to 0.457, which is not significant at the confidence level of 95%.

Moreover, the "Durbin - Watson" statistic in table (6) indicates the absence of autocorrelation between the observations.

## 5. CONCLUSION

This study tries to investigate the relationship between political connections and the stock returns of companies. It is based on the research conducted by Civilize et al (2015). The results of the analysis indicate that the hypotheses are rejected. This means that there is no direct relationship between stock returns and political connections. Moreover, stock return premium of the politically connected companies vary in different industries, and stock return premium of the politically connected companies also does not increase when governmental institutions hold an equity stake in the company.

The reason that the results of this study is not consistent with the results obtained by Civilize et al. (2015) can be traced back to the population used in both studies while employing the same tested model; however, Civilize et al. (2015) has used the data gathered from the American companies listed in the US stock market. However, this study collected data from the companies listed in the Tehran Stock Exchange. Given that the only fundamental difference in the two studies is the population, therefore, the difference in

the structure of capital markets of these two countries can be considered to be one of the reasons for the lack of consistency in the results of the two studies.

According to the results of the hypotheses, it is recommended that companies not seek any political connections with the government so as to enjoy the government supports and increase its stock price because the political connections with the government does not affect the stock prices and the shareholders do not consider these relationships in the stock pricing.

### **5.1. SUGGESTIONS FOR FUTURE RESEARCH**

According to the numerous studies conducted abroad on political connections with government, since this topic has not received the due attention in Iran, it is recommended to put more effort into this field given its competitive potential for research in Iran. The topics that can be further investigated in this field are to determine the relationship of political connections with government and the borrowing costs, audit fees, financial leverage, and corporate governance.

Moreover, it is recommended that the impact of political connections with government on accounting practices such as conservatism be investigated. The impact of political connections with the government on the competitiveness of the market and financial reporting quality can also be studied.

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# A COMPARATIVE STUDYING OF TYPE A AND TYPE B PERSONALITY IN MANAGERS RESPECTING CHANGE ORIENTATION IN NATIONAL IRANIAN GAS COMPANY

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## Abstract

*The main objective of the present research is to compare the managers with Type A and Type B personality respecting change orientation in National Iranian Gas Company. This is a descriptive- survey study. Research population included 79 managers and 1200 employees. Research samples were assigned 79 managers and 237 employees through using simple random sampling method. Research data were gathered using two close-ended questionnaires including "change management skills" questionnaire consisting of 30 items designed by Calin Carnal framework, and the 25-item questionnaire of A and B personality types by Spenser Riotous. Cronbach's alphas were already reported 0.98 and 0.80 for the first and second questionnaires, respectively. Research data were analyzed using t-test, MANOVA, ANOVA, and Chi- square tests. Research results indicate that there is no significant difference between managers with A and B personality types in terms of change orientation in National Iranian Gas Company. Moreover, research samples also showed no significant difference in change orientation respecting education level, field of study, as well as years of services. Thus, it may be stated that studying managers' change orientation requires other factors like introversion and extroversion, and other personality traits than A and B personality types in managers.*

**JEL classification:** L29

**Keywords:** Orientation, change, personality type, A type, B type

## 1. INTRODUCTION

In recent years, "change" is increasingly interested as a significant and critical issue in managerial discussions such that some believe that the change must be included in the organization daily agenda, and the individuals must commit to the change as much devoted to the goals (Tiller and Horn, 2006; 458).

Organizations undergo a competitive, unsafe, risky, unpredictable, and challenging environment. Therefore, organizations must constantly change from one or several elements of organizational system. Sometimes, change factors stem from inside the organization (French and Needle, 2006; 15).

Basically, change factor is expressed by senior executives. However, various factors may interfere in managers' change orientation including personality traits (Vakala, 2004; 95). Elportaz defines personality as a set of internal factors directing all individual activities; in other word, real personality is evaluated using personality type model (Hosseiniyan and Yazdi, 1997). Individuals are classified into A and B personality types respecting certain behavioral characteristics. Personalities that are competitive, aggressive, impatient, high-achieving workaholics, and ambitious are labeled type A. They are concerned with time management. This personality type simultaneously focuses on both quantity and quality; in addition, they are more influenced by rewards than punishment. In management position, they follow overtime especially in dilemmas. They are immediately promoted to the top of organization; any risk is welcomed and no commitment to the rules. With industrial development of large cities, this behavioral model is most common in urban areas. On the contrary, type B individuals are calm, patient, and not competitive. They may not concern for time and achievement in working. They are extremely self-restrained and adhere to the rules; in addition, they are largely influenced by punishment in learning. They

are easygoing, realistic, and farsighted; live at lower stress levels, and are creative, innovator, and flexible (Lutanz, 1993; 230).

However, the significance of the positive change is clear as the future demands for. Today, successful organizations are the ones where change is included within organizational framework. Obviously, any organization is based on meeting the needs; since human being needs are constantly changing or orienting toward new requirements; therefore, organizations may necessarily require evolution as well as change management. Organizations often encounter constant pressures for change. Predicting economic changes, customer consumption patterns, technological and scientific factors in international competition make top managers evaluate the organization and fundamentally consider changing. However, the typical change and change acceptance or resistance may highly depend on management attitude and personality (Grifien, 1998; 512).

The present research studies change orientation based on the framework proposed by Colin Carnal (1997). The framework contains four skills of readiness for change, planning for change, change implementation, and change sustainment. Therefore, research hypotheses are as follows:

### **1.1. RESEARCH MAIN HYPOTHESIS**

There is a difference between A and B personality types managers respecting change orientation.

### **1.2. RESEARCH SUB-HYPOTHESES**

There is seen a difference between A and B personality types managers respecting change readiness.

There is seen a difference between A and B personality types managers respecting change planning.

There is seen a difference between A and B personality types managers respecting change implementation.

There is seen a difference between A and B personality types managers respecting change sustainment.

Vos (2006), in a study named “the role of personality and emotions in staff resistance to change”, indicated that due to the significant role change plays in organizations, it is now necessary to create a proper change insight for staffs. Besides, the first issue management may face in changing is the change resistance phenomenon. Hence, it is necessarily required to identify the factors involved in change resistance. Vos applied a questionnaire to measure the personality and how individuals feel about change. According to the obtained results, employees show more severe negative response to evolutionary change than gradual change; further, resistance to evolutionary change is much higher than gradual change. Therefore, successful change is achieved when managers pay specific attention to individuals’ personalities and responses for any fundamental organizational changes.

Vakala et al (2004), in a study entitled “the role of personality traits in individuals’ orientation toward organizational change”, proclaimed that although the role of organizational features in change has been largely investigated, individual characteristics were neglected in changes. Thus, they focused on individuals’ personality traits. Research samples included 137 organizational experts completed personality traits and organizational change questionnaire. Research findings revealed that there is a significant relationship between individuals’ personality traits and organizational change orientation.

Garrety et al (2003), in “applying personality type in organizational change”, pondered some personality traits such as self-perception, emotions, and behavior through Meyers-Briggs type indicator (the strongest personality type indicator). It is stated that change plans are set according to the individuals’ emotion, perception, and behavior. It means that individuals must differently participate in change plans; further, any changes must consider individuals’ emotions, opinions, and perceptions of change since it critically plays in organizational change implementation such that the change is either strongly resisted or warmly welcomed.

Stump (1998) uncovered that A type individuals are more competitive than B type individuals experiencing a competitive event; while, in non-competitive contexts, there is seen no difference between the two personality types.

## 2. RESEARCH METHODOLOGY

This is a descriptive survey conducted using two questionnaires of Calin Carnal change management skills and Spenser Riotous A and B personality types. The former contained 25 items and the latter included 30 items based on a five-point Likert scale. The questionnaire was distributed among National Iranian Gas Company and Tehran province Gas Company staffs. The questionnaire was designed in terms of four components of change readiness, change planning, change implementation, and change sustainment. The questionnaire reliability was obtained by response analysis through using SPSS; the measured Cronbach’s alpha was 0.98 indicating the reliability of research instrumentation. Validity of change management skills questionnaire was verified using professors and experts. It is necessary to note that reliability of A and B personality types scale in most cases was larger than 0.70 and 0.80.

Research data and hypotheses were analyzed using descriptive and inferential statistics through SPSS. Descriptive statistics represent frequency distribution tables and sex, education level, field of study, and years of services percentages. Inferential statistics were applied for significant differences between research variables. Thus, to compare research variables and to verify research hypotheses, t-test, MANOVA, ANOVA were used; furthermore, A and B personality types were compared through using Chi square test in terms of education level, field of study, as well as years of experience. It is worth to notify that the equal variance hypothesis was verified using Leven test. Results of the four skill factors revealed the difference between variances; thus, t- formula was utilized for heteroscedasticity.

## 3. RESEARCH FINDINGS

### 3.1. DESCRIPTIVE FINDINGS

92.3% of research samples were males and 7.7% were females. All samples were married. 9.2% of the participants had high school diploma, 6.2% hold associate degree, 61.5% and 21.6% of the attendees had bachelor and master degrees, respectively. However, 1.5% of the individuals skipped. 26.2% of the participants were majored in technical and engineering, 15.4% in fundamental science (science), 33.8% in humanities, and 12.3% in other sciences. However, 12.3% skipped the item. Years of services in 1.5% were less than 5 years; 4.6% of participants had 11-15 years of services, 12.4% had 16-20 years, 33.8% for 21-25 years, and 47.7% for 26-30 years of services. Of course, none were found in 6-10 years of services.

### 3.2. ANALYTICAL FINDINGS

**Research main hypothesis:** There is a difference between A and B personality types managers in term of change orientation.

### 3.3. RESEARCH NULL HYPOTHESIS

$$H_0: \mu_1 = \mu_2$$

Research null hypothesis indicates that there is no difference between A and B personality types managers respecting change orientation. To test the hypothesis, MANOVA test was used to verify the two aforementioned personality types in four skill factors; in addition, all personality type factors were analyzed using one-way ANOVA in terms of change orientation. Analysis results are shown in the following tables.

**Table 1. MANOVA test between A and B personality types for four change skill factors**

Change skills	Personality type	Number	Mean	Standard deviation
Change readiness skill	B personality type	37	3.53	0.835
	A personality type	28	3.46	0.545
	Total	65	3.50	0.72

Change skills	Personality type	Number	Mean	Standard deviation
Change planning skill	B personality type	37	3.49	0.91
	A personality type	28	3.50	0.66
	Total	65	3.49	0.80
Change implementation skill	B personality type	37	3.41	0.80
	A personality type	28	3.22	0.58
	Total	65	3.33	0.71
Change sustainment skill	B personality type	37	3.44	0.89
	A personality type	28	3.30	0.63
	Total	65	3.38	0.79

Source: Author

Table 2. F- test for A and B personality types respecting four change skills

Statistical indicators	Quantity	F ratio	Assumed degree of freedom	Error degree of freedom	F probability
Pillais Trace	0.093	1.53	4	60	0.203
Wilk's Lambda	0.907	1.53	4	60	0.203
Hotelling's Trace	0.103	1.53	4	60	0.203
Roy's largest root	0.103	1.53	4	60	0.203

Source: Author

Table 3. Analysis of variance between A and B personality types respecting four change skill factors

Statistical indicators		Sum of squares	Degree of freedom	Mean of squares	F-ratio	F-probability
Personality types	First skill	7.022	1	7.022	0.133	0.716
	Second skill	4.11	1	4.11	0.001	0.980
	Third skill	0.596	1	0.596	1.163	0.285
	Fourth skill	0.323	1	0.323	0.510	0.478
Error variance	First skill	33.184	63	0.527		
	Second skill	41.956	63	0.666		
	Third skill	33.272	63	0.512		
	Fourth skill	39.891	63	0.633		
Total variance	First skill	33.255	64			
	Second skill	41.957	64			
	Third skill	32.868	64			
	Fourth skill	40.214	64			

Source: Author

Table 1 shows MANOVA test for A and B personality types in terms of four change skill factors. According to the results of Table 2, since Wilk's Lambda F value (1.53) is smaller than F value in the table (1.83); thus, research null hypothesis is maintained. Therefore, there is no significant difference between the two aforementioned in terms of four change skill factors. Table 3 presents one-way analysis of variance for four all the group components. According to the results, all F measured in the change four factors were smaller than F value in the table; hence, there was seen no significant difference between A

and B personality types respecting the four change skill factors. As a result, research null hypothesis is maintained.

### 3.4. RESEARCH FIRST SUB-HYPOTHESIS

There is a difference between A and B personality types managers respecting change readiness.

### 3.5. RESEARCH NULL HYPOTHESIS: $H_0: \mu_1 = \mu_2$

Null hypothesis indicates that there is no difference between A and B personality types managers in term of change readiness.

**Table 4. Descriptive indicators for A and B personality type testees' scores respecting change readiness**

Statistical indicators Personality type	Number	Mean	Standard deviation	Mean standard deviation
B personality type	37	35.34	8.35	1.37
A personality type	28	34.67	5.45	1.03

Source: Author

Table 4 illustrates independent t-test results for change readiness skill means between A and B personality type testees. As observed, mean scores of A and B personality type testees showed difference in term of change readiness. Parametric t-test was used to test significance of the difference as follows:

**Table 5: Parametric t-test indicators for A and B personality type testees' mean scores respecting change readiness**

Significance level	Degree of freedom	Measured t	Critical t
0.70	62	0.386	2

Source: Author

According to the above tables, since measured t (0.386) is smaller than critical t (Table 2) at degree of freedom 62 and confidence level 95%, the null hypothesis is maintained. It means that there is no difference between A and B personality type managers respecting change readiness. In other word, A and B personality types of managers showed no effect on change readiness.

### 3.6. RESEARCH SECOND SUB-HYPOTHESIS

There is a difference between A and B personality type managers respecting change planning.

### 3.7. RESEARCH NULL HYPOTHESIS: $H_0: \mu_1 = \mu_2$

According to the null hypothesis, there is no difference between A and B personality type managers respecting change planning.

**Table 6. Descriptive indicators for man scores of A and B personality type testees respecting change planning skill factor**

Statistical indicators Personality type	Number	Mean	Standard deviation	Mean standard error
B personality type	37	17.48	4.56	0.75
A personality type	28	17.51	3.32	0.62

Source: Author

Table 6 represents independent t-test results for change planning means in A and B personality type individuals. As seen, there is a difference seen between A and B personality type testees' mean scores in term of change planning skill. To verify difference significance, parametric t-test was used for the two independent groups; the results are as follows:

**Table 7. Parametric t-test measured indicators for mean scores of A and B personality type testees respecting change planning skill factor**

Significance level	Degree of freedom	t- value	Critical t-value
0.97	63	0.026	2

*Source: Author*

According to the table, as t-value is measured 0.026, which is smaller than critical t (2) with df=63 at 95%; thus, null hypothesis is maintained i.e. there is no difference between A and B personality type managers in term of change planning. In other word, A and B personality types of managers showed no effect on change planning skill.

### 3.8. RESEARCH THIRD SUB-HYPOTHESIS

There is a difference between A and B personality type managers respecting change implementation skill.

### 3.9. RESEARCH NULL HYPOTHESIS: $H_0: \mu_1 = \mu_2$

Null hypothesis indicates that there is no difference between A and B personality type managers respecting change implementation skill.

**Table 8. Descriptive indicators for mean scores of A and B personality type testees respecting change implementation factor skill**

Statistical indicators Personality type	Number	Mean	Standard deviation	Mean standard error
<b>B personality type</b>	37	23.90	5.60	0.92
<b>A personality type</b>	28	22.54	4.07	0.77

*Source: Author*

Table 8 shows independent t-test results for change implementation skill means between A and B personality type individuals. As seen, there is some difference between mean scores of A and B personality type testees in term of change implementation scale. To test difference significance, parametric t-test was used for the two individual groups as follows:

**Table 9. Parametric t- test indicators for mean scores of A and B personality type testees respecting change implementation skill factor**

Significance level	Degree of freedom	t- value	Critical t-value
0.26	63	1.126	2

*Source: Author*

According to the above table, as t-value was measured 1.126, which is less than critical t value in the table (2) at df= 63 and 95%; hence, null hypothesis is maintained. It means that there is no difference between managers with A and B personality types respecting change implementation skill. In other word, managers' A and B personality types had no effect on change implementation.

### 3.10. RESEARCH FOURTH SUB-HYPOTHESIS

There is a difference between A and B personality type managers respecting change sustainment.

### 3.11. RESEARCH NULL HYPOTHESIS: $H_0: \mu_1 = \mu_2$

Null hypothesis indicates that there is no difference between A and B personality type managers respecting change sustainment skill.

**Table 10. Descriptive indicators for mean scores of A and B personality type testees respecting change sustainment skill factor**

Statistical indicators Personality type	Number	Mean	Standard deviation	Mean standard error
B personality type	37	27.56	7.19	1.18
A personality type	28	26.42	5.05	0.95

Source: Author

Table 10 represents independent t-test results for change sustainment means between A and B personality type individuals. As observed, there is some difference between mean scores of A and B personality type testees in term of change sustainment skill scale. Parametric t-test was used to verify difference significance of the two independent groups. The results are as follows:

**Table 11. Parametric t-test indicators for mean scores of A and B personality type testees respecting change sustainment skill factor**

Significance level	Degree of freedom	t- value	Critical t-value
0.45	63	0.749	2

Source: Author

According to the above table, as t-value measured (0.026) is smaller than the t critical in the table (2) with df= 63 at 95%; hence, null hypothesis is maintained. It means that there is no difference between A and B personality type managers in term of change sustainment. To say it differently, managers A and B personality types showed no effect on change sustainment skill.

According to the obtained results, there is no difference seen between personality traits in term of change orientation. The question raises here is that whether the aforementioned types vary in terms of demographic variables. In this regard, two-way Chi square test was used. Chi square test between A and B personality types in terms of demographic variables including education level, field of study, and years of services is provided and interpreted in the following tables.

**Table 12. Two-way X<sup>2</sup> test between A and B personality types respecting education level**

Education Personality types	High school diploma and associate degree	Bachelor	Master and higher
B personality type	8	21	8
A personality type	2	19	6

Significance level	Degree of freedom	Table Chi-square	Measured Chi-square
0.28	2	5.92	2.48

Source: Author

Table 12 represents two-way X<sup>2</sup> test results for A and B personality types individuals for education level component. According to the table, X<sup>2</sup> with df=2 is smaller than table X<sup>2</sup>. Therefore, the individuals of the two groups showed no significant difference in term of education level.

**Table 13. Two-way X<sup>2</sup> test between A and B personality types respecting field of study**

Field of study Personality types	Technical and engineering	Science	Humanities
B personality type	7	5	13
A personality type	10	5	9

Computed X <sup>2</sup>	Table X <sup>2</sup>	df	Significance level
1.23	5.92	2	530.53

*Source: Author*

Table 13 shows two-way Chi square test results between A and B personality type individuals respecting field of study. According to the table, it is observed that the computed X<sup>2</sup> at df= 2 is less than table X<sup>2</sup>. Thus, the two groups showed no significant difference in term of field of study.

**Table 14. Two-way X<sup>2</sup> test between A and B personality types respecting years of services**

Years of services Personality types	Up to 15 years	Over 16 years
<b>B personality type</b>	2	35
<b>A personality type</b>	2	26

Computed X <sup>2</sup>	Table X <sup>2</sup>	DF	Significance level
0.83	3.83	1	0.77

*Source: Author*

Table 14 provides two-way X<sup>2</sup> test results between A and B personality type individuals in term of years of services. According to the table, it is seen that the computed X<sup>2</sup> at df= 1 is smaller than table X<sup>2</sup>; thus, there is seen no significant difference between the two groups in term of years of services.

According to the above tables and the analyses, it is observed that there was seen no significant difference between A and B personality types in terms of education, field of study, and years of services. However, it appears that the aforementioned variables may vary; they show no statistically significant difference.

#### 4. CONCLUSIONS

Companies are now dealing with the important issue of effective handling. If an organization fails to change, it would cost the corporation destruction. Organizational change is critically important. Achievement in increasingly competitive markets may demand permanently adapting to environmental changes. Management, without change, may fail keeping the organization in the best position. Organizational change (organizational innovation) is defined as a constant, ongoing process of internally organizational innovation and adaptation. According to Waterman, change is the essential organizational stability, on one hand, which is the biggest obstacle to the change, on the other hand. In most cases, it seems that the more the organization achieved in the past, the higher the probability of resistance to change. However, in all cases it is possibly oriented toward organization leader and management attitude.

According to the research analysis, it is concluded that managers' personality type has no effect on change orientation. In a better word, there is no difference seen between A and B personality types respecting change orientation. However, at the first glance, it seems that A personality type individual may are higher change oriented due to some behavioral features such as more competitive, workaholic, and hardworking; whereas, regarding some irrational features like aggressiveness, impatience, irritability, and rush, which are negative characteristics of organizational working, they achieve less. Manger as the organization leader is expected to realize organizational objectives in patience and peace considering organizational interests and goals through delight cooperation with colleagues and promoting cooperation culture. However, since A personality type managers are hardworking, competitive, and ambitious individuals, they would seek for creating precise organizational patterns and avoid providing the opportunity to the subordinates as much as possible to prove the dominance and achieve great accomplishments. A personality types promote to high organizational ranks faster than B personality types i.e. they are high-achieving workaholic than B personality type individuals. However, they are not as successful as B personality types as the latter is more patient with wider perspectives.

However, as observed in Tables 2, 4, 6, and 8, B personality type showed almost higher mean in the four aforementioned skills. The result reveals that B personality type is more change oriented than B personality type. It is worth to notify that the difference between A and B personality type means is not statistically accepted; thus, it may not be accepted as research result.

Snow (1987), Cab et al (1979), Rehem (1982), Conferosis (1983), Green and Yarnold (1984) expressed that B personality type individuals may tend to changing the patterns comparing previous issues; while, A personality types follow a distinguished strategy based on great criteria independent of earlier outcomes and consequences. It means that B personality type individuals change new patterns and criteria align with earlier patterns; whereas, A personality type individuals show new criteria independent of prior results. Robins and Decenzu (1998) also claimed that B personality types easily adapt to the change because of less stress than A personality type.

Thus, it may be stated that the results confirm the results obtained from the aforementioned tables. However, the observed difference between the two types is not statistically accepted. Therefore, it is not statistically and scientifically maintained. Mirzaei (2005), in a study entitled “comparing A and B personality type managers respecting evolutionary or gradual change orientation in middle schools in Karaj City”, found similar consistent results.

Finally, it is acknowledged that change is an inevitable phenomenon and organizations may necessarily welcome change to stay in global competition; of this, managers play a critical role in change implementation. The managers must attain and improve change management skills; in this regard, the individuals are the organization integral parts. However, according to research findings, it is impossible to say that which personality type may more welcome to change as research results demonstrated that there is no significant difference seen between A and B personality types in term of change orientation. As a result, managers with any personality type must consider innovation and development to keep pace with scientific and technological advancements.

Behavioral features of A and B personality types may be distinguished from personality traits in relation to organizational change. According to the studies conducted on the relationship between personality and organizational change, it is inferred that there is a significant relationship between personality traits and organizational change. Results of Line (1977), Garrety (2003), Vakala (2004), and Vos (2006) revealed that there is a significant relationship between personality traits and change orientation with change perception and resistance. Thus, considering managers' and employees' personality traits may influence change orientation and change implementation in the organization; further, the personality is always a determining character for organizational change. People are assigned organizational role depending on their personality; the characters are manifested considering personality traits. And finally, it may be stated that the two variables already showed a significant relationship at major perspective; whereas, there is seen no relationship in the present research conducted in National Iranian Gas Company. Further studies in other organizations may confirm or reject the present research results.

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# THE EFFECTS OF UNCONVENTIONAL MONETARY POLICY ON BANK PERFORMANCE

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## Abstract

*Today, the banks play a very important role as the most important element of monetary market in our economy. With the development of financial markets, the activity of banking and financial institutions has formed in broader dimensions and without a doubt, economic development is not possible without considering the banking and monetary markets' role. One of the most important factors affecting the bank credit is the unconventional monetary policy, for this purpose, in this study, the effect of unconventional monetary policies has been examined on the bank's performance. The statistical population of this research is the banks listed on the Tehran Stock Exchange, in the period 2016-2006. The research hypotheses were tested by using the Eviews software. The research results showed that unconventional monetary policies do not affect the performance of banks and deposit insurance coverage has an impact on the performance of banks.*

*JEL classification: E52*

*Keywords: Unconventional Monetary Policy, Performance of The Bank, Deposit Insurance Coverage*

## 1. INTRODUCTION

Today, the banking system, including the central bank and commercial banks, plays a major and leading role in monitoring economic activities and circulating wheels of economic and social progress. Therefore, the economic literature remembers the banking system, as the heart of the economy, which injects blood (money), tailored to the needs of real sectors. A wide network of commercial banks, with a focus on the central bank, at least plays three key roles in the economy, which include, exchange boom, mobilization and optimal allocation of resources and implementation of monetary policies. Today, the banking system provides required considerable and valuable services to the society, in order to facilitate exchanges, mobilizing stagnant savings of people and direct them to useful and productive investment and the implementation of appropriate monetary policy. The central Bank implements the monetary policies through the study of the economic situation and according to the condition in the country and with selecting weighed policies, takes advantage of important and complex economic tools (Mousavian, Ansari, 2015).

More recently, several countries, including Iran, have experienced monetary and banking crises and exchange rate shocks that have been shown as the erosion of bank capital and reduced bank lending. Created problems in the banking sector have reduced the investor's confidence and have accelerated the capital outflows from the countries. Therefore, reducing intermediation activities has caused the loss of credit highway in firms, during the crisis and leading the business toward spending and short term production. One of the most important factors affecting bank credit to lending is monetary policy, and this policy is usually done by the central bank and using several tools, including required reserve rate tool, re-discounting rate and open market operations. Monetary policy is effective through multiple channels such as interest rate channel, exchange rate channel, other asset price channel and the credit channel on the production. Economists agree with the view that monetary policy in the short term is effective on the real part of the economy, but their disagreement is over the effective channels and their importance to each other. Since, banks play a special role in the financial system to solve the asymmetric information problem of credit markets, bank lending channels have been raised according to this special role. The borrowers

access to the financial markets through the banking system. On the other hand, there is no perfect substitute between banks partial deposits and other financial resources (Sharifi Renani et al., 2009).

In response to the financial crisis, in 2008, the central bank developed the activities with the use of monetary expansion policy. In this method, it was trying to purchase many saving bonds, in the period 2013-2008. This was not as a surprising factor, but this is defined by the experts and policy makers, as conventional monetary policies. In this regard, a growing literature has studied the effect of interest rates on risk-taking banks. In this regard, there is a gap in the relationship between unconventional monetary policy (UMP) with the central bank assets and excess reserves and the commercial activity of banks, which in the meantime, country-level variables can be effective in this relationship. There is a limited literature in the field of unconventional monetary policy wide effect on the performance of banks. In the meantime, several studies have been done to examine the effect of unconventional monetary policy on the prices of assets, interest rates and a number of macroeconomic variables (Bowman et al., 2015; Chen et al., 2012; Rogers et al., 2014; Kapetanios et al., 2012; Krishnamurthy and Vissing-Jorgensen et al., 2011). Some of the studies have been done more frequently to examine the effect of the Reserve federal policies on long-term interest rates, (D Amico et al., 2012; Swanson, Williams, 2014), saving bonds yield, stock prices and exchange rates (Bowman et al., 2015; Rogers et al., 2014). Other studies have been done to examine the effect of unconventional monetary policy on the production and inflation (Chen et al., 2012; Kapetanios et al., 2011), and some studies examined the relationship between unconventional monetary policy, with the financial stability (Gilchrist, Zakrajsek, 2014; Gilchrist, Zakrajsek, 2013). Gilchrist and Zakrajsek (2013) examined the effect of unconventional monetary policy on companies' risk for commercial and investment banks, and the results showed that unconventional monetary policy led to an increased risk of companies. Similarly, Chodorow-Reich (2014) examined the effect of unconventional monetary policy on the risk taking of insurance companies and investment funds, in the period from 2013 to 2008, and showed a positive relationship between unconventional monetary policy and risk taking of these companies. Examine the effects of unconventional monetary policy could be effective on yield and profitability of banks through the profit margin and banking interest. In addition, expansionary monetary policy, in the long run, reduces the interest rate (Sanson, Williams, 2014; Wright, 2012). Also, it can be said, the resistance of a bank to deal with the crisis depends on the banks' assets in the fund. The capital importance of these funds is as the appropriate means and hard insulating for banks, which through depositing of the fund you can accumulate legal reserves, and create overall trust. For banks' enjoyment from depositing, it should have a strong capital base, as evidence of the capability and means of operating profitability, until it increases the funds received from shareholders. Every business, substantially, effects on their environment, customers, government and the public. Due to the different results, it can be seen that unconventional monetary policies can effect on the performance of banks. Therefore, the aim of this study is to investigate the effects of unconventional monetary policy on the bank performance. Then, we explore the theoretical foundations and the formulation of hypotheses in this article, and in the third part, the model and operational definition of variables, and in Part four, analysis of data and finally the conclusion will be discussed.

## **2. RESEARCH LITERATURE:**

### **2.1. UNCONVENTIONAL MONETARY SYSTEM**

Monetary policy is a set of measures that the central bank applies in order to control the economic activities of the society. Such a policy effects on money supply and interest rates and thereby effects on many economic objectives such as: increased employment, price stability and solving the problem of stagnation. In fact, monetary policy is adopting measures to control and regulate the volume of money in circulation. Different schools have different views about the effect of monetary policy on the economy. Mercantile believed that the rapid growth of trade requirement is more money circulating in the economy. In other words, there is a direct relationship between the money supply and the level of economic activity, and, accordingly, when the money supply increases (in the case of other factors constant), this factor increases the volume of economic activity. They also argued that the increase in the volume of money in circulation can sometimes cause price inflation (Sharifi Renani et al., 2009).

In theory, the behavior of the fiscal and monetary policies (changes in the money supply, interest rates, government spending or taxes) plays a significant role in determining asset prices. For example, raising taxes, assuming no change in government spending, decreases the yield or price of the assets, because it prevents the investors from future investment in the stock market (Laopodis, 2009).

In other words, by increasing the nominal interest rate, the cost of using capital increases and it decreases investment and consumption spending and undermines the real economic activity, as well as by increasing the money supply, cash balance of people will be more than their desirable balance. Therefore, people spend their excess cash on purchasing goods and services and other financial assets, which shares are a part of it (Shahbazi et al., 2013).

The reduction of short-term interest rates during the recent financial crisis caused the central bank to turn. Following the application of unconventional policies for the use of unconventional monetary policies, a lot of researches have been done to determine the effects of these policies. However, further studies are needed in this area, but empirical evidence suggests the usefulness of policy tools (when interest rates are near zero). Most likely, the adoption of unconventional monetary policy, in recent years, is one of the fundamental changes in monetary policy, in the history of the central bank. In early 2009, the US Federal Reserve was on a two-way. The United Governments were in the second year of economic recession and did not have a hope to improve these conditions. Despite the fact that the standard policy in dealing with the crisis was reducing short term interest rates to stimulate demand of consumers and businesses, but due to the crisis, short-term interest rates were near zero, and there was no possibility to reduce it more by the central Bank of the United Governments. Hence, the Fed applied a policy that was not used since the World War II. Fed directly bought long-term bonds of the government, for its portfolios and released new money in exchange for it. Therefore, in order to deal with the crisis, the Fed expanded its balance sheet. The government bond purchase program, on a large scale, which is often called quantitative easing, is perhaps the most well-known policy among the unconventional policies that the central banks have used in advanced economies during the recent global crisis. As noted conventional monetary policies did not able to further reduce interest rates and the central banks used the policies of the balance sheet. Purchasing the government saving bonds began in March 2009 and in mid-2009, it was replaced by interest rate policy as the main instrument of federal monetary policy, reserve and the Bank of England. In mid-2010, the central banks of Britain and America had a significant share in keeping the government saving bonds. Also, in November 2010, the Federal Reserve announced another step to buy government saving bonds, for the first half of 2011. In addition, the central banks of many advanced economies began different funding programs (including bank and non-bank credit institutions bailouts and supply of currency) in facing deep and varied problems in the financial markets and real economy sectors. In general, the unconventional monetary policies, in an unprecedented way, led to the larger size of central banks' balance sheets. In general, the balance sheet policies are considered a success (at least in preventing a downward spiral of economic and financial crisis) for central banks. So, with the help of unconventional policies, economic growth was resumed in more advanced economies (albeit at a low rate). Of course, these achievements do not mean that these policies should become a part of the standard tools of monetary policy of central banks (Hemmati, 2012).

Before the year 2008-2007, monetary policy was implemented with a systematic and relatively predictable approach, and its effective mechanism was well understood. A key policy instrument was short-term interest rates, while the volume of money and the exchange rate were freely changed. The central bank reaction function (or a general rule), guided the market expectations about future interest rates. Good arbitrage practice ensures that real and expected changes in short-term rates, along yield curve of government saving bonds and private assets, including bank loans, will be transferred to the long-term rates, and with nominal rigidities, these changes in nominal returns affected the real interest rates and so the real economy decisions, such as consumption and investment.

Financial crisis destroyed this model from three aspects:

1. The massive destruction of financial markets weakened or disrupted the arbitrage conditions, and prevented the transmission of interest policy rate changes along the yield curve.

2. Acute vulnerability stopped some of the markets. (Coordination based on a poor balance, similar to what happened during the banks' bankruptcy).

3. The severity of the recession caused the optimal policy of interest rate will be lower than the bottom border of the range, that is zero.

These three factors caused that many of the advanced economies, like the United Governments of America, Europe, the UK and Japan adopted unconventional monetary policies. The main objectives of the use of unconventional policies include (Shakeri, 2014):

1. Restoring the proper functioning of financial markets and financial intermediaries

2. Implementation of monetary policy at the bottom border

It is argued that the goal of the central bank is affecting on long-term true yields, because often, these yields are connected with consumption and investment decisions. Under normal conditions, this connection is indirect, which is the transfer from nominal short-term rates to long-term nominal rates, and then long-term real rates. But in terms of zero policy rates, central banks affect directly on the long-term real rates by reducing long-term nominal rates and increasing inflation expectations.

**1. Leading Forward:** In general, leading forward includes the management of market expectations about future policy, by clear communicating with economic brokers with information about the central bank's reaction function and economic prospects. In zero policy rates, the central bank can convince the market through leading forward that the policy rate will remain bottom for a long time, and if this measure is successful, the nominal and actual rates of expecting future will reduce and expectations will be strengthened about the economic recovery.

**2. The Purchase of Government Saving Bonds:** Purchasing the government saving bonds can be effective through three channels:

- ❖ **Signaling Channel:** Purchasing saving bonds convinces the markets that the central bank is committed to easing monetary policy. If economic brokers believe that a quick exit from this policy is difficult or costly, purchasing saving bonds increases the central bank policy credibility. This policy can be a complementary of forward leading.
- ❖ **Scarcity Channels:** A large buyer, such as the central bank can reduce supplying the saving bonds, and thus increase its price. With the increase in the price of bonds, its rate of return and, consequently, its close substitutes return will be reduced.
- ❖ **Time Channel:** When the central bank purchases a large number of bonds with long-term maturities, portfolio of investors will be safer and the risks reduce. As a result, investors will be ready to receive fewer interests for holding the remaining bonds, therefore, the total yield curves will be transferred downward.

Table 1 shows unconventional monetary policy goals, challenges and actions of central banks in relation to these challenges.

**Table 1. Unconventional monetary policy goals, challenges and actions (Shakeri, 2014)**

Unconventional monetary policy goals	Challenges	Tools/ Actions
Restoring financial market performance	1. Rational bankruptcy 2. The destruction of trust 3. Asset price cycle.	1. Last Manufacturer in the market 2. Extensive liquidity provision 3. Purchase of private assets
Further implementation of monetary policy	1. Loss of traditional tools' performance	1. Leading forward 2. Purchase of government bonds

*Source: Author*

As shown in Table 1, unconventional monetary policies are implemented under certain circumstances (and, naturally, for temporary periods), by some developed countries that these conditions can be divided into two major categories, namely restoring financial market functioning and further implementation of monetary policy.

**Further Implementation of Monetary Policy:** With respect to these matters, we can say that there are different circumstances, in Iran economy. First, within the framework in the Iranian economy, monetary policy, interest rate is not used as a policy tool, which is used in the same way in the advanced economies. Secondly, unlike the advanced economies, in which interest rates fell to the zero level during the crisis, interest rates in the Iranian economy are at relatively high levels, and do not lose their performance within the stated concept. Therefore, measures to further implementation of monetary policy will be meaningless due to performance loss of interest rates for the Iranian economy.

**Restoring Financial Market Performance:** As mentioned above, during the period of crisis, financial markets were severely damaged. The classic problem of rational bankruptcy led to the bankruptcy of many banks, and the trust and confidence disappeared in many markets, and pressure to reduce prices of assets, led to credit limits and higher costs of financing. In this situation, the central banks of countries involved in the crisis performed expanded financing and the purchase of private assets. In Iran, the banks faced with lack of resources during different periods, due to the repressive policies of finance, such as low interest rate, loan obligations and ... and, of course, in this regard, bank debt to the central bank has also increased a lot. In these circumstances, measures such as structural reforms in the banking system and increase the efficiency of the banks are prior to the provision of the banks liquidity by the central bank. Also limits of borrowing manufacturing firms, also more than relating to the conditions within firms and their balance sheet sheets, are related to a lack of bank liquidity for lending. Therefore, the purchase of firms' asset of the central bank without reforming the banking system and development of financing instruments would not be an appropriate solution, and factors affecting the profitability of banks can be divided into two internal and external classifications. Internal factors include the specific characteristics of the bank, such as bank size, investment and productivity and the bank's risk. External factors are not related to the bank's management and reflect macroeconomic conditions, which affect the performance of financial institutions (Mokni et al., 2014). The literature on the relationship between unconventional monetary policy and the bank's performance is very limited. Samuelson (1945) showed that changes in interest rates effect on the bank's performance. Hancock (1985) showed that raising interest rates could affect the profitability of banks. Wang (2016) examined the effect of unconventional monetary policies on the amount of bank lending, and showed that unconventional monetary policies had an effect on the lending rates of banks in Japan and the United States of America. Mamatzakisa Emmanuel, Bermpei Theodora (2016) examined the effect of unconventional monetary policy on the performance of banks, and showed a negative relationship between unconventional monetary policy and the performance of banks. Masaki (2017) examined the financial crisis and social risks, and due to the effect of unconventional monetary policy on the activities of the bank, he showed that unconventional monetary policy has an effect on stock price and trading volume and pricing in the market.

### 3. RESEARCH METHODOLOGY

According to studies, the research hypotheses are as follows:

The first hypothesis: The effect of unconventional monetary policy on bank performance is negative (positive).

The second hypothesis: The effect of deposit insurance coverage on the performance is negative (positive).

The third hypothesis: The positive (negative) effect of unconventional monetary policy on the Bank's performance is stronger than deposit insurance.

The fourth hypothesis: The positive (negative) effect of unconventional monetary policy on the performance of the bank is adjusting deposit insurance of institutions.

To test the research hypotheses, the following regression model is used:

$$(Perform)_{i,t} = \left[ c + a_1(UMP)_t + a_2(DIC)_{i,t} + \sum_{j=1}^n \beta_j (Control)_{i,t} + v_i + u_{i,t} \right],$$

The dependent variable in this study is the performance of the bank, which the following four criteria are used: Return on assets (ROA), return on equity (ROE), and operational assets before tax to total assets (POI), profit after tax deduction to the profit from assets (NIM). Independent variables are as follows:

UMP: Represents the unconventional monetary policy, which is measured based on two variables: CBA: represents central bank assets; EXC\_RES: represents the excess reserves of banks. ; DIC: is dummy variable that in the form of deposit insurance, the amount is equal to one; otherwise it is equal to zero.

Control: is controlling variable, which reflects the banking specific features:

SIZE: Size of the company; E / TA: Equity to total assets; LA / TA: is the ratio of loans to total assets; LIQ / TA: is a cash asset to total assets, Z-SCOR: is obtained from the ratio (standard deviation ROE) / (ROE + 1)

The explanatory variables: In this study, include: gdp: is obtained from changes in gross domestic product. INFL: represents the rate of inflation. UEMP: represents the unemployment rate in the country. FED rate: represents the banking interest rates.

This research is practical in terms of purpose, and it is inductive in terms of reasoning method, and it is correlation analysis in terms of statistical analysis, and statistical models are multivariate regression. Eviews software is used to test hypotheses. The study population includes all banks listed on the Tehran Stock Exchange. Research sample is 8 banks listed on the Stock Exchange, between the years 2016 to 2006. Samples include banks, which their fiscal year is ending on 29 March and have changed their fiscal year during the years of study, and before the end of fiscal year 2006 they have been accepted in Tehran Stock Exchange, and their data are available for the years of study, and do not have operational lag during the period of study. Thus, with considering the combined data method (sectional units over time) that will be used to test the research hypotheses, the sample size includes 8 banks. Necessary information, in conjunction with these companies is collected and abbreviated from new result software and cds of Stock Exchange.

## 4. DATA AND EXPERIMENTAL RESULTS

### 4.1. DESCRIPTIVE STATISTICS

The first step in statistical analysis is to determine the outlined specifications of data and calculating in the descriptive indices. The purpose of this analysis is to identify the internal relationship of variables and show the behavior of subjects to provide preliminary of statistical analysis, and the descriptive specification will be revealed for further analysis (Homan, 2004). The data analysis in this section has been done by calculating the central indices, including mean and median and scattering parameters, such as standard deviation, maximum and minimum value of variables.

**Table 2. Descriptive statistics of variables**

	ROA	ROE	NIM	POI	CBA	EXC_RES	SIZE	E_TA
Mean	2.3027	19.3967	0.4709	0.6231	6.4529	11.9636	6.6987	19.1485
Median	1.5232	19.3919	0.4780	0.6334	6.4970	11.5000	6.6286	6.6328

	ROA	ROE	NIM	POI	CBA	EXC_RES	SIZE	E_TA
<b>Maximum</b>	43.3746	45.7586	0.8330	1.0225	6.8560	14.2000	7.9181	167.1344
<b>Minimum</b>	-0.3112	-13.9870	0.0313	0.1568	6.0113	10.2000	5.2011	0.0355
<b>Standard deviation</b>	4.6684	11.7959	0.1506	0.1888	0.2688	1.1723	0.7603	34.0095
<b>Number of companies</b>	8	8	8	8	8	8	8	8
<b>Number of observation</b>	88	88	88	88	88	88	88	88

Source: Author

Continuation of table 2. Descriptive statistics of variables

	LA_TA	LIQ_TA	Z_SCOR	GDPR	INF	UEMP	FED_RAT E
<b>Mean</b>	0.0644	0.2684	0.2880	3.1909	0.2159	11.4909	1.5068
<b>Median</b>	0.0326	0.2477	0.1824	3.0000	0.2150	11.3000	1.5000
<b>Maximum</b>	0.8828	0.8040	1.1467	11.4000	0.3420	13.5000	1.8750
<b>Minimum</b>	9.20E-06	1.29E-05	0.0068	-6.6000	0.1080	10.4000	0.9583
<b>Standard deviation</b>	0.1053	0.1902	0.2720	4.8791	0.0826	0.9820	0.3271
<b>Number of companies</b>	8	8	8	8	8	8	8
<b>Number of observation</b>	88	88	88	88	88	88	88

Source: Author

#### 4.2. DURABILITY TEST OF VARIABLES (UNIT ROOT):

To determine durability of research variables, Phillips-Perron’s unit root test will be used for the research variables. If, Time series, used in the regression, are not permanent, we may have a spurious regression. The result of the Phillips-Perron’s unit root test for the variables of study, are listed below.

Table 3. Reviewing durability of variables

Variable	Phillips-Perron test		Test result
	Statistics	Significant	
<b>ROA</b>	75.6345	0.0000	Durable
<b>ROE</b>	86.8685	0.0000	Durable
<b>NIM</b>	44.0564	0.0002	Durable
<b>POI</b>	125.152	0.0000	Durable
<b>CBA</b>	44.0395	0.0002	Durable
<b>EXC_RES</b>	48.5736	0.0000	Durable
<b>SIZE</b>	115.454	0.0000	Durable
<b>E_TA</b>	96.8418	0.0000	Durable

Variable	Phillips-Perron test		Test result
	Statistics	Significant	
LA_TA	85.2019	0.0000	Durable
LIQ_TA	68.2627	0.0000	Durable
Z_SCOR	49.8289	0.0000	Durable
GDPR	39.6262	0.0009	Durable
INF	48.0368	0.0000	Durable
UEMP	58.2864	0.0000	Durable
FED_RATE	44.7678	0.0002	Durable

*Source: Author*

Results in Table 3 indicate that, probable value of all tests for all the variables is less than 0.05, and it indicates that all research variables are durable.

#### 4.3. ESTIMATING THE MODELS:

Autocorrelation Test is one of the classical assumptions of regression. Durbin-Watson statistic is a test statistic, which is used to check the autocorrelation (correlation between the values that are separated from each other with specified lag) between the residuals in the regression analysis. The value of this statistic is always between (0 to 4) and its accepted thresholds are, as follows: amount 2 for this statistic indicates lack of autocorrelation, which the ideal state in the main assumptions relates to the residuals in the regression analysis. In fact, the amount less than 2 shows the successive positive correlation (it is a kind of successive correlation, in which the positive residual for a viewing increases the chance of positive residual of another viewing and vice versa), and the amount more than 2 of this statistic shows successive negative correlation among the residuals. It should be noted, if the test statistic is less than 1 or more than 3, it will be an alarm for positive or negative autocorrelation among the residuals. As it stands, the value of this statistic, in this study is near 2 and this value indicates lack of autocorrelation, which the ideal state in the main assumptions relates to the residuals.

**Table 4. The F Limer test results**

The dependent variable	Statistics	Degrees of freedom	P-value
ROA	1.039501	(7,61)	0.4134
POE	2.529615	(7,61)	0.2237
NIM	0.095524	(7,61)	0.9984
POI	6.410152	(7,61)	0.2434

*Source: Author*

Given that, the P-value in all four models is larger than 0.05, then the null hypothesis of this test, which represents the preferred method of Pooling data rather than the panel data is not rejected and estimation by Pooling data method (pooled model), is preferred and no intercept should be considered in the equation.

#### 4.4. CO-LINEARITY OF VARIABLES

In Econometrics, co-linearity occurs when two or more than two explanatory variables (independent) have a high correlation in a multivariate regression relative to each other. The correlation here is a linear relationship between the independent variables. Depending on the severity of correlation between the independent variables, the amount and type of co-linearity will be different. Collinearity exists more or less, in all regression models and the important matter is the intensity of co-linearity between the independent variables. "Full co-linearity" causes the violation of the classical assumptions of the regression model. In this study, to evaluate the colinearity between explanatory variables, correlation coefficient between them is used. The results are shown in Table 5 below.

**Table 5. The correlation coefficient value**

FED-RATE	UEMP	INF	GDPR	Z-SCOR	LIQTA	LA-TA	E-TA	SIZE	EXC-RES	CBA	POI	NIM	ROE	ROA	Correlation
														1.00	ROA
													1.00	0.008	ROE
												1.00	-0.170	-0.220	NIM
											1.00	-0.058	-0.008	-0.074	POI
										1.00	0.082	0.009	0.061	0.040	CBA
									1.00	-0.291	-0.058	0.015	-0.014	-0.030	EXC-RES
								1.00	-0.046	0.080	-0.209	0.024	0.081	0.006	SIZE
							1.00	0.246	-0.160	0.128	-0.025	0.046	0.120	-0.015	E-TA
						1.00	-0.054	-0.093	-0.003	-0.006	0.214	0.065	0.173	0.024	LA-TA
					1.00	0.267	0.115	0.194	-0.045	0.145	-0.053	0.206	0.054	0.019	LIQTA
				1.00	0.182	0.108	0.014	-0.038	0.097	-0.111	0.070	0.021	-0.067	-0.090	Z-SCOR
			1.00	-0.160	-0.044	0.091	-0.129	0.016	0.358	-0.178	0.021	0.155	0.022	0.211	GDPR
		1.00	-0.256	0.073	0.012	-0.014	0.097	0.016	-0.321	0.310	-0.020	-0.137	-0.037	0.169	INF
	1.00	-0.066	0.222	-0.122	-0.247	-0.043	0.093	0.015	-0.345	0.153	0.076	-0.042	-0.065	0.056	UEMP
1.00	-0.055	0.298	-0.233	-0.040	0.140	0.008	0.160	0.038	-0.299	0.247	0.010	-0.099	0.042	0.104	FED-RATE

Source: Author

As it stands, the maximum absolute value of the correlation coefficient between variables is equal to 0.358 and other amounts are very little and this indicates that there is no high colinearity between explanatory variables.

#### 4.5. ESTIMATING THE MODELS:

Autocorrelation Test is one of the classical assumptions of regression. Durbin-Watson statistic is a test statistic, which is used to check the autocorrelation (correlation between the values that are separated from each other with specified lag) between the residuals in the regression analysis. The value of this statistic is always between (0 to 4) and its accepted thresholds are, as follows: amount 2 for this statistic indicates lack of autocorrelation, which the ideal state in the main assumptions relates to the residuals in the regression analysis. In fact, the amount less than 2 shows the successive positive correlation (it is a kind of successive correlation, in which the positive residual for a viewing increases the chance of positive residual of another viewing and vice versa), and the amount more than 2 of this statistic shows successive negative correlation among the residuals. It should be noted, if the test statistic is less than 1 or more than 3, it will be an alarm for positive or negative autocorrelation among the residuals. As it stands, the value of this statistic, in this study is near 2 and this value indicates lack of autocorrelation, which the ideal state in the main assumptions relates to the residuals.

**Table 6. Estimating the research models**

Variable	ROA		ROE		NIM		POI	
	Coefficien t	P- value	Coefficien t	P- value	Coefficien t	P- value	Coefficien t	P- value
ASSETDIV	121.4694	0.467	53.5181	0.892	-1.9047	0.731	-3.2570	0.473
CBA	25.1395	0.417	-36.7731	0.012	-0.0731	0.002	-0.5636	0.000 2
EXC_RES	-0.0503	0.028	-1.1466	0.122	0.0325	0.531	-0.1472	0.260
CBA_ASSETDIV	-11.7394	0.007	-17.9514	0.708	0.3793	0.571	0.4134	0.451
CBA_DEP_TA	-214.3837	0.631	642.1779	0.546	-0.8724	0.953	9.4821	0.435
DEP_TA	1.7361	0.956	-14.7113	0.850	0.3480	0.749	-0.2797	0.752
DIC	1.8799	0.000 4	1.4728	0.023	1.3128	0.007	0.9065	0.019
EXC_RES * DIC	-0.5039	0.018	-3.5896	0.222	0.0212	0.604	-0.0472	0.160
E_TA	-0.0034	0.886	0.0396	0.508	-0.0003	0.697	0.0016	0.016
EXC_RES	-3.7428	0.685	12.8970	0.000 3	0.1656	0.000 4	0.1920	0.000 2
EXC_RES_DEP_TA	0.9202	0.497	-2.0724	0.521	-0.0259	0.565	-0.0322	0.383
EXC_RES_ASSETDI V	-3.7971	0.320	4.6794	0.607	-0.0413	0.744	0.0649	0.531
FED_RATE	-4.5488	0.286	2.4309	0.810	-0.0527	0.710	-0.1341	0.030
GDPR	-0.4649	0.021	0.0965	0.838	0.0058	0.381	-0.0008	0.876
INF	6.6203	0.000 2	-13.2166	0.515	-0.0412	0.884	-0.0345	0.881
LA_TA	2.6495	0.723	-37.4930	0.038	-0.1228	0.012	0.1522	0.000 2
LIQ_TA	3.7609	0.381	7.4053	0.006	0.1248	0.383	-0.1707	0.146
SIZE	-0.2499	0.878	-5.8766	0.136	-0.0166	0.760	-0.0773	0.006
UEMP	3.0419	0.038	2.4109	0.009	4.0250	0.000	3.1192	0.006
Z_SCOR	-2.2153	0.346	-5.5819	0.320	0.0325	0.677	-0.0070	0.911
C	145.2833	0.688	-658.3647	0.447	0.6027	0.960	-8.5926	0.385
The overall fit of the model	F= 10.81871 Prob(F)= 0.000 D.W=2.132676 R <sup>2</sup> =0.258689		F= 10.20373 Prob(F)= 0.000 D.W=1.864104 R <sup>2</sup> =0.339090		F= 10.61851 Prob(F)= 0.000 D.W=2.101030 R <sup>2</sup> =0.208627		F= 14.63905 Prob(F)= 0.000 D.W=1.922643 R <sup>2</sup> =0.664126	

Source: Author

The results of the regression model estimation have been reported in the table (6). The results of the model estimation and the level of significance related to the F, is smaller than 0.05 only in the second model, and indicates significant input variables, including control and independent variables at the 95 percent level of significance and shows the appropriate fit of the model.

**The First Hypothesis: The effect of unconventional monetary policy on bank performance is negative (positive).**

Examine the effect of monetary policy variable, (CBA, EXC\_RES \* DIC, EXC\_RES) on the dependent variable in the first model (ROA) shows the effect of EXC\_RES \* DIC is equal to 3.041948 and p-value is obtained equal to 0.0386 which is smaller than the error level of 5 % and the effect is significant. The effect of monetary policy variable, EXC\_RES \* DIC, in the second model (ROE) equals to 2.410977 and p-value is obtained 0.0091 which is smaller than the error level of 5%, and the effect is significant. The effect of the variable EXC\_RES \* DIC, on the dependent variable in the third model (MIN) equals to 4.025090 and p-value is obtained 0.0001 which is smaller than the error level of 5%, and the effect is significant. The effect of the variable EXC\_RES \* DIC, on the dependent variable in the fourth model (POI) equals to 3.119262 and the p- value is obtained 0.0064, which is smaller than the error level of 5%, and the effect is significant. The remaining measured variables of unconventional monetary policy are not significant. So, in conclusion, we can say that with the probability of 95% EXC\_RES \* DIC has a positive and significant effect on the performance of banks and other variables, but due to the lack of other variables confirmation, unconventional monetary policy does not have an effect on bank performance.

**The Second Hypothesis: The effect of deposit insurance coverage on the negative performance (positive).**

Examine the effect of deposit insurance coverage variable, (DIC) on the dependent variable in the first model (ROA) shows the effect is equal to 1.879994 and p-value is obtained equal to 0.0004 which is smaller than the error level of 5 % and the effect is significant. The effect of monetary policy variable, (DIC), on the dependent variable in the second model (ROE) equals to 1.472840 and p-value is obtained 0.0232 which is smaller than the error level of 5%, and the effect is significant. The effect of the monetary policy variable (DIC), on the dependent variable in the third model (MIN) equals to 1.312855 and p-value is obtained 0.0076 which is smaller than the error level of 5%, and the effect is significant. The effect of monetary policy variable (DIC), on the dependent variable in the fourth model (POI) equals to 0.906506 and the p- value is obtained 0.0199, which is smaller than the error level of 5%, and the effect is significant. So, in conclusion, we can say that with the probability of 95%, deposit insurance coverage has a positive and significant effect on the performance and the second hypothesis is confirmed.

**The Third Hypothesis: The positive (negative) effect of unconventional monetary policy on the Bank's performance is stronger than deposit insurance.**

According to the results of former hypotheses, it can be seen that, in all four models, the Coefficient obtained for monetary policy variable (CBA, EXC\_RES), relationships that the amount of error level was less than 0.05 are more than the deposit insurance coefficient (DIC), so it can be said that the positive effect of unconventional monetary policy on the Bank's performance is stronger than the deposit insurance, and the third hypothesis is confirmed.

**The Fourth Hypothesis: The positive (negative) effect of unconventional monetary policy on the Bank's performance is the adjuster of institutions' deposit insurance.**

Examine the effect of unconventional monetary policy adjuster variable, (EXC\_RES \* DIC) on the dependent variable in the first model (ROA) shows the effect is equal to -0.503955 and p-value is obtained 0.0158 which is smaller than the error level of 5 % and the effect is significant. But in the other three models, p-value is more than the error level of 5% and the observed effect is not significant, therefore, on the whole, we can say, the adjuster role is not accepted and the fourth hypothesis is rejected.

## 5. CONCLUSIONS

Monetary and fiscal policies usually play an important role in stabilizing the economies of the developing. Economic policy makers in these countries can achieve the desired goals, according to the instruments of monetary policy and through changes they make in them. In this paper, the relationship between the effects of unconventional monetary policy on the bank performance, for 8 banks of the banks listed in the Tehran Stock Exchange has been studied in the period 2006 to 2016. The results of the model estimating, by regression models with panel data indicate a significant relationship between all variables of unconventional monetary policy and the performance of banks. But there is a significant relationship between the deposit insurance and the performance of banks. All unconventional monetary policies that are implemented by major central banks provide a definition of the global financial crisis characteristics. However, during the crisis, the central banks used the forward leading, to reduce the actual and expected rates of the future, but; in general, this policy can be used to manage the expectations of economic brokers, in order to achieve the goals of the central bank. Since Iran's economy is already in stagflation, the management of inflation expectations, through an efficient communications framework with economic factors, can turn the retrospective pricing system into the prospective and reduce real spending for inflation. Adopting many of the unconventional balance sheet policies that central banks have used recently, as well as the duration of using these tools depends on the general economic conditions, pressures against inflation and near-zero interest rates, the structure of financial markets, the central bank credit as well as risks associated with the exit strategy from the balance sheet policies, including the central Bank's independence and credibility.

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# THE RELATION BETWEEN EXCESS VOLATILITY AND TEHRAN SECURITY EXCHANGE STOCKS RETURN

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## Abstract

*In order to choosing the appropriate portfolio of shares, in addition to the information that required to estimate the expected returns, investors consider the risk associated with stock as well as one of the basic elements. Therefore, risks can be one of the main factors in the investment decision-making and resource allocation in the economy. The volatility of asset price is from the real economy variables changes or volatility of emotional investors reaction sake of real economy variables changes. This means that share price flustered cause of real economic variables or company change, from two sources. price changes resulting from changes in profitability and resulting from the emotions of investors as a result of changes in profitability. In this research, difference between long term and short term volatility used for measuring excess volatility to answer this question "does excess volatility have any excess restitution for investors?", regression using; variance difference, variance ratio, firm size, momentum, turnover ratio and market value to book value ratio, has been runned. Results indicate that excess volatility outcomes excess restitution for investors.*

*JEL classification: G32*

*Keywords: Excess Volatility, Stock Return, Emotional Risk*

## 1. INTRODUCTION

In financial literature, investment is defined as money commitment or other sources in order to purchase future resources (Bodie, Kane, Marcus); investors always prefer more future resources (efficiency). But they encounter risks. This point is same as the traditional opposition between risk and return, which represents if investment requires higher expected returns, it should receive more risks. One of these risks is the emotional risk. Emotional risk means that a part of stock volatility always results investors emotion. So that properties risks can be reviewed the volatility of changing of a real variable or of investors' emotion. Thus stock price will be raged after changes of a real economic or corporative variable; price changes of profitability and emotional investment in following of profitability changes. The concept of volatility shows unreliability in investment so investor demand risk premium to encounter this risk in order to justify their investment.

The theory about emotional volatility and investment return predicts that stock with more excess volatility makes more return for investor hence it has risk premium as well. Reviewing the subject in different markets, using different scales and also different analysis methods may provide other kind of theory in these emotional volatilities. Difference in small and less developed markets is more objective. In this review, we are seeking to answer this question "if excess volatility makes positive return for investor and can has a positive consequence", using portfolio and regression methods.

Volatility scale in this research is variance difference due to the definition of Lo and McKinaly (1988).

In the following, at first, previous research interior or exterior is represented. Then is expressed methodology of the research, according to a way of selecting samples and their features, calculation methods of variable and emotional risk scale. In fourth and fifth chapters will be discussed about result of test and research models.

## 2. RESEARCH HISTORY

Wang et al. (2013) reviewed the relation between excess volatility and stocks return in USA by years 1963 to 2010. They used difference between short-term and long term volatility return as excess volatility index. Both portfolio approach and regression was used in this relation. Their finding showed that positive significant relation between excess volatility and stock return.

Chen et al. (2013) were finding source of incorrect pricing in stock market and excess volatility. They tried to explain this source based on inflation illusion and contradictory believes hypothesis, using a simple profit-sharing model. Inflation illusion hypothesis (Modigliani, Kohen, 1979) claims that investors are unsuccessful in discount real dividends with real portion rate and contradictory believes hypothesis claims that some investors disagree and some other agree about the growth rate of dividends; so these result bubble in stock prices. Their finding showed that both hypothesis justify incorrect pricing but contradictory believes has a stronger impact and significant role in explaining incorrect pricing of stock in long-term. They concluded that contradictory believes cause excess volatility yet inflation illusion doesn't have any effect. Total result of investors contradictory believes comparing with inability of investors in future cash flows discount is better justification for incorrect pricing in stock market.

Ung et al. (2006) did research about the relation between volatility and return of expected stock. Results represented that high sensitivity stock has a low average return rather than changing cumulative volatilities. Furthermore, based on their findings stock with high special volatility has a very low average return rather than Fama French model. As their believe, size effect, official value rather to market, momentum and liquidity cannot justify stock low average return with high systematic volatility risk or stock low average return with high special volatility.

Fu (2008) studied the relation of special stock risk and return. After Merton (1987) that predicted a positive relation between special risk and expected return and Ung et al. (2006) concluded that monthly stock return has a negative relation with a month- delayed special volatility; Fu showed that special volatilities change during the time thus their finding should not be used for paraphrase of this relation. He found out that there was a positive relation between special, conditional, estimated volatilities and expected return.

Heidarpour et al. (1391) has review the impact of investors emotional attitude on stock return in Tehran security exchange by year 1380 to 1388. according to this research impact of investors emotional attitude on each corporation's monthly sorted portfolio return, based on size price, official value rather market and institutional honor ship ratio was issue. Each portfolio's monthly return was calculated by means of each corporation monthly return and equivalent weight approach and finally related factors was estimated with performing multi-variable regression method by time series on model. According to this, it was used four-factored model of portfolio, corporation scale, official value, and investors' emotional attitude in return explanation. This research result existence of positive and meaningful relation of investors' emotional attitude with stock return of corporation with the smallest size, official value and institutional honor ship ratio.

Shirkavand et al. (1387) researched about investors' reaction than info reception and positive/negative news around stock profit of admitted corporations in security exchange. This research done on active corporations in Tehran security exchange by the years 1382 to 1388. In this article they used average cumulative abnormal returns in order to measure the investors' reaction. The results reveal, investors' reaction to received info around profit volatility at positive changes lower than positive limit, and for corporation with negative changes lower than negative limit too.

Mehrani et al. (1387) issued reaction assessment less than the investors' requirement in Tehran stock change "in his research. This research is an issue about reaction hypothesis assessment less than investors' requirement using short-term returns accepted in Tehran stock exchange by years 1378 to 1385. It has been used statistic test of t student with n-1 degrees of freedom and solidarity of Pierson and 95%. The result of this research are slow inaction and less than of investors' expectations in 6-month period. The

results of this research are slow inaction and less than of investors' expectations in 6-month period. Thus it cannot be achieved excess return by momentum investment strategy in Tehran stock exchange in 6-month period.

Moradi et al. (1384) studied interaction of investors further normal investors in Tehran stock exchange in his research. He investigated 60 companies in Tehran stock exchange by years 1371 to 1382. To calculate cumulative abnormal return and price and weekly index, he has analyzed the compact of level, P/E factors, the relative strength strategy reserve strategy on price and content of exchanges, using Debone and Taller methods. Totally, the result of his overact in long-term of Tehran stock exchange.

Ardakani et al. (1393) did review the reaction of investors around unexpected events in their research. According to this, it was review the daily return since year 1386 to 1396 as a simple of investors' behavior based in ambitious info hypothesis. Results in this research shows that return increasing has come with unexpected volatilities occur. However, results showed investors' reaction about appropriate news in abnormal returns in next period after entering proper data, abnormal stocks return is positive but this hypothesis is not accurate about improper news.

## **2.1. STATISTICAL SOCIETY, SAMPLE SIZE, SAMPLING METHOD**

Research's time domain is between years 1381 to 1393. And research's place domain includes listed corporation in Tehran security exchange and OTC. In order to achieve a congruous and steady sample of corporation and prevention of result distortion, corporations with below features are opted:

Being on a trade for at least for six months

Not included in past removed corporations of security exchange

In past reviewed period, have no financial period change

Not included in investments, insurance, financial intermediation corporation

Intended corporation's information to be available

After applying above limits, quantity of 48 corporations of exchange and OTC were opted.

## **2.2. RESEARCH HYPOTHESIS**

In this research, we are reviewing below hypothesis.

- Excess volatility might cause excess return for investor.

## **3. RESEARCH METHOD**

The goal of this research is functional and uses regression method in order to collect data as kind of descriptive and correlation calculation is done by using statistical, financial, optimizing techniques and programs such as Excel, Evens, and SPSS.

### **3.1. COLLECTING DATA METHOD**

The research data is extracted general financial- economical bank of consultant company investment named ArzeshPardaz Arian (AICO), RahavardNovin Software, and TSE Client Software and Security Exchange Website.

## **4. DATA ANALYSIS TECHNIQUES**

### **4.1. PORTFOLIO METHOD**

In this system, we organize companies based on calculated variance difference and m of last month in ascending; then we classify the variance difference to 5 categories: very low, low, average, high and very

high. Portfolio approach has been ranked based on m of last month and variance difference (excess volatility) so it was classified to 5 steps, the way of our calculating is based on variance difference and based on m of last month then they have been classified and divided to 5 groups, such as portfolio with very low excess volatility involving 1/m, very low excess volatility t time, 1/m very low excess volatility t-1 time, 1/m very low excess volatility t time, 1/m very low excess volatility t-1 time, 1/m very low excess volatility t-m+1 time. After portfolio approach, we will look for significant discovery return for each portfolio.

**4.2. REGRESSION METHOD**

Regarding the analysis, this approach is used in order to prove mention variables whether a positive return is made variance difference and if this return is dependent on other factors.

**4.3. RESEARCH VARIABLES**

Return: they divide revenues of investment to outlay for return calculations. Revenues of investment is achieved of 2 section of received dividend payment and advantage and dis advantage of changing portfolio price during the investment (Raei, Pouyanfar, 1383) in this process, return will be calculated of the following

$$\text{Logarithmic Return} = \ln(\text{adjusted price in the end of period} / \text{adjusted price in the beginning}) \tag{1}$$

Adjusted price is the stock price after applying capital increase and dividend.

VD: to calculate this variable is used variance difference, based on Lu and Mckinly (1988) variable. For calculating VD with q day, use the below formula:

$$VD = q\hat{\sigma}_1^2 - \hat{\sigma}_q^2 = q \sum_{k=1}^n \frac{(p_k - p_{k-1} - \hat{\mu})^2}{n-1} - \sum_{k=q}^n \frac{(p_k - p_{k-q} - q\hat{\mu})^2}{m}$$

That in above:

q= expected period for calculating VD

$$\hat{\mu} = \sum_{k=1}^n \frac{p_k - p_{k-1}}{n}$$

Equal to estimated daily logarithmic return average and

$$\hat{\sigma}_1^2 = \sum_{k=1}^n \frac{(p_k - p_{k-1} - \hat{\mu})^2}{n-1}$$

And

$$\hat{\sigma}_q^2 = \sum_{k=q}^n \frac{(p_k - p_{k-q} - q\hat{\mu})^2}{m}$$

Respectively equal to unscrewed estimator variance for daily return and q stock and

(6)	$m = (n - q + 1) \left(1 - \frac{q}{n}\right)$
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To calculative variance differences has been used three horizons (q) 2,3 and 4-month. So in regression method:

VD1=calculated variance difference using two months.

VD2=calculated variance difference using three months.

VD3=calculated variance difference using four months.

Variance ratio (VR): is as autocorrelation scale that is used for following formula:

$$(7) \quad VR(q) = \frac{\hat{\sigma}_q^2}{q \hat{\sigma}_1^2} = (n - 1) \sum_{k=q}^n \frac{(p_k - p_{k-1} - q\hat{\mu})^2}{qm \sum_{k=1}^n (p_k - p_{k-1} - \hat{\mu})^2}$$

As well, variance ratio is calculated as following:

$$(8) \quad VR(q) = 1 + 2 \sum_{k=1}^{q-1} \frac{(q - k) \rho_k}{q}$$

To calculate (VR) has been used three horizons, 2, 3 and 4. So in this method:

VR1=calculated VR using 2 month

VR2=calculated VR using 3 month

VR3=calculated VR using 4 month

#### 4.4. CONTROL VARIABLES

Company size: for the natural logarithm, market value in each company.

Cumulative Return Contribution: stored return in recent 6 months except t-1 (t-7 to t-2)

TURN: as natural logarithm rather than company stock flow in t-2

Market value to book value (MTB): as a natural logarithm of market value to book value at the end of the company course.

### 5. RESEARCH FINDINGS

Theory in the emotional risk predicts that excess volatilities have risk premium, make more return for investors and is the same as reward for them. Therefore, it is hoped that the stock with more excess volatilities has high expected return. In this chapter, we will discuss the examination using two portfolio and regression methods.

#### 5.1. PORTFOLIO METHOD

In this method, we organize the companies each month based on calculated variance difference then they are divided to five categories such as very low, low, average, high and very high. The way of our calculating is ranking portfolio based on available stocks in last m month, based on excess variance (VD) so that for instance portfolio will be very low VD involving 1/m t tome, 1/m very low VD t-1 time, 1/m very low VD t-m+1 time. The retention period is based on each made portfolio to the n period after portfolio and calculating return, we will discover return created for each portfolio that we use ANOVA. In this method, m and n respectively show evaluation period for portfolio method and retention period, 12 and 12 months.

Null hypothesis and opposite hypothesis in this model:

$$\begin{cases} H_0 : \mu_1 = \mu_2 = \dots = \mu_8 \\ H_1 : \mu_i \neq \mu \end{cases}$$

H0: there is no significant relation between groups.

H1: there is a significant relation between groups.

**Table1. ANOVA output for evaluating the significant relation between Averages of groups.**

	ANOVA				
	Sum of Squares	Df	Mean Square	F	Sig.
<b>Between Groups</b>	41.938	4	10.485	1.039	0.387
<b>Within Groups</b>	2724.050	612	10.089		
<b>Total</b>	2765.988	616			

Source: Author

According to the table, it is observed that quintiles average have no difference because amount of p-value is more than 0.05, so null hypothesis is not accepted, which causes the lack of difference between averages, as a result this is not accepted 95%. Therefore, the research hypothesis, named “excess volatility can make excess return for investment”.

## 5.2. REGRESSION METHOD

To hypothesis tests are used following model by regression method:

$$(9) \quad R_{i,t} = \alpha_0 + \alpha_1 VR_{i,t} + \alpha_2 VD_{i,t} + \alpha_3 SIZE_{i,t} + \alpha_4 CR_{i,t} + \alpha_5 LOGTURN_{i,t} + \alpha_6 LOGMTB_{i,t} + \varepsilon_t$$

## 5.3. HYPOTHESIS TEST RESULTS WITH 2 MONTHS

After regression hypothesis test and their ensuring, the results have been presented regression equation in the above table. Regression model also suggests amount of f (5.079). As it is defined in the table, justified determination factor is 9.69%, it means that about 10% of dependent variable by independent and controlled variable is represented. In this table positive (negative) numbers show in the factor column, which is amount of direct effect of each variables on companies return.

As it is observed in the following table, the amount of t is 2.733 for excess volatility and it possibility is 0/0068, significant level of discussed variable is less than 5%; also absolute t related to this variable has been calculated larger than t in the table. So H0 hypothesis in 95% has not been accept and H1, based on that there is a significant relation between excess volatility and return, has been accepted; in the other hand, due to the positive sing of excess volatility factor can express that increasing excess volatility, causes increasing company return as well, accordingly, in 2-month hypothesis named “excess volatility can make excess return for investor” becomes acceptable.

**Table 2. Regression results in 2 months.**

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0559	-1.921732	1.941802	-3.731624	<b>C</b>
0.0068	2.733623	0.001456	0.003981	<b>VR1</b>
0.9062	-0.117955	0.032189	-0.003797	<b>VD1</b>
0.0008	-3.386107	0.010094	-0.034179	<b>CR</b>
0.0135	2.491539	0.318803	0.794310	<b>SIZE</b>
0.0938	-1.682885	0.214720	-0.361350	<b>LOGTURN</b>
0.8509	-0.188224	0.476901	-0.089764	<b>LOGMTB</b>

<b>1.110306</b>	<b>Mean dependent var</b>	<b>0.120717</b>	<b>R-squared</b>
<b>3.151672</b>	<b>S.D. dependent var</b>	<b>0.096953</b>	<b>Adjusted R-squared</b>
<b>5.061854</b>	<b>Akaike info criterion</b>	<b>2.994996</b>	<b>S.E. of regression</b>
<b>5.166815</b>	<b>Schwarz criterion</b>	<b>1991.340</b>	<b>Sum squared resid</b>
<b>5.104197</b>	<b>Hannan-Quinn criter.</b>	<b>-572.5822</b>	<b>Log likelihood</b>
<b>1.912784</b>	<b>Durbin-Watson stat</b>	<b>5.079736</b>	<b>F-statistic</b>
		<b>0.000066</b>	<b>Prob(F-statistic)</b>

<b>Dependent Variable: R</b>
<b>Method: Least Squares</b>
<b>Date: 08/21/16 Time: 00:42</b>
<b>Sample (adjusted): 1 616</b>

**Included observations: 592 after adjustments**

**White heteroscedasticity-consistent standard errors & covariance**

*Source: Author*

### 5.4. HYPOTHESIS TEST RESULT IN 3 MONTHS

Results of the regression equation in the table are showed. Amount of F (5.95) represents meaning fullness of whole regression. As it is showed in bottom of table, amount of justified determination factor is 8.03, it means: that about 8% of the dependent variable is represented by independent and controlled variable. In this table, positive (negative) numbers in the factor column is amount of direct effect on each variable for companies return.

**Table 3. Regression Results in 3 month**

<b>Prob.</b>	<b>t-Statistic</b>	<b>Std. Error</b>	<b>Coefficient</b>	<b>Variable</b>
0.0648	-1.852864	1.614525	-2.991495	<b>C</b>
0.2983	1.041855	0.001578	0.001644	<b>VR2</b>
0.8549	0.183030	0.027526	0.005038	<b>VD2</b>
0.0001	-3.947024	0.008325	-0.032857	<b>CR</b>
0.0042	2.881369	0.261222	0.752678	<b>SIZE</b>
0.4573	-0.744165	0.185568	-0.138093	<b>LOGTURN</b>
0.5471	-0.602694	0.386523	-0.232955	<b>LOGMTB</b>

<b>0.954498</b>	<b>Mean dependent var</b>	<b>0.099801</b>	<b>R-squared</b>
<b>3.099089</b>	<b>S.D. dependent var</b>	<b>0.083027</b>	<b>Adjusted R-squared</b>
<b>5.034463</b>	<b>Akaike info criterion</b>	<b>2.967647</b>	<b>S.E. of regression</b>
<b>5.115230</b>	<b>Schwarz criterion</b>	<b>2835.831</b>	<b>Sum squared resid</b>
<b>5.066683</b>	<b>Hannan-Quinn criter.</b>	<b>-821.1691</b>	<b>Log likelihood</b>
<b>2.129672</b>	<b>Durbin-Watson stat</b>	<b>5.949788</b>	<b>F-statistic</b>
		<b>0.000007</b>	<b>Prob(F-statistic)</b>

<b>Dependent Variable: R</b>
<b>Method: Least Squares</b>
<b>Date: 08/21/16 Time: 02:10</b>
<b>Sample (adjusted): 1 616</b>

**Included observations: 592 after adjustments**

**White heteroskedasticity-consistent standard errors & covariance**

*Source: Author*

As it is observed in above table, t is 1.041 for excess volatility variable, significant level of discussed is more than 5%; also absolute t related to this variable calculated in the table is independency degree. So H0 hypothesis has been accepted 95% and H1 hypothesis based on that there is a significant relation between excess volatility and return, are not accepted.

## 5.5. HYPOTHESIS TEST RESULT IN 4 MONTHS

Result of the regression equation in the table is showed. Amount of F (5.028) represents meaning fullness whole regression. As it is showed in bottom of table, amount of justified determination factor is about 10%. In this table positive (negative) numbers in factor column shows amount of direct effect on each variable for companies return.

As it is observed in the following table, the amount of it is 2.69 for excess volatility variable, absolute t related to these variables, bigger than calculated t in table is independency degree. As well, its possibility is 0.007; significant level of discussed variable is less than 5%; so H0 hypothesis has not been accepted and H1 hypothesis based on that there is a significant relation between excess volatility and return, has been accepted.

**Table 4.**

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0541	-1.936568	1.929473	-3.736557	C
0.0076	2.693438	0.000772	0.002078	VR3
0.9944	0.007037	0.043411	0.000305	VD3
0.0009	-3.359118	0.010104	-0.033940	CR
0.0127	2.513072	0.317911	0.798934	SIZE
0.0938	-1.683038	0.214832	-0.361570	LOGTURN
0.8472	-0.192942	0.477095	-0.092052	LOGMTB
<b>1.110306</b>	<b>Mean dependent var</b>	<b>0.119645</b>	<b>R-squared</b>	
<b>3.151672</b>	<b>S.D. dependent var</b>	<b>0.095852</b>	<b>Adjusted R-squared</b>	
<b>5.063072</b>	<b>Akaike info criterion</b>	<b>2.996821</b>	<b>S.E. of regression</b>	
<b>5.168033</b>	<b>Schwarz criterion</b>	<b>1993.768</b>	<b>Sum squared resid</b>	
<b>5.105416</b>	<b>Hannan-Quinn criter.</b>	<b>-572.7217</b>	<b>Log likelihood</b>	
<b>2.026290</b>	<b>Durbin-Watson stat</b>	<b>5.028499</b>	<b>F-statistic</b>	
		<b>0.000074</b>	<b>Prob. (F-statistic)</b>	
<b>Dependent Variable: R</b>				
<b>Method: Least Squares</b>				
<b>Date: 08/21/16 Time: 02:20</b>				
<b>Sample (adjusted): 1 616</b>				
<b>Included observations: 592 after adjustments</b>				
<b>White heteroscedasticity-consistent standard errors &amp; covariance</b>				

## 6. CONCLUSIONS

The purpose of this research is discussing the relation between excess volatility and Tehran security stock return. Seeking share trading, its price is fluctuated. Stock return in different periods is variable. According to variability and volatility, the next period is not dependable. Unreliability to the future stock return creates a risky investment. Investment risk is possibility of actual return except what is expected. Therefore, investor always seeks deducting risk and increasing return. It can be expressed that part of price volatility, which is because of changing real economic and official variables, can be foe short-term emotional of investors. This emotional volatility can also have cost and benefit. So in this research the main issue is whether finally short-term emotional volatility can provide net positive return for investors and have a positive consequent. Research hypothesis has been studied using two approach s, portfolio and regression. In the following, we will have studied each of methods.

### 6.1. REGRESSION APPROACH

Hypothesis in regression approach was studied in their period of investment, 2, 3 and 4 months.

## **6.2. TWO-MONTH SCENARIO**

Statistical result show that there is a meaningful relation between excess volatility and company return; on the other hand, according to positive factor sign of excess volatility can say that increasing VD of company causes increasing return, so in this 2 months' scenario, research hypothesis, named "VD can make ER for investor" becomes acceptable. These result the same as Fung gain Fu (2009) and Wang et al. (2013) etc. result.

## **6.3. THREE MONTHS' SCENARIO**

Statistical results show that there is no relation between VD and company return. So the hypothesis named "VD can make ER for investor" is not acceptable. These result have contradiction to Fu and Wang research results.

## **6.4. FOUR MONTHS' SCENARIO**

Statistical results show that there are significant relations between VD and company return; on the other hand, according to a positive factor sign of VD can express that increasing VD causes increasing company return. Therefore, the hypothesis named "VD can make ER for investor" is acceptable. These result is the same as Fu and Wang research result.

## **6.5. PORTFOLIO METHOD**

Studying hypothesis using portfolio method was determined that portfolio return has no significant differences; in the other words, VD has not made ER for investors. So hypothesis named "VD can make ER for investor" is not acceptable. These result have contradiction to Fu and Wang research result.

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# ANALYZING THE INFLUENCE OF SOCIAL CAPITAL ON PERSONNEL FUNCTION (CASE STUDY: FARS SOCIAL SECURITY ORGANIZATION'S PERSONNEL)

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## Abstract

*The main purpose of this research is analyzing the influence of social capital on personnel function of Fars social security organization. Research purpose is applicable and data gathering method is descriptive-survey. Statistical population includes all of Fars social security organization personnel that 3214 of them has been chosen by stratified sampling and Cochran's sample size formula. For data gathering, standard questionnaires have been used; "social capital of moqimi and ramezan" (2011) and "personnel function of Paterson" (2006). For estimating validity of questionnaire, Cronbach's alpha has been used and result was 0/83 for questionnaire of social capital, and 0/89 for questionnaire of personnel function. The validity of questionnaires has been discussed through content and Bartlett test and the result was 0/574. It should be noted that experts confirmed the questionnaire. For analyzing data, in first stage, descriptive and in second stage, inferential methods (Smirnov-Kolmogorov test, Regression testing and Friedman test) has been used. After analyzing data, some results were achieved. These result showed that social capital and its dimension has meaningful effect on Fars social security organization's personnel. Eventually, based on Friedman test, it was found that there is a meaningful difference between the rank averages of social capital's dimensions. The least amount of rank, related to social cohesion; and the highest amount, related to collective identity.*

*JEL classification: G32*

*Keywords: social capital, personnel function, social cohesion, collective identity*

## 1. INTRODUCTION

The most crucial subject in an organization is personnel function. This importance forced researchers to have more researches about it (Safarzadeh, 2011). Organizations are social organs that consist of humans. In other word, organizations don't have enough ability to overcome problems without humans (Torabi, 2014). In other side, social capital of each organization and society is due to existing social and cultural situation. Indeed, social capital is one of the most important indexes in social and cultural situation of organization and society (Zarvandi, 2015). Social capital has more emphasis on relation network, confidence, partnership on local societies, cooperation in groups and civil formations. Social capitals of social networks are people, groups and organizations (Ranani, 2015). Existence of relation network between people cause of mutual trust in social relations and people save this trust for their relations in future (Patnam, 2013). In other hand, social capital and its effect on function has been considered. Colman (2014) believed that social capital will create through social reciprocal relations between members of a social system and eventually will develop as a result of social relations. Personal function will define as an organizational value of personnel career in different time and different situations (Khorshid, 2011). Organizational value defines as an estimation that organization achieve from their personnel activities and

services. For example, having appropriate behavior with other personnel or doing their duties correct. The most important point is that personnel function has been defined as a definite behavior features (Erfanian, 2011). In lack of social capital, people and organizations will face problems, their social and economic opportunities will limit and eventually some organizations with low efficiency have been created (Ebrahimi, 2012). Also lack of social capital between members causes mutual activities (Baker, 2014). In other hand, if personnel don't have appropriate function, organization may lose its effect. According to factors of social capital and its effect on organizational variables as well as influence of personnel effect, main question of this research has been mentioned: Has social capital, meaningful effect on personnel's function of Fars social security organization?

## **2. RESEARCH TARGETS**

### **2.1. MAIN TARGET**

Analyze the effects of social capital on personnel function in Fars social security organization.

### **2.2. SPECIAL TARGET**

1. Analyze the effects of confidence on personnel function in Fars social security organization.
2. Analyze the effects of networks and mutual norms on personnel function in Fars social security organization.
3. Analyze the effects of mutual cooperation on personnel function in Fars social security organization.
4. Analyze the effects of social cohesion on personnel function in Fars social security organization.
5. Analyze the effects of perception, mutual respect and voluntarily partnership on personnel function in Fars social security organization.
6. Analyze the effects of collective identity on personnel function in Fars social security organization.

## **3. RESEARCH QUESTIONS**

### **3.1. MAIN QUESTION**

Has social capital, meaningful effect on personnel's function of Fars social security organization?

### **3.2. SPECIAL QUESTIONS**

1. Has confidence, meaningful effect on personnel's function of Fars social security organization?
2. Have networks and mutual norms, meaningful effect on personnel's function of Fars social security organization?
3. Has mutual cooperation, meaningful effect on personnel's function of Fars social security organization?
4. Has social cohesion, meaningful effect on personnel's function of Fars social security organization?
5. Have perception, mutual respect and voluntarily partnership, meaningful effect on personnel's function of Fars social security organization?
6. Has collective identity, meaningful effect on personnel's function of Fars social security organization?

### 3.3. METHOD OF RESEARCH

For any research, appropriate and special methods should be used. According to nature and subject of this research, its purpose and questions. The method of it is applied and descriptive. Applied research is done to solve problems and make adequate decision (Hafeznia, 2013).

In descriptive research, researcher deal with relationship between variables, hypothesis test, developing tenor and general principle or suggestion. Researcher doesn't manipulate variables (Monavarian, 2014).

The purpose of survey research is analyzing distribution of features in a society. In survey research parameters of society has been analyzed (Hafez Nia, 2013). Eventually by doing this research, necessity data of analyzing the effect of social capital on function of personnel in Fars social security organization has been collected.

### 3.4. STATISTICAL POPULATION, SAMPLES AND SAMPLING METHOD:

Statistical population consist of people collection or unit that at least has a common feature. Usually in each research, population is a statistical population that researcher prefer to study variable features of its unit (Semrad, Bazargan, Hejazi, 2014).

Research population consist of all Fars social security organization's personnel (3214 member). 123 of them are women and 3091 of them are men. Research sample consist of some society's people that have similar features with population features (Mona Varian, 2014). Based on stratified random sampling and by using Cochran formula, amount of sampling has been estimated 343 members.

### 3.5. COLLECTING DATA TOOLS:

In this research, collecting data has been done base on two ways. First, library method. In this method, data has been collected by studying book, magazine, essay, and proposal in different university, documentation center and other scientific center. As well as some data has been collected by using internet and in chapter two all of them has been offered completely. Second, field study. In this method, data has been collected by using questionnaire. This questionnaire will fill by member of sample and at the end, result has been analyzed by using test. The questionnaire has been used in this essay is Moghimi and Ramezani's social capital standard questionnaire (2010) and Paterson's personnel function (2006).

## 4. ANALYZING RESEARCH QUESTION

**Main question:** whether social capital has meaningful effect on personnel's function of Fars social security.

**Table 1. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
17.456	0.144	0.380	0.003	3.112	0.380 social capital

Source: Author

Due to the F (17.456) and p-value (0.003), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and social capital and predict personnel's function. Amount of the coefficient of determination is 0.144. This amount shows that 14.4 percent of change of personnel's function variable, has been fined base on social capital situation. The relationship between social capital and personnel's function can be achieved by follow formula:

$$\text{Personnel's function} = 1.321 + 0.653 * (\text{social capital})$$

**Secondary question number 1:** whether confidence has meaningful effect on personnel's function of Fars social security?

**Table 2. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
233.5	0.133	0.336	0.000	5.636	0.336 social capital

*Source: Author*

Due to the F (233.5) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and confidence can predict personnel's function. Amount of the coefficient of determination is 0.133. This amount shows that 11.3 percent of change of personnel's function variable, has been fined base on confidence dimension. The relationship between confidence and personnel's function can be achieved by follow formula:

Personnel's function= 1.232+ 0.342\*confidence dimension

**Secondary question number 2:** whether common norm and network has meaningful effect on personnel's function of Fars social security?

**Table 3. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
996.5	0.122	0.350	0.000	7.112	0.350 social capital

*Source: Author*

Due to the F (996.5) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and common norms and network can predict personnel's function. Amount of the coefficient of determination is 0.122. This amount shows that 12.2 percent of change of personnel's function variable, has been fined base on common norms and network dimension. The relationship between common norms and network and personnel's function can be achieved by follow formula:

Personnel's function= 1.362+ 0.361\*common norm and network dimension

**Secondary question number 3:** whether mutual cooperation has meaningful effect on personnel's function of Fars social security?

**Table 4. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
22.236	0.117	0.343	0.000	5.856	0.343 social capital

*Source: Author*

Due to the F (22.236) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and mutual cooperation can predict personnel's function. Amount of the coefficient of determination is 0.117. This amount shows that 11.7 percent of change of personnel's function variable, has been fined base on mutual cooperation dimension. The relationship between mutual cooperation and personnel's function can be achieved by follow formula:

Personnel's function= 1.563+0.402\* mutual cooperation dimension.

**Secondary question number 4:** whether cumulative coherence has meaningful effect on personnel's function of Fars social security?

**Table 5. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
23.446	0.109	0.330	0.000	7.112	0.330 social capital

*Source: Author*

Due to the F (23.446) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and cumulative coherence can predict personnel's function. Amount of the

coefficient of determination is 0.109. This amount shows that 10.9 percent of change of personnel's function variable, has been fined base on cumulative coherence dimension. The relationship between cumulative coherence and personnel's function can be achieved by follow formula:

$$\text{Personnel's function} = 1.443 + 0.432 * \text{cumulative coherence dimension.}$$

**Secondary question number 5:** whether thinking alike, perception, mutual respect, voluntarily partnership has meaningful effect on personnel's function of Fars social security?

**Table 6. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
<b>26.506</b>	<b>0.135</b>	<b>0.367</b>	<b>0.000</b>	<b>5.556</b>	<b>0.367 social capital</b>

*Source: Author*

Due to the F (23.446) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and thinking alike, perception, mutual respect, voluntarily partnership can predict personnel's function. Amount of the coefficient of determination is 0.135. This amount shows that 13.5 percent of change of personnel's function variable, has been fined base on thinking alike, perception, mutual respect, voluntarily partnership dimension. The relationship between thinking alike perception, mutual respect, voluntarily partnership and personnel's function can be achieved by follow formula:

$$\text{Personnel's function} = 1.530 + 0.532 * \text{thinking alike, perception, mutual respect, voluntarily partnership dimension.}$$

**Secondary question number 6:** whether collective identity has meaningful effect on personnel's function of Fars social security?

**Table 7. Analyzing related linear regression to main question of research**

Meaningful regression test	R <sup>2</sup>	R	p-value	t	(standard)
<b>17.654</b>	<b>0.140</b>	<b>0.374</b>	<b>0.000</b>	<b>3.112</b>	<b>0.374 social capital</b>

*Source: Author*

Due to the F (17.654) and p-value (0.000), we can conclude that regression is meaningful at 0.05 level. Thus regression is meaningful and collective identity can predict personnel's function. Amount of the coefficient of determination is 0.140.

This amount shows that 14 percent of change of personnel's function variable, has been fined base on collective identity dimension. The relationship between collective identity and personnel's function can be achieved by follow formula:

$$\text{Personnel's function} = 1.530 + 0.532 * \text{collective identity dimension.}$$

**Table 8. Test result of comparison social capital rank by using Friedman test**

	P-value	Amount	Average
Collective identity	0.0000	38.94	2.85
Thinking alike and etc.			2.6
Social norms and network		2.29	
Mutual cooperation			2.22
Social confidence			2.18
Cumulative coherence			2.15

*Source: Author*

P-value is less than 0.05. So there is a meaningful difference between averages of social capital's rank. The least amount of rank, between social capital is 2.15 relate to cumulative coherence. The maximum amount of rank is 2.85 that relate to collective identity.

So we classify dimension like this:

1. Collective identity
2. Thinking alike, perceptive, mutual respect, voluntarily partnership
3. Social norms and network
4. Mutual cooperation
5. Social confidence
6. Cumulative coherence

## **5. CONCLUSIONS**

Social capital leans to relationship between people for achieving resources. Peoples and group have mutual relation with each other to achieve beneficial result. One of the most important factor for surviving each organization is connection network and mutual reaction between members of that society. Existing wide level of interaction network between people can improve exist ability and capacity to move toward social political and economic development.

One of the new concept of development in organization is social capital role and we should analyze it by comprehension view. The role of social capital is more important than physical and human capital in an organization and these days we use it more in sociology, economic and in management.

Lack of social capital, others capital loses their effectiveness and achieving developing's way, cultural and economic evolution be difficult.

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# STUDYING THE RELATIONSHIP BETWEEN OWNERSHIP CONCENTRATION AND PROFIT MANAGEMENT WITH STOCK LIQUIDITY IN THE ACCEPTED COMPANIES AT THE TEHRAN STOCK EXCHANGE

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## Abstract

*Previous research has shown that the most companies are involved somehow in profit management. Since the profit management and ownership concentration are the affecting factors the liquidity of the stock, so in this study the effect of ownership concentration and profit management on liquidity of shares with standard split stock price investigated in which at this regard from the companies that listed in the Tehran stock exchange using systematic elimination, 96 companies were selected as sample. In order to hypothesis test, the multivariate regression method has been used. The research period is from 2011 to 2015. The research results show that pre-trust of managers has a direct and significant effect on the stock price gap, which reduces liquidity and increases the stock price gap. But there was no significant relationship between ownership concentration and stock liquidity.*

*JEL classification: G32*

*Key words: Stock liquidity, Ownership concentration, Profit management, Jones model*

## 1. INTRODUCTION

The corporate ownership structure can be very diverse and a wide range of real and legal stakeholders can play a role in this structure. The presence of true shareholder from a nation or family with high percentage of shares or their presence on the director board is a kind of family ownership of the company (Anderson, 2003). In family companies, due to the existence of a major legal stakeholder or the presence of family members on the management board, other shareholders may suspect that family interests, as one of the main decision-making bodies for the company is priority than other shareholders. According to the accounting theory (Hendricsson, Vanderda, 1993), the main purpose of profit reporting is to provide useful information to those who are most interested in financial reports. Assuming management is thinking about its own interests, managers may manipulate the profit, or otherwise manage the profit, in order to get the most benefit. The main role of "profit" is an appropriate indicator of investor's decision making, and that managers have the ability to manipulate the information and present this misleading information. And the existence of the profit management category as a tool for manipulating profits by managers requires more attention to the ownership structure of companies and more analysis of the information provided by them. In the meantime, one of the most important factors for investors in the capital markets is share liquidity. One of the main functions of the stock market is liquidity, and investors always want shares that can be traded at the lowest possible cost (Saeidi, Dadar, 2009). Investors expect returns because of the inevitable risk of investment. Therefore, for the investors the aware of risk and investment returns have great importance. The lack of liquidity of a financial asset, in fact, is a risk, which is expected the investor receive returns for risk taking (Ghaemi, Rahimpour, 2010). Therefore, the tendency to examine this issue is due to the fact that stock liquidity in the stock market is one of the main concerns of investors. As a definition, it can be said that liquidity is the ability of investors to convert financial assets to cash at the same price with the last transaction (Bidgoli et al., 2005). The composition of the shareholders is various

in different companies. Part of the company's ownership is held by the shareholders and the real persons. This group relies largely on publicly available information, such as published financial statements, to monitor the performance of corporate executives. However, another part of the company's ownership is held by major professional shareholders, which, unlike the first-class shareholders group, provides valuable information about future prospects and business strategies and long-term company investments through direct communication with company's managers (Nourhas, Kurdler, 2005). Institutional investors are major investors, such as banks, insurance companies and investment companies. It is generally thought that the presence of institutional investors may lead to a change in corporate behaviour. Generally, this is the result of the supervisory activities that these investors carry out (Bushe, 1998). The impact of institutional investors on the management decisions related to profits, such as profit management, is of great importance. Most of the past studies in the field of profit management have generally ignored the influence of corporate governance factors that may limit managers' ability to conduct profit management (Moradzadeh Fard et al., 2009). According to the above discussion, is the currently research trying to answer the question of how the ownership concentration and profit management affect the stock liquidity?

## 2. THEORETICAL FOUNDATIONS AND LITERATURE REVIEW

The company capital structure shows the relationship between debt and equity. Debt creates limitations for managers while capital increases flexibility and decision-making power. Basically, using debt in the financial structure will increase the expected returns of the stockholder, but it can also increase the risk of the company. In general, using debt in the company's financial composition act such as the double sword, it can also increase corporate growth and reduce the value of the company (Rezaei, Piri, 2011). Principal ownership right by managers aligns their interests with the interests of other stakeholders, so that management of benchmarking is valuable in order to pursuit maximal activities. Major shareholders or shareholder organizations can also increase or improve the level of supervision and thus lead to better performance (Seyfer et al., 2005). Amhoud and Mendelsohn (1991) concluded in their research that companies tend to pursue policies to increase their liquidity, since liquidity increases the returns and value of the company. In addition, they observed in their research, managers who seek to increase the liquidity of their corporate securities performed the case by transforming them into corporate equity, voluntarily disclosing information, and distributing stocks among more shareholders (in other words Increasing the number of free-float shareholders of the company). The research results of Bush (2000) show that in companies with lower institutional ownership, managers tend to reduce their research and development costs and, consequently, raise their profits to an acceptable level. In companies with higher institutional ownership, managers' motivation for managing profits decreases through lack of investment in research and development activities. Therefore, it can be concluded that the presence of institutional owners leads to a reduction in profit management and consequently conservative accounting. Astemi and Tauer (2003) state that differences in corporate ownership structure justify deviations in company performance. This shows that ownership characteristics are important because they affect the optimal returns and also affect the diversification strategy. They also claim that the ownership structure solves the problem of corporate representation and affects company reporting. They state that when there is a high level of ownership concentration, these shareholders will also control the production of accounting information and reporting procedures. In a research, Tasia and Gu (2007) investigated the relationship between institutional ownership and company performance. Institutional ownership is equal to the held shares percentage by public corporations of total equity. They showed that institutional investors may help investors to reduce the representation issues resulting from the separation of management and ownership. Abdulmohammadi, Wale (2010) investigated the profit management priorities in family and non-family Norwegian companies between 2000 and 2007. The results showed that family companies are more profitable than non-familial companies, and also family companies with high-leverage have a higher willingness to manage profits than non-family companies with high financial leverage. Hassan Mirza & Afza (2010) in the article "The ownership structure and cash flows as determinants of the dividing profits policy in Pakistan" examined the company specific characteristics impact on the corporate dividing profits behavior in the growing Pakistan economy. Three-year data (2005-2007) from 100 accepted companies in the Karachi Stock Exchange have been analyzed using least squares regression. The results show that managerial and

individual ownership, cash flow sensitivity, size, and leverage have a negative relationship with cash flow, while operating cash flows and profitability have a positive relationship with stock returns.

Namazi, Kermani (2008) examined the effect of ownership on the company’s performance listed on the Tehran Stock Exchange and found that there was a significant negative relationship between institutional ownership and corporate performance, and there was also a significant relationship between private ownership and performance, but the type of this relationship cannot be determined.

Moradzadeh, Ardakani (2008) investigated the relationship between stock institutional ownership and profit management and their results showed a significant negative relationship between profit management and institutional ownership.

Moradzadeh et al. (2009) investigated the relationship between share institutional ownership as the internal mechanism of the management system and profit management. They concluded that there is a negative and significant relationship between the level of institutional ownership and its focus on profit management.

Setayesh, Kazemnejad (2010) examined the effect of the ownership structure and composition of the management board on profit sharing policy of accepted companies on the Tehran Stock Exchange. The results of the research showed that institutional ownership negatively affected the accepted profit sharing policy of companies in Tehran Stock Exchange.

Sohrab Osta (2011) examined the relationship between ownership structure and profit management. The results of the research indicate that there is a significant negative relationship between institutional ownership and management ownership with profit management, but there is a positive and significant relationship between corporate ownership and profit management.

In order to achieve the purpose of the research and considering Theoretical Foundations and literature review, the hypotheses of this research are formulated as following:

Hypothesis 1: Ownership concentration affects stock liquidity.

Hypothesis 2: Earnings management affects stock liquidity.

### 3. RESEARCH METHOD

After performing library and field research process, all the required information was collected from Tehran Stock Exchange databases, codal softwares and the new research and trading system of Tehran Stock Exchange (In order to verify the data accuracy, the reconciliation between software data and financial statements was carried out.) Collected data was prepared using Excel software and then using STATA software version 14 final.

### 4. MATHEMATICAL MODEL AND RESEARCH VARIABLES

In the present study, Model No. 1 was used to test the hypotheses.

Regression Model No. (1)

$$Stock\ Liquidity_{i,t} = \beta_0 + \beta_1 INS_{i,t} + \beta_2 DACit + LEV_{it} + \beta_3 SIZE_{i,t} + \beta_4 CFO_{i,t} + \varepsilon$$

Dependent variable (stock liquidity with **Stock Liquidity** symbol). The difference between the proposed lowest selling price and the highest Purchase price is the gap between supply and demand. The lower the gap between supply and demand, the stock has a higher liquidity capability. In this research, the Ryan model (1996) will be used to determine the proposed price range of stock purchase and sale.

$$BAS = \frac{AP - BP}{(AP + BP)} \times 100$$

2

Variables in this model are:

BAS: The difference range of the proposed price in the purchase and sale of company share  $i$  in year  $t$ .

AP (ASK PRICE): The average proposed selling price of a company's stocks  $i$  in year  $t$ .

BP (BID PRICE): The average proposed purchase price of a company's stocks  $i$  in year  $t$ .

Independent variable: institutional owners (INS) and profit management with the DAC symbol

The ownership concentration in this research, followed by Astemi and Towers (2006), is defined as follows: Total share of real or legal persons holding more than 10% of the company's share. This percentage is calculated using the provided information in the company's financial statements.

Profit management: According to the performed studies, voluntary accruals in a company represent the profit management. In order to measuring profit management in this research, the modified Jones model (presented by Ducho, Selven, and Sweeney, 1995) will be used because this model can solve the research problem. In addition, the above researchers, according to the four series of performed tests, the researchers concluded that the adjusted Jones method is a more appropriate and robust test for the profit management. This model is as follows:

$$TAC\ it / TA\ it-1 = \alpha_0 (1/ TA\ it-1) + \alpha_1 (DREV\ it - DREC\ it) / TA\ it-1 + \alpha_2 (PPE\ it / TA\ it-1) + \epsilon_{it}$$

In which:

TAC  $it$  :Accumulated accruals (profit before unearned items minus operating cash flows) in year  $t$  for company  $i$ .

TA  $it-1$  :Total assets in year  $t-1$  for company  $i$ .

DREV  $it$  :Income changes during the year  $t-1$  for the company  $i$

DREC  $it$  :Changes in accounts and receivables during years  $t-1$  to  $t$  for Company  $i$

PPE  $it$  : Gross amount of property, machinery and equipment in year  $t$  for Company  $i$ .

$\epsilon_{it}$  = the sum of the regression errors, it is assumed to be non-intersecting and have a normal distribution with zero average.

In this research, remainder of the above accruals model is considered as the representative of profit management, which is included in the model.

Research control variables:

SIZE = it is the size of the company which is calculated through the natural logarithm of assets.

LEV= it is the financial leverage which is calculated through the ratio of debt to assets.

CFO = ratio of operating cash flows to total assets

population and statistical sample:

The spatial domain of this research is all of the accepted pharmaceutical companies in the Tehran Stock Exchange, which were studied during 2011 to 2015. The sampling method in this research is based on the sieving method (deletion based on the presented limitations in the research). In this way, the statistical population companies that had the following conditions were selected as statistical samples and the rest were eliminated. The sample selection includes the listed companies in the Tehran Stock Exchange in the pharmaceutical industry, which have the following conditions:

1. Companies whose fiscal year ends by the end of March.
2. Companies that have no more than six months to stop trading.
3. Companies whose transactions on the stock exchange are persistent and not eliminated.

4. The acceptance date of companies in the Tehran Stock Exchange being before the fiscal year 2011.
5. There is no change in the fiscal year between 2011 and 2015.
6. The required financial information to complete this research has been fully submitted during the studied period.

## 5. RESEARCH FINDINGS

In this section, descriptive findings and then deductive findings are presented.

### 5.1. DESCRIPTIVE FINDINGS

At first in order to data analyzing the, the descriptive statistics of the data under study are calculated. Table (1) shows the descriptive statistics of the research variables which represents the amount of descriptive parameters for each variable separately.

**Table 1. Descriptive statistics of research variables**

Max.	Min.	SD	mean	obs.	Variable name
3655.	0001.	04.4.	0319.	480	Stock liquidity
9560.	0112.	1734.	1885.	480	Profit management
9945.	0155.	1767.	5271.	480	ownership Concentration
9800.	0582.	1969.	5272.	480	Financial Leverage
1845.	10.03	1.39	81.13	480	size company
5.04	6734-.	3279.	1790.	480	Cash Flows

*Source: Author*

In Table (1), the main central indicator is the average that represents the equilibrium point and the distribution center, and is a good indicator of the data centrality. For example, the average value for the financial leverage variable is (%52.), which indicates that most data are focused around this point. Minimum and maximum shows the smallest and most variable in the statistical population, respectively. For example, the minimum and maximum operating cash flow variables are 6734 and -5.04, respectively. In general, scattering parameters are the criteria for determining the dispersion of each other or their dispersion relative to the average. The most important dispersion parameter is standard deviation. The value of this parameter for the company size variable is 10.03 for the stock liquidity variable equal to 040. This means that these two variables have the highest and the least standard deviations respectively.

**Table 2. Jarco test results**

Result	Significant Jarco	Variable name
Has no Normal distribution	0.000	Stock liquidity
Has no Normal distribution	0.000	Profit management
Has Normal distribution	.8202	ownership Concentration
Has no Normal distribution	0.002	Financial Leverage
Has no Normal distribution	0.000	company size
Has no Normal distribution	0.000	Cash Flow

*Source: Author*

The significance level of the Jarco test for all variables except the ownership concentration is less than 5%, which indicates that they do not have normal distribution. Since normal without dependent variable leads to the normalization of the remainders in the model, Johnson transformations are used to normalize the distribution of the dependent variable.

The significance level of the dependent variable before the normalization operation is less than 5%, which after normalization has a significant level of more than 5% and indicates the normality of the dependent variables after the Johnson transformation.

**Table 3. Johnson transformations test results for normalizing the stock liquidity variable**

Result	Significance level after normalization	Significance level before normalization	Variable name
Norma	238.	005.	Stock liquidity

*Source: Author***Table 4. Durability test (Harris) for all research variables**

Result	Significance level	Test statistic	Variable name
Durable	0.000	-15.26	Stock liquidity
Durable	0.000	-12.18	Profit management
Durable	0.000	-7.23	ownership Concentration
Durable	0.000	-7.56	Financial Leverage
Durable	0.000	-8.06	Company size
Durable	0.000	-15.83	Cash flows

*Source: Author*

The significance level of the durability test for all variables is less than 5%. Therefore, at 95% confidence level, the variables of the research are durable.

**Table 5. F test result**

Result	Significance level	Test statistic	Model name
Panel data	.0 Mathematical model of research	2.37	Mathematical model of research

*Source: Author*

Considering that the significance level of the F test is less than 5%, the panel data is accepted against the compilation data.

**Table 6. H test result**

Result	Significance level	Test statistic	Model name
Random effects	4316.	4.87	Mathematical model of research

*Source: Author***Table 7. Heteroscedastic variance analysis result**

Result	Significance level	Test statistic	Model name
Heteroscedastic is confirmed	000.	52930	Mathematical model of research

*Source: Author*

The significance level of the variance analysis is less than 5%, hence there is variance heteroscedastic. It should be noted that this problem has been solved in the final estimation of the model.

**Table 8. Serial correlation test results**

Result	Significance level	Test statistic	Model name
Not confirmed	4568.	558.	Mathematical model of research

*Source: Author*

The significance level of the Vald test is more than 5%, so there is no serial correlation problem model.

**Table 9. Final Estimation of the Research Mathematical Model**

Multilinearity	Significance level	Z-statistic	SD.	Coefficients	Variables
1.02	840.	20-.	0099.	0019-.	ownership Concentration
1.01	001.	3.39	0101.	0342.	Profit management

Multilinearity	Significance level	Z-statistic	SD.	Coefficients	Variables
1.02	413.	82-.	0089.	0073-.	Financial Leverage
1.05	000.	3.82	0012.	0049.	Company size
1.05	000.	6.56	0056.	0356.	Cash flows
	017.	2.18-	0189.	0452-.	Width from origin
10%					determination coefficient
60.17					Wald statistics
000.					Wald Significance level

*Source: Author*

The ownership concentration variable has a significant level of more than 5%, hence there is no significant effect on stock liquidity and the first hypothesis is not accepted. The meaningful level of profit management variable is less than 5% and given the positive coefficient, it can be said that profit management has a direct and significant effect on stock liquidity and the second hypothesis is accepted. Among the control variables, the company size variable and financial leverage have a direct and significant effect on stock liquidity. The values of the inflation variance factor (multilinear) are less than 10, which indicate that there is no linear relationship between independent variables. The modified determination coefficient is also 10%, which indicates that independent variables have been able to explain 10% of the dependent variable factor. The significance level of the Wald statistics is less than 5%. Therefore, at 95% confidence level, the fitted model is valid enough.

## 6. CONCLUSIONS

The general results of this research showed that ownership concentration has no significant effect on stock liquidity. However, the results showed that profit management increases stock price gap (more information asymmetry and less liquidity). Shiper in 1989 contends that one of those assumptions that maintains information asymmetry (profit management prerequisite) is a closed and limited relationship of managers that shareholders in an environment where their information is less than management cannot see the company's performance and future prospects completely. In such an environment, the manager can use the authorities' flexibility to manage his/her reported profits. In fact, the ability of the manager to increase the use of arbitrary accounting methods with the aim of managing profits increases proportional to the information asymmetry between his/her shareholders.

According to the results:

- 1- It is suggested that analysts and investors in their predictions involved information asymmetry and stock liquidity and also profit management factor.
- 2- It is suggested that future researches, especially researchers in the accounting and financial management field, examine the reasons for the inability to focus ownership on stock liquidity.
- 3- In this research, the concentration ownership and profit management were used as influencing stock liquidity variables; future research could examine information risk, stock return, conditional and unconditional conservatism on stock liquidity
- 4- The Jones model was used to measure profit management in this research. It is suggested that the future research should be used the Kothari model.

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# INVESTIGATING AND EXPLAINING THE EFFECT OF HUMAN RESOURCE MANAGEMENT MEASURES ON THE FORMULATION OF ORGANIZATIONAL SOCIAL CAPITAL

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## Abstract

*This study examines the relationship between human resource management (HRM) and organizational social capital (OSC), and the modulatory effects of industrial characteristics. Based on a sample of several companies, the results from this study indicate that human resource management are focused on facilitating relationships among employees, of course, linked to the social capital of the organization; and relations are stronger for companies operating in less regulated industries. In addition, the plurality of knowledge on its own which has no moderating effect, but it seems to link the industrial regulations to the effectiveness of the link between human resource management and corporate social capital. The findings of the analysis for a particular case indicate that human resource management measures have a positive effect on organizational social capital but not with a low plurality of knowledge in a more controlled context. This study provides concepts for research and experiment along with guidelines for future research.*

*JEL classification: J24*

*Keywords: Organizational social capital, Human resources management measures, Industrial regulation, Knowledge plurality*

## 1. INTRODUCTION

Social capital in general reflects the massive amount of resources contained internally, due to the availability and provision of the relationships of an individual or organization. A company can derive a great advantage from both inter-institutional and inter-organizational relations. Secure internal social capital, internal co-ordination of the company, facilitate the creation and accumulation of knowledge and creativity. Social relations among members of the organization, innovation increases growth and other results. It seems that secure social capital promotes innovation through the use of knowledge and increases the competitiveness of companies and the likelihood of success. This research follows Lina and Van Bourne (1999) in the field of social capital (OSC) as a source that reflects the social relationships within the company; which is dependent on the concept of domestic social capital (Adler & Coon, 2002). Companies must invest in the development and management of corporate social capital (OSC). However, this subject has received very little attention and further exploration is needed. Without subverting the values of communication with external stakeholders, this research focuses on the internal aspects of corporate social capital; which stems primarily from social relationships among members of the organization. Companies need to create opportunities to foster organizational social capital and increase the motivation and ability of members of the organization to build their relationships (Adler & Chen, 2002).

In this regard, human resource management is used as a potential tool for companies to effectively consolidate and the depth and content of their corporate social capital (Collins, 2006). Though researchers have identified human resource management as a ground that could play a role, have identified empirical

evidence that has been tweaked by few tests of any of these topics, at individual or dual levels, or by using a unique sample of top management teams (at the highest level). The literature of the subject still lacks scientific research on how human resource management measures social capital among other employees rather than senior executives and at the company's level (Chaudhry, 2011). Social capital is a constituent of a relationship, which intrinsically focuses on the intermeasures of individuals, which also occurs during a particular context (Hatala, 2006). The researchers consider the need for a contingency approach, which is a justifiable reason for affiliated with the situation, which reinforces or determines the effects of human resource management argue and argue, however, that studies focusing on the relationship between human resource management and organizational social capital, it ignores the factors involved, especially the company's external environments. The present study identifies industry as an effective field within which companies formulate and human resource management (Avai et al., 2011). The combination of industrial characteristics (industrial regulation and knowledge plurality) is carried out in relation to the research framework. This study examines the development and expansion of existing literature (for example, Collins & Clarke 2003; Gitel et al., 2010; Kase et al., 2009) through a staff member - focused on organizational social capital and testing the relationship between human resource management and organizational social capital at the organization level.

## **2. BACKGROUND**

### **2.1. ORGANIZATIONAL SOCIAL CAPITAL**

Researchers emphasize the various aspects of social capital using a variety of concepts (Adler & Van, 2002). Social networking theorists, social capital is described as an individual attribute that is in the interest of the actors who possess it (eg, Blues, Urali and Wade, 1996). This view points to social capital as a privately held commodity, which can help individual outcomes such as creativity and professional development (Sebert, Crimer and Leiden, 2001). On the other hand, organizational researchers identify social capital as a single social feature that benefits both individual and social members, as a whole, they perceive this view of social capital as a public commodity that resides collectively and often appears in recent research (For example, Andrews, 2010; Herton, Smith, and Hood, 2009; Lina & Pile, 2006; Saberman and Unite, 2005).

### **2.2. HUMAN RESOURCES MANAGEMENT MEASURE AND CORPORATE SOCIAL CAPITAL**

Companies should develop or adopt a regular organizational stream that reflects and combines communication resources to create value. Human resource management can play an important role in facilitating, accumulating and the use of organizational social capital. Lina and Van Bourne's (1999) conceptual essay seems to be the first argument of human resource management as the main mechanism for fostering social capital. Logik-Hall and Langikh Hall (2003), Maurice et al. (2005), and Kang et al. (2007) provide similar arguments. Gitel et al. (2010) show that human resource management measures reinforce the relationship between employees who perform distinct performance; while Kase et al. (2009) show that human resource management practices from design work, incentives and motivation, and education and development, promote interpersonal relationships. The large and growing volume of literature, the strategic importance of human resource management practices is well designed. Although the researchers have little agreement on how to conceptualize human resource management practices (Lipeck, Liao, Chang and Harden, 2006). There is a greater consensus in the literature that the strategic alignment of human resource management reflects the strategic goal (goals) such measures are intended to be accomplished and achieved.

Researchers acknowledge that the traditional human resource management guidelines may be related to organizational social capital; and human resource management practices must unite the development of relationships (Gitel et al., 2010; Maurice et al. 2005). With the literature of corporate social capital and a focused approach to human resource management, this study refers to human resource management measures, which are strategic focus for promoting and supporting corporate social capital; it must create opportunities for employees to build social relationships; encourage their efforts to develop relationships

and increase their ability to do so. Opportunity motivation model is explicitly specified in the HRM literature in accordance with the Adler and Connes framework (2002), which offers opportunity, motivation, and ability as three sources of social enterprise. In addition, Lepke et al. (2006) show that a series of more specific human resource management activities can realize the goals of these three aspects of human resource management, opportunity, motivation, and ability. The following discussion focuses on HRM measures that focus on three mechanisms. First, human resource management efforts must provide staff with an opportunity to interact with others to create interpersonal relationships. Companies can arrange social events and other knowledge sharing events to promote employee engagement (Collins & Smith, 2006; Jackson et al., 2006; Langenick-Hall and Langenick-Hall, 2003). Companies can also invest in resources in the operating community measures that serve as social interaction tools (Langikh Hall and Langenick Hall, 2003; Maurice et al., 2005). Moving newcomers around the company can help them develop their familiarity with people and other parts of the company (Jackson et al., 2006). The successive rotation of each employee increases familiarity and familiarity (Kiss et al., 2009; Lopez-Kabrales, Peres-Loono and Cabrera, 2009; Maurice et al., 2005). Teams also serve as a social structure in creating employee social roles and building communication resources (Gibson and Vermoulen, 2003; Maurice et al., 2005). Participation in teamwork increases the opportunity and plurality of interaction between team members (Morlind and Misskovsky, 2000, Maurice et al., 2005).

Secondly, human resource management practices should motivate employees in building social relationships. Selected staff (Leana & Wenborn, 1999), sharing and supporting the company's values and norms, and their goals can contribute to corporate social capital. Familiarization programs can communicate the company's culture and values to new employees through social processes. Internal development provides opportunities for growth for employees, increasing their willingness to interact with others. Compensation based on overall performance may encourage collective targeting and information sharing, as a result, the development of corporate social capital is promoted. Information sharing promotes social relations by encouraging collaborative efforts and responsiveness. Performance evaluation and compensation is early human resource management, for extraction and enhancing desirable behaviors. Employees are more likely to share information and knowledge; if they evaluate their performance, compensation for motivation, or both, directly relate to desirable behaviors (Collins and Smith, 2006, Maurice et al., 2005). Thirdly, human resource management efforts must enhance employee abilities to develop good relationships with colleagues. Employees, in addition to technical skills, need individual skills to develop and maintain social networks inside and outside the organization. The ability of group work is also important, especially in team settings. Therefore, the selection of job applicants and team members with individual skills and teamwork ability can develop organizational social capital. Companies should also provide training for employees in order to improve the structural relationship and teamwork skills (Collins & Smith, 2006; Jackson et al., 2006; Lopez-Kabrales et al., 2009).

Based on the above discussion, this hypothesis claims that complementing human resources management practices by addressing these three mechanisms can work in coordination and unity to create an environment that supports corporate social capital.

### **3. RESEARCH AREAS**

There seems to be a link between the measures of human resources management and social capital

#### **Sub-hypothesis:**

Human resource management measure seem to be affected by the regulations on social capital Human resource management practices seem to be influencing social capital through the diversity of knowledge

### **4. RESEARCH METHOD**

This study has two separate questionnaires for a senior manager and an executive director / HR manager, respectively, in order to reduce the likelihood of the effectiveness of the common method. The executive

questionnaire includes questions about organizational social capital, industrial regulations, knowledge plurality, structural capital and background information of the company. This study is presented below by Saberamenim and Yundt (2005) and Yundt, Saberamenim and Snell (2004) at the invitation of senior executives (president, vice president, or managers) as an advertiser of corporate social capital because a structure in the level of the company. On the other hand, the HRM questionnaire includes questions about human resources management practices, knowledge management system, and company size. The following is a previous study of human resource management practices at the company level (for example, Collins & Smith, 2006; Datas et al., 2005; Haysley, 1995; Yundt et al., 2004); this research asks for the most appropriate and understandable executive director / human resource manager in their company to access human resource management.

## 5. ANALYSIS AND RESULTS

This study analyzes multivariate hierarchical regression to test hypotheses. To reduce the correlation between independent variables among predictions, when testing moderation and moderation, this study addresses the prevention of human resource management measures, industrial regulations, and the plurality of knowledge, with the average difference of each of the variables from observed values (Aiken & West, 1991).

Table 1 presents issues, standard deviation, and relevance of the studied variables. Table 2 presents the results of multivariate hierarchical regression analysis. Model 2 in Table 2 shows that the relationship between human resource management and organizational social capital is positive and significant ( $\beta = .31$ ,  $p < .01$ ), shows that management measures that emphasize intermeasures, and the relationships between employees increase organizational social capital. Therefore, H1 results are supported.

H2 explains that human resource management practices have a weaker impact on organizational social capital when industrial regulation is high. Model 3 in Table 2 shows that the relationship between organizational social capital and the interplay between industrial regulation and human resources management practices is significant ( $\beta = -.20$ ,  $p < .01$ ).

According to Aiken & West (1991), this study does a meaningful research of simple deviation and their mutual positions.

H3: Explains that human resource management practices have a stronger impact on organizational social capital when knowledge abundance is high.

Model 3 in Table 2 indicates the unknown relationship between human resource management and organizational social capital ( $\beta = .04$ , ns), provided that there is no support for the moderating effect of knowledge plurality. Although this finding is not proposed for H3, it is worth considering whether two industrial variables as moderators simultaneously offer more insights than individual possibilities. This study examines the three-way interaction of human resource management practices, industrial regulation, and knowledge plurality in a follow-up analysis.

Model 4 in Table 2 shows that the three-way intermeasures coefficient is positive and significant ( $\beta = .22$ ,  $p < .05$ ), shows that the relationship between human resource management and organizational social capital may be conditional on the interaction between industrial regulations and the plurality of knowledge. Figure 2 shows that under the conditions of high industrial regulation, human resource management measures have a positive effect and significant on organizational social capital with the presence of knowledge plurality ( $\beta = 0.32$ ,  $p < .05$ ); but not with low knowledge plurality ( $\beta = -0.04$ , ns). The results clearly state that the multiplicity of knowledge manages the link between HRM and organizational social capital in a set field. On the other hand, when industry regulations are relatively low, human resource management practices, when knowledge plurality is high or low, it has a significant positive impact on organizational social capital. For a closer examination of the effects of intermeasures, this study includes a method developed by Dawson and Richter (2006) to conduct a differential deviation test. The deviations for the great multiplicity of knowledge and the low knowledge abundance under the conditions of the industrial regulations are not significantly different ( $t = -0.88$ ,  $p = 0.38$ ).

**Table 1. Average, standard deviation and correlation coefficient**

Variables	Mean	Standard deviation	1	2	3	4	5	6	7	8
Organizational social capital	4.8	.92								
Age of the company	14.8	12.52	.04							
Company size a	2.4	.75	.00	.42**						
Industry type b	.4	.50	.04	.20*	.53**					
Knowledge Management System	4.4	.91	.35**	.03	-.05	.06				
Structural capital	4.7	1.16	.47**	-.05	.08	.27**	.14			
human resource management measures	4.9	.88	.49**	.09	.12	.65**	.39**	.14		
Industrial regulations	3.4	.57	.12	.14	.19*	.23**	.03	.31**	.07	
Knowledge plurality	4.8	1.16	.26**	.07	.05	.15	.15	.19*	.17*	.04

Source: Author

**Table 2. Modulated multivariate regression analysis results**

Independent variables	Organizational social capital			
	model1	model2	model3	model4
Control variables				
Age of the company	.07	.05	.07	.07
Company size a	-.04	-.09	-.08	-.08
Industry type b	-.02	-.02	.01	.02
Control system	.24**	.03	.05	.04
Structural capital	.42***	.33***	.27***	.29***
Direct effects				
human resource management measures		.31**	.31**	.35***
Industrial regulations		.04	.03	.02
Knowledge plurality		.14*	.17*	.13
Bilateral mutual effects				
Human Resources Management Measures × Industrial Regulations			-.20**	-.29**
Human resources management measure× Knowledge plurality			.04	.05
Industrial regulations × Knowledge plurality			-.10	-.01
Three-way interactions effects				
human resource management measures × Industrial regulations × Knowledge plurality				.22*
R2	.28	.36	.40	.42
ΔR2	.28	.08	.04	.02
frequency change	12.26***	6.00**	3.48*	5.22*

Source: Author

## 6. DISCUSSION

Although organizational social capital is a vital source for companies, the circumstances under which the encouragement and support of these resources have been little addressed. This study examines the impact

of human resource management on organizational social capital, and most importantly, the moderating role of industrial characteristics. The results of this study show that the corporate social capital of a company increases and develops when the company's human resources management practices focus on good structural relationships among employees. However, the relationship between human resource management measures and organizational social capital in the context of a more regulated context is weak. Though not assumed, the findings of this study indicate that in a more controlled environment, HRM measures effectively contribute to the facilitation of social capital for companies active in the relatively high industry of knowledge.

## 6.1 RESEARCH CONSEQUENCES

This study contributes to strategic human resource management and social capital literature and provides several research implications. First, this study provides a complementary test of human resources management research-corporate social capital implemented at the company-level, empirically empirical analysis focused on the employee. In the development of previous research, the results show that, in addition to encouraging dedicated staff or managers to build good relationships with peers and their associates as other studies have been presented (Collins & Clarke, 2003; Gitel et al., 2010; Case Et al., 2009), human resource management measures can also enhance the internal relationships of the organization's resources as a whole. These findings are important because theory and research is based on the multilevel approach (Kazzałowski and Klein, 2000). It is used in one step (for example, at the individual or group level) does not necessarily apply to another level (for example, company level). By focusing on corporate-level phenomena, this study describes what has been the focus of human resource management practices throughout the strategic focus of the past potential factor of corporate social capital; and how human resource management practices can address organizational social capital by addressing three mechanisms of ability, motivation, and illustrates the opportunity to facilitate; and provides a better understanding of the critical role of human resource management practices in developing corporate social capital. In the next step, this study reinforces the perspective of possible perspectives by examining the impact of regulatory adjustments and knowledge plurality in identifying an industry where human resource management measures are likely to have a greater or lesser impact on organizational social capital. This research reveals the specific characteristics of the social capital organization (Leanna & Pele, 2006) and requests for human resource management research to address external affiliated agents when testing the effects of human resource management measures (For example, Datas et al., 2005; Jackson and Schuler, 1995; Kim and Wright, 2011; San and et al., 2007).

These findings are important because the theory and research based on the multilevel approach (Kazzałowski and Klein, 2000) show that what is used in one step (for example, at the individual or group level) necessarily leads to another level. For example, company level) is not applicable. By focusing on corporate-level phenomena, this study describes what has been the focus of human resource management practices throughout the strategic focus of the past potential factor of corporate social capital; and how human resource management practices can address organizational social capital by addressing three mechanisms of ability, motivation, and illustrates the opportunity to facilitate; and provides a better understanding of the critical role of human resource management practices in developing corporate social capital. In the next step, this study reinforces the perspective of possible perspectives by examining the impact of regulatory adjustments and knowledge plurality in identifying an industry where human resource management measures are likely to have a greater or lesser impact on organizational social capital. This research explores the specific characteristics of the corporate social capital (Lean & Pile, 2006), and requests for human resources management research to address the external factors involved in testing the effects of human resource management measures, (For example, Datas et al., 2005; Jackson and Schuler, 1995; Kim and Wright, 2011; San and et al., 2007).

The results of a theorizing that serves industrial regulation as an important boundary condition for the impact of human resource management on organizational social capital protected. In fact, the relationship between HRM and organizational social capital is stronger for companies that are relatively free of regulatory pressures; while the overall levels of corporate social capital vary marginally as a function of human resource management practices for more regulated firms. These findings support initial support for Kim and Wright's claim (2011), which will depend on the impact of HRM on a regulatory and regulatory

context, and develops an understanding of the change in the cross-over of the human resource management link-organizational social capital. In addition, previous studies on industrial modifiers relate to the relationship between human resource management and organizational outcomes, usually they focus on one of the industrial factors or the impact of various industrial factors individually (eg, Bat, 2002; Data et al., 2005). However, there are several industrial factors simultaneously in the organizational context and collectively affects its management efforts and its outcomes. The results of this study are important given the interplay between industrial regulation and knowledge plurality when examining the relationship between human resource management and organizational social capital. Employees are less likely to accept HRM as a voluntary act in a disciplined context; especially if the environment depends largely on blue collar workers without large investments in research and development. The success of these companies depends largely on the productivity of work rather than on innovation. In such an environment, social interaction and knowledge flow in the company are not urgent; and employees are less likely to understand the benefits of good relationships. Therefore, the effectiveness of human resources management practices is limited.

In contrast, although employees may be skeptical of the employer's intention to adopt human resource management in a highly regulated context, human resource management practices can still have a significant impact on organizational social capital in the environment; where processing information and knowledge sharing among employees, especially knowledge workers, play a central role in company success. Employees who receive the message through human resource management practices encourage good quality relationships. They may realize that good relationships can help them work in an effective way and get better performance and reward evaluation. Given that the resources of internal relations are vital to both the centralized knowledge of companies and their employees, companies that invest resources in human resource management practices for the development of corporate social capital, it can facilitate relationships between employees in a more controlled context.

In contrast, although employees may be skeptical of the employer's intention to adopt human resource management in a highly regulated context, human resource management practices can still have a significant impact on organizational social capital in the environment; where processing information and knowledge sharing between employees, especially knowledge workers, it plays a central role in the company's success. Employees who receive the message through human resource management practices encourage good quality relationships. They may realize that good relationships can help them work in an effective way and get better performance and reward evaluation. Given that the resources of internal relations are vital to both the centralized knowledge of companies and their employees, companies that invest resources in human resource management practices for the development of corporate social capital, it can facilitate relationships between employees in a more controlled context. Although industrial regulations seem to be a more effective moderator than the plurality of knowledge in the present study; the different conditions of knowledge plurality in the more regulated industries also change the relationship between human resource management and organizational social capital. This study suggests a new perspective on future research on corporate social capital and human resources management may require the investigation of the simultaneous vital factors to discover the real image. Such an approach avoids examining unique isolated managers in isolation, which limits the relevance of important information relationships.

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# INVESTIGATING THE RELATIONSHIP BETWEEN KNOWLEDGE MANAGEMENT, INNOVATION AND CREATIVITY ON EMPLOYEE PERFORMANCE

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## Abstract

*Today, organizations need to knowledge management and its development to survive in a sustainable vital. Accordingly, the knowledge and human capital related to this category should be considered as a major factor affecting any type of organizational activity. Given that innovation is a permanent and dynamic process, these two together can be considered as one of the effective factors in the success and survival of organizations and, while improving organizational performance through empowerment of employees, leads to the growth, efficiency, effectiveness and background of creativity and finally, it will show the increase in employee productivity.*

*JEL classification: D83, O31*

*Keywords: Data and Knowledge, Knowledge Management, Innovation, Creativity*

## 1. INTRODUCTION

With the rapid advancement of human societies and human access to modern technologies and the emergence of competitions, innovation and creativity have emerged as one of the key pillars of the life and development of organizations. In the meantime, knowledge management in organizations is considered not only as an advantage in the competitive world but also as one of the key factors in improving the performance of organizations and plays an effective role as a valuable resource for innovation and creativity.

In fact, knowledge is the only source in the organization that is not reduced by using its value, but also it is added to its value. In this regard, one of the main objectives of KM is to create and organize the conditions under which the individuals of an organization, while exchanging knowledge, with the use of it, make smoother their way of development and the efficiency and the intended organization. Thus, it can be argued that knowledge management as a source of innovation and the requirements of the process of innovation in organizations has important value.

This research seeks to highlight the role of the organization in this regard by examining the effect of knowledge management on organizational creativity and providing the necessary strategies for innovation in employees.

## 2. CONCEPTS

### 2.1 INNOVATION

Various definitions of innovation have been presented. Holt uses the term of innovation in a broad concept as a process for using knowledge or information for the purpose of creating or introducing new and useful things. Urobabi also states that innovation is the development and use of the new idea as a product,

process or service that leads to the dynamic growth of the national economy and increase in recruitment for profitability in the innovative company (Sfanjani and Mostafa, 2008).

Innovation is very important for organizations and organs, because brings sustainable competitive advantage for them (Weerawardena & Julian, 2006). Innovation, creating new knowledge and ideas for applying and facilitating new business outcomes, targeting to improve processes and structures within the business and create moving products and services (Chen & Yang, 2004). (Jimenez & Sanz-valle, 2011) suggest that innovation is one of the important factors for success, organizational survival and competitive advantage. According to Senich (2004), innovation is the application of new profitable new ideas in the business market in order to generate wealth and create value. In his view, innovation is a permanent and dynamic process, not cross-sectional and one-time forever (Barringer, translated by Jafari et al, 2009, p. 54).

### **Indicators of Measuring Innovation**

In 2000, in response to the globalization of knowledge-based economy changes, the European Union announced four national innovation indicators at national level in order to achieve its goal of promoting innovation among member countries and moving to the world's most knowledge-based economy.

1. Human resources: The quality and quantity of human resources are considered as the main determinants of the creation and dissemination of new knowledge throughout the economy.
2. Creating new knowledge: Measures the indicators related to the creation of knowledge, capacity, and the state of inventions of countries.
3. Transfer and use of new knowledge. This area covers informal innovative activities, such as: the adaptation of new equipment for service and production systems of the company, the adaptation of innovations that have developed by other organizations, and the adoption of new knowledge for the company's specific needs.
4. Financial affairs & Innovation outputs: This category includes: the supply of risk capital of advanced technology, innovation sales, etc. (Tabatabayan and Pakzad, 2006).

## **2.2. CREATIVITY**

Creativity is an Arabic word that its root is "Creation" in the sense of Creation. In Dehkhoda's dictionary, creativity means creating and begets, and creative, is a person with new ideas.

In Webster's (2003) culture, creativity has been defined as the power and ability to create concepts or apply them in a new way through mental skills (Samkhanian, 2005, p. 15).

Creativity is the ability to apply knowledge to problem solving and innovation. Creativity does not always include new ideas and can relate to the transfer of existing knowledge to new situations and to embed them in different frameworks or can relate to methods that were not previously available (Rahimi, 2007).

Creativity is the creation of a concept and something new and unique, in a way that is appropriate and useful, to solve a problem, question or scientific, industrial or social need (Pirkhayee, 2004).

In his definition, Lucier emphasizes creativity as a kind of thinking and exodus, in which creativity is a way of thinking that generates new ideas (Luthans, 1995).

As well as being the suitable environment and the space is needed for the growth of the plant, must also be a good space for the flourishing of creativity to release the minds of individuals to engage in new ideas and opportunities. Innovation is accompanied by the creation of value. Creativity is the engine of innovation. The essence of the creativity is to combine two or more ideas to arrive at entirely new ideas. Creativity is the result of advocate and ready mind and often result from a person's dissatisfaction with the status quo. Creativity depends on both individual and his environment (Tariq, 2002).

### **2.2.1. Factors influencing on creativity**

Factors such as genealogy (individual), biology, socio-cultural structures, and even the technical and technological which creativity forms in them, affect creativity. The structure of creativity is more social than the individual and psychological structure. In our society, the dominant approach is to creativity of the psychological approach. In this approach, creativity is attributed to properties and geniuses; creativity is the result of a kind of individual genius, but the sociological approach seeks to recognize the factors of cultural, social, historical, and meta-individual that is effective on creativity.

Historical experience shows that there is no culture, society or nation that is incapable of creativity, all nations are potentially capable of it, and this culture and set of economic, social and political conditions that allow to outbreak of different periods of creativity or preventing it; it is not, therefore, that some nations are more intelligent and more creative, and this is considered as a non-scientific and racist view. All people have the gift of creativity and innovation to meet their needs, and the nation provides a ground for creativity based on cultural and social arrangements (Bayat, 1996).

### **2.2.2. Organizational Creativity in Organizations**

Despite of the long history of creativity in human life, organizations have recently discovered, due to the tremendous pace of technological change, global competition and economic uncertainty, which organizational creativity is one of the key and continuous sources of competitive advantage and survival. This continuous competitive advantage emerges in the form of ideas, products and services that arise directly from creative thinking.

The creativity of the organization's staff thus helps the organization survive, when employees are creative in their work, will be able to provide new and useful ideas about the products, functions, services or procedures of the organization. The existence of such ideas increases the likelihood that other employees will use these ideas in their work. In addition, they develop these ideas and transfer them to other employees to develop and use in their work. Hence, the production and use of new ideas will enable the organization to respond to changing market conditions, respond to threats and opportunities in a timely manner, and grow.

Creativity not only expands the market share through the development of products and processes, but also creates new markets and shapes the environment. But managers are the ones who are largely unknowingly suppressing creativity, and when creativity is suppressed, an organization will lose a powerful competitive tool, the production and use of new ideas. In fact, these managers do not have a proper understanding of the concept of creativity and the factors affecting it, and most people do not know how they can increase their creativity.

Becoming a creative organization has become a way to compete in today's dynamic and changing business environment. The combination of creative ideas and organizational innovation management is a key to staying competitive in the long term (Admas & Phelps·2006).

## **2.3. DATA AND KNOWLEDGE**

- Data is a fact of a situation or an item of a particular context without communication with other things. In fact, data are facts, facts and raw facts. Information is formed by adding fields and interpreting data and processing them together.
- Knowledge is the addition of understanding and memory to information that leads to the normal development of information. In this way, knowledge can be defined by insights from information and data that can be divided and distributed in different ways and in different circumstances. In general, knowledge is a perception and understanding that is achieved through experience, reasoning, direct understanding, and learning (Mirghafouri & Sadeghi Aranani, 2011).

### **2.3.1. Knowledge management**

Knowledge management is a complex and wide concept, so experts have looked to it from different angles. What the comes from different definitions is knowledge management, process identification,

capturing, organize and process a variety of data to knowledge creation, which then is distributed and available to others, to create knowledge, and to be used effectively in decision making. Generally speaking, knowledge management is an attempt to figure the hidden asset in people's minds and convert this hidden treasure to organizational asset, so that a wide range of people in company decisions are involved (Davenport & Prusak, 1998).

Knowledge management is the creative, effective and efficient use of all available knowledge and information available to the organization for the benefit of the client and thus for the benefit of the organization (McDonald, 2002).

The Center for Productivity and Quality of the United States considers knowledge management as a massive process of obtaining, organizing, transferring and using information in the organization. According to Robert Lukan, knowledge management is the use of information to achieve business reality. Knowledge is not only a key asset in organizations, but also is known as the most important determinant of economic growth. He also believes that the link between the new technologies with unique skills and employee experience is a source of energy that leads knowledge management to forward (Ghonizadeh, 2006).

According to Handley (2000), knowledge management is a general description of the culture, processes, infrastructures and technologies existing in an organization that makes it possible to attract, grow, and optimize the organization's knowledge capital for realizing strategic goals (Darroch, 2007)

In the traditional pattern, organizations and individuals often do not have the tendency to transfer and exchange the knowledge they possess. Instead of looking at knowledge as an organizational source, they see knowledge as the source of power for self-interest and promotion of their own. An organization that supports the sharing of information and the creation of knowledge can better define effective and efficient processes and improve its organizational performance (Alwani, 2009, p. 414).

### **2.3.2. Types of knowledge**

Nonaka (1994) has two types of knowledge: Implicit and objective.

- Implicit knowledge: the mental models of the beliefs of each person that have been so embedded in their minds that are considered obviously. Implicit knowledge is rooted in people and its expression is difficult to pronounce. In most organizations, implicit knowledge is rarely exchanged or shared. So, when one leaves the organization, this kind of knowledge comes with it.

- Obvious (objective) knowledge: a knowledge that clearly is defined or formulated and shared through information technology. Knowledge is fully and directly transmitted from one person to another. This knowledge is official and code cable and can be stored in the organization's memory or elsewhere and made available to everyone. Examples of obvious knowledge include books, reports, films, and other forms of physical presentation of knowledge.

### **2.3.3. Knowledge Management Process:**

This process has the following stages which consist of:

#### **1. Creating or Identifying Knowledge:**

Creating knowledge refers to the ability of organizations to create new and useful ideas and solutions. (Marakas, 1999)

Organizations, with the development and restructuring of previous and current knowledge, create new realities and concepts in a variety of ways. Creating knowledge is an important process in which motivation; inculcation, experience, and chance play an important role (Lynn & Paulson, 1996).

The criterion of measuring new knowledge is its effective role in solving the current problem and innovation in the market (Zaribaf et al, 2006).

#### **2. Acquiring and collecting knowledge:**

Throughout human history, human beings have always sought knowledge, because they knew knowledge as a success Abzari: 2005. Knowledge can also be gained both from within and outside the organization Alwis: 2008 Everyone in the company must have access to a base for gaining knowledge related to the work and decision making. Knowledge collected in companies can play an important role in removing barriers and inefficiencies simultaneous with improving management performance. (Lee & Kang, 2005). Current relationships with customers, supporters, competitors and partners in the organization are the basis for providing knowledge. The organization can acquire a new knowledge that itself can not produce, through recruiting experts and using of their expert knowledge to achieve organizational goals. One of the other ways of gaining new knowledge, cooperation and participation with other industrial sectors of competitors is in the organization's work. In this way, it is possible to use the initiatives of other organizations (Ramezani, 2004).

### 3. Documenting or organizing knowledge:

The term "documenting knowledge" means writing, storing, coding, and classifying useful knowledge and experiences. The sharing of all documentation activities can be considered as a purposeful piece of knowledge, from the knowledge and awareness of human (Jafari Moghadam, 2002).

### 4. Development and dissemination of knowledge:

Development is generally referred to as a set of quick, creative, systematic and planned activities that are aimed at expanding the boundaries of scientific knowledge and the treasure of human knowledge and society (Saeedikia: 2005)

The fourth step of the knowledge management process is the transfer of knowledge in which an organization distributes information among its members and thereby improves learning and creates a new knowledge or understanding. Knowledge development is a fundamental element that completes the acquisition of the knowledge. In addition, it focuses on new skills and products, better ideas and effective work process. Knowledge development includes all management efforts that consciously focus on generating abilities and have not been yet presented within the organization or even don't exist within or outside of it yet (Alwis, 2008).

The important thing is that knowledge does not merely derive from expertise, but also obtains from experience. Therefore, having an internal network of an organization and facilitating communication between employees is one of the key issues in this phase.

### 5. Application of Knowledge:

Internalization and protection of knowledge occurs when each employee has discovered, acquired, and then used the related knowledge. Thus, internalization may lead to the creation of new knowledge. In this way, a foundation for knowledge creation is provided (Kang & Lee, 2005). At this point, the entire attention of the knowledge management focuses on the fact that existing knowledge within the organization is applied to achieve organizational profitability. Unfortunately, the importance of having a lot of knowledge does not guarantee its implementation at all times and in all activities of the organization (Ramezani, 2004).

The ultimate goal of knowledge management is the application of knowledge to improve organizational performance. Many experts consider this stage as the most important step in the knowledge management process because the competitive advantage is not dependent solely on the existence of rich and knowledgeable resources, when employees bring the best practices into new situations, modify these experiences, and get a new set of the best experiences "(Sarlak, 2007).

#### **2.3.4. Strategic Knowledge Management**

Strategic management of knowledge is important as a competitive resource for the organization. Strategic KM relates to the organization's recruitment processes for the creation and sharing of knowledge, formulation of strategy, decision making, and business strategy (Yang, 2010).

### **2.3.5. Knowledge Management Strategies**

If we define strategy as the way to achieve the goal, therefore, the theorists or organizations according to their different goals in execution of knowledge management will achieve different strategies.

Skyrm (1998) believes that there are two strategies for knowledge management:

1. Better use of knowledge is within the organization. In this case, organizations can identify the knowledge of each individual's brain.
2. Use of employees' knowledge is in order to create creativity and innovation transform their ideas into valuable products and services for the organization.

Karl Weig and the US Quality Assurance Center (1996) have defined six knowledge management strategies as follows: 1. Knowledge strategy as a business strategy; 2. Intellectual Property Management Strategy; 3. Personal Knowledge Asset Liability Strategy; 4. Knowledge Transfer Strategy; and 5. Customer oriented knowledge strategy.

### **2.3.6. Relationship of Knowledge Management Strategies with Innovation**

Knowledge is essential for innovation and competitiveness (Neece & Majchrzak: 2004). Knowledge leads to the production of creative thoughts and innovation, which is why innovation is one of the areas of knowledge management. (Inuzuka, 2004)

There is a close relationship between organizational knowledge and innovation. Both personal and coding strategies increase the organizations' innovation. Creativity develops innovation through the sharing of implicit knowledge. In fact, strategies, coding and personalization can bring organizational innovation. Knowledge is recognized as a competitive and valuable asset, which is the basis for sustained growth and the key to maintaining a lasting competitive advantage. The innovation process is heavily dependent on knowledge, and knowledge management and human capital are considered as essential to any type of business. Knowledge management and innovation both can create value for organization and improve organizational performance.

### **2.3.7. Relationship between Knowledge Management Strategies and Organizational Performance**

Organizational performance is a multi-dimensional concept and evaluates the company's position in comparison with its competitors. A comprehensive view of the company's performance should be considered not only in financial aspects, but also in non-financial aspects, such as the development of new services, the improvement of absorption capacity, training and development. In fact, knowledge management systems would better combine financial and non-financial performances (Chrabarity & Bierly, 1996).

Organizational performance is a broad concept that incorporates what the company produces and the areas with which it interacts. Organizational performance refers to how missions, tasks and organizational activities and their results are accomplished (Hagighi et al., 2010, pp. 297-286). Knowledge management of the effect of KM strategy on company performance should be studied better by analyzing different aspects of the company. Three dimensions will be used to assess the relationship between knowledge management and the performance of organizations (Maoshbaki, 2003).

1. Financial performance: Includes market performance, profitability, growth and customer satisfaction
2. Process Performance: Includes the quality and effectiveness of the processes of doing things
3. Internal performance: Connected with the abilities of individuals including: employee capabilities, and their satisfaction, and creativity.

### **2.3.8. Relationship between knowledge management and innovation**

Nowadays, innovation in the present technological space is necessary for organizations, and most organizations are looking for new ideas. In this regard, the organization's experts are working to provide knowledge to deliver new products or services that customers want. They provide infrastructure and

innovation as a continuous process because the goal of knowledge management and learning the secret of the survival of today's enterprise lies in innovation. Knowledge management experts are of the opinion that innovation mechanisms and knowledge management processes can be adapted (Mohammadzadeh, 2001).

Cardinal et al. (2001) showed that the innovation process involves technical, physical and knowledge-based activities that are essential for the creation of new products. Terziyovsky and Glut (2004) define knowledge management with a view to innovation in this way. "Access to experience, knowledge and expertise that creates new abilities and it leads to high performance, encourages innovation and increases customer value." As a result, there is a direct relationship between the performance of knowledge management and innovation. Whatever the performance of knowledge management is stronger, it has a great positive effect on innovation (Talebi Kohestany, 2007).

### 3. CONCLUSIONS

Creativity and innovation, although are felt in organizations, should be institutionalized and part of organizational work and culture. Whenever top managers of the organization believe in creativity and innovation as necessary and vital activities, activities will be done in this regard.

In general, knowledge management is to organize the knowledge. It means trying to acquire required knowledge, sharing information within an organization, and emphasizing the strengthening of organizational memory in order to improve the decision-making process, increase production and encourage individuals to innovate in the organization. In the heart of knowledge management, innovation should be looked for, because, the sustainable competitive advantage is hidden in innovation.

Therefore, in order to benefit the organization from the capabilities of employees in order to develop innovation and creativity, the following factors must be done:

1. The strategic management of knowledge is important as a competitive resource for the organization. Therefore, the senior management of the organization will apply its current policy as a way of creating, participating, formulating, deciding, assigning responsibilities and services.
2. Given that knowledge management is effective in improving organizational ability, and in most organizations, information is rarely exchanged or shared. Therefore, before leaving the staff (retirement, redemption, relocation, etc.), the organization must be shared with the financial and psychological motivation of the organization, the experiences of the registered staff and accessible to all since knowledge does not merely derive from the expertise, but can be gained from experience.
3. The organization must identify and compile appropriate space for emerging ideas and identify variables that encourage innovation, so that managers can understand how to support creativity.
4. The organization should create an atmosphere where the clear exchange of knowledge and innovation is emphasized on that. So that employees are more willing to share their new knowledge with each other and use it. This atmosphere can be created by determining the appropriate location, assignment of announced times, and so on.

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# EFFECT OF URBAN SIDEWALK SAFETY ON PEDESTRIAN'S HEALTH INDICATORS

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## Abstract

*According to the growing interaction of citizens with the urban environment, paying special attention to the qualitative and quantitative parameters related to citizens' life is essential. Among the most important urban environment quality indicators, assessment of the health indicator is of particular importance because of daily interaction with citizens. The present study aims to investigate the relationship between the characteristics of the physical environment and the health of the environment by comparing the dimensions of sidewalks and pedestrian safety, as well as assessment of urban environment health. Based on classified random sampling method, a sample of 383 individuals of local citizens and experts of the region 10 of Shiraz city (Iran) were selected for data collection. Then, questionnaire considering the four dimensions of health and sidewalk elements components were prepared (Cronbach's alpha 0/851) and the results were analyzed by using qualitative correlation. based on the expert's opinion, the highest impact was considered for sidewalks furniture, essentially highlighted on the social health and based on the local citizens of the new neighborhood and the old neighborhood, sidewalk furniture makes the greatest impact on mental health. According to the results urban sidewalks elements including hard and soft elements, affect four dimensions of health indicators of the pedestrians. Urban sidewalks Health promotion in particular and urban spaces health promotion in general with regard to all groups of citizens, especially vulnerable groups, requires a strategic plan and assess widely urban spaces health. Therefore, to improve sidewalks to promote pedestrian health, more attention has to be paid to these elements, as well as the standards of vulnerable groups in design of new – construction districts.*

**JEL classification:**

**Keywords:** *Pedestrian safety, Urban environment quality indicators, Sidewalk elements, Health dimensions.*

## 1. INTRODUCTION

One of the areas that saw the presence of people and physical activity in cities, are urban sidewalks as an integral member of the streets which made possible human interaction besides man made. It worth to mention that pedestrian health is not threatened solely on behalf of physical dimension or dangers caused by vehicles, so that several factors are dominant on pedestrian's health (1).

According to WHO, out of 190 countries, only four countries have recorded more death rate from traffic accidents than Iran While Iran has less than a hundredth of the world's population, but unfortunately more than one-fortieth of world's traffic accidents was recorded for Iran Given that deaths from traffic accidents can be seen amongst people aged middle and even younger, the negative impact of these deaths on the life expectancy at birth and consequently on the economy and society is inevitable (2). Therefore, paying enough attention to safety and health improvement of this group of users according to geographic social, cultural and economic characteristics, in each region and province is very necessary and inevitable (3). Of the qualitative assessment criteria applied to space evaluation is presence of special social groups including physical disabled and children. Elderlies are also part of this group with its presence can be a source of stability and vitality of urban areas and to improve their quality. The development of urban spaces along with the needs of different social groups is of crucial importance for urban planners and

designers; however, so far little attention has been paid (4-5). The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being regardless of race, age, religion, political views and economic and social conditions. As stated by the World Health Organization in the preamble of its Constitution "health includes a complete physical, mental, social welfare and not merely the absence of disease and disability". In recent years, this statement has been reinforced to also accommodate "the ability to have a useful life economically, as well as socially" (6-7).

### Sidewalks Elements

Overall, sidewalks elements can be divided into two groups of soft and hard elements. Hard elements are elements that are rigid and have more strength and include items those are visible and easily understood by touch sense. These elements usually are non-removable or removable hardly. Hard elements were divided into three categories. 1) Surfaces 2) Furniture 3) vegetation. Soft elements include cases that consider visual, auditory and ... qualities and usually are not understood. Like light and shadow, ambient sound, color, etc. Activities and users also fall into this category (table 1) (12).

**Table 1. Elements and components of sidewalks**

Floor materials, facades materials, stairs, ramps, pedestrian crossing roadway, pedestrian islands, buildings retreat regard to sidewalk, console and saliency of the first floor of the buildings, the bike lines, facilities of surface water flows management, Parking for the disabled, the seat materials	Surfaces	Hard elements
Chairs and benches (seat), vitrines, automatic machines, WC, automatic polish devices, Public Transport stations ( Metro_ Bus_ taxi (park meter, bicycle station, fire-buckets filled with sand, trash bins, protective fence, iron covering networks, guidance signs, information kiosks, billboards, city maps signboards, boxes, donation box, telephone booths, newsstands, Fire Taps, bars and flags, advertisements tableaux, chess tables, Ping-Pong table, traffic lights (driver and pedestrian) water troughs, children basins bathe, waste stations, shops drawing box, push button Special pedestrians, electricity posts, telephone posts, platform in front of houses, traffic light control box, porch, statues, wooden writing boards, overpass or underpass elevator	Furniture	
Trees, borders gardens, flower baskets, vases, trellises plants, potted shrubs	Vegetation	
Materials Color, margin applications, hawkers, temporary setups, lines to play on the floor, patterned tiles to play, street and sidewalks lighting, flood lights, decorative lighting, illuminated signs, trees lighting, lighting signs on the floor, fountain, 2D & 3D floor and ceiling paintings, ambient sound, environment air quality, sound and vibration, ambient odor, naming streets ramified from the sidewalk	Soft Elements	

*Source: Author*

## 2. HEALTH DIMENSIONS

Health has four dimensions and physical or biological health is the health of body functions as well as optimal performance of each members or organs in perfect harmony with the other members. (8). physical health is measured using physical performance, physical efficiency, physical pain and general health criteria (10). Social health is a concept that emerges between the two concepts health and social relationship. As the society is a credit concept and its external reality it depends on the individuals that make it up, hence, in society investigation, individuals have to be priority studied (9). According to The World Health Organization, Mental health involves more than solely the absence of mental disorders, so that it includes mental well-being, perception, self-efficacy, autonomy, competency, intergenerational dependence, and self-actualization of potential intellectual and emotional capabilities (6). Spiritual health with features such as life stability, peace, feeling close relationship with self, God, society and the environment, proportion and harmony of meaning and purpose in life is determined. Spiritual health

composed of two vertical dimension (religious health) and horizontal dimension (existential health) (Table 2) (11).

**Table 2. Components and elements of four dimensions of health based on a researcher made questionnaire**

Exercise and regular physical activity, safety risks, access to air and clean water, low impact of climate change, intense activity, moderate activity, bend and kneel, walk a few kilometers	The components of physical dimension of health
Cohesion and social control, promote healthy thoughts, public access to health services, a range of social activities, social time activities	The components of social dimension of health
Express feelings in a positive and non-destructive way, feel comfortable, life in perfect physical environment, a high level of security in the community, a sense of identity, vitality, peace, joy	Components of mental dimension of health
Contact with God's infinite power, opportunities for self-actualization, group supportive activities, working with social service or volunteer work, walking in nature, having the time quietly thinking, exercise, connect with music, art, nature and religious monuments, do the activities that gives meaning to life	Components of spiritual dimension of health

*Source: Author*

### 3. MATERIAL AND METHODS

This research is a combined, case study and applied study in terms of methodology, territory, and type, respectively which was done in 4 stages: the first stage: literature review and the second one, using Environmental Health Check List (12) and re-reviews and then determining its validity and reliability. To do first and then the second stage, library studies, investigation of internal and external similar researches and search the comprehensive online resources, as data collection techniques were used. In the third stage, using components qualitative correlation, it was attempted to clarify the relationship between the sidewalks elements and health parameters to be established, and finally, the effectiveness of the urban sidewalks elements in relation to the dimensions and components of pedestrians' health (ordinary pedestrians and vulnerable groups, elderly, disabled, pregnant women and children) were identified.

The present study focuses on analysis region 10 of Shiraz City (Iran) at the neighborhood scale based on the necessities of pedestrians, vulnerable groups and local citizens. This study is based on the opinions of citizens (as individuals' pedestrians and vulnerable pedestrian's groups) of two quarters, Guyim (the old-construction quarter) and Hafez (the new-construction quarter) located in 10 municipalities of Shiraz City toward the sidewalks and elements of sidewalks in their habitat. Shiraz, on the one hands, because of being the metropolis and on the other hand, because having the spiritual and tourist attractions, enjoyed a particular importance in the field of urban studies and HSE management. Besides, studying the sidewalks of Guyim and Hafez quarters as the main arteries in the path to the nearby cities of Shiraz is essentially important because of its effect on the health of various pedestrians which draw a picture of the current state of the space for urban authorities and decision makers. Residents of these mentioned neighborhoods as pedestrians and relevant authorities in the municipality (experts of transportation and traffic control organization and traffic experts of Shiraz Municipality) was considered as the study population. Among them, based on random classified sampling, a group of 383 space users and officials and experts were selected for data collection. In determining the validity of the questionnaire customized with written comments on the study objectives, methods of research tools and its examined issues was given in access for the 20 experts (staff of District 10 Shiraz municipality) that were to somehow familiar with the studied subject or had experience in this regard. According to the results of questionnaire respondents, the environmental health has profited from an appropriate content and external validity. In this study to evaluate the reliability, the Cronbach's alpha coefficient was used and the achieved result was about 0/897, which shows the suitable reliability of the used tool.

### 4. RESULTS

In this study, the influence of urban sidewalk elements on the quality of pedestrian health indicator (ordinary pedestrians and vulnerable groups, elderly, disabled, pregnant women and children) has been investigated.

Firstly, demographic characteristics of the research sample (gender, marital status, age, education level, years of residence in the neighborhood, the monthly income) have been described and frequency distribution tables and their percentage were drawn. Also, to analyzing the data and hypothesis test and answering the research question, qualitative correlation method was used.

The statistical sample distribution of the study area based on participant’s gender and age showed that 196 individuals (2/51 percent) were male and 187 people (8/48 percent) are women. Moreover, 11.7% participants of the study group were vulnerable elderlies (65 years and older) and 58/5% of participants (the largest group) were youth. Comprehensive results obtained regarding the effect of hard and soft elements of urban sidewalks on pedestrian health indicators was shown as Table (3), where the effect of the urban sidewalk was studied using qualitative correlation:

**Table 3. Qualitative effectiveness of hard and soft sidewalk elements on the health dimensions**

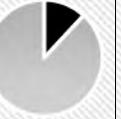
Health				sidewalk Elements		
Spiritual health	Mental health	Social health	physical health			
				Experts opinions	surfaces	Hard element
				studied area opinion (Hafez region)		
				Studied area opinion (Guyim region)		
				Experts opinion	furniture	
				Studied area opinion (Hafez region)		

Health				sidewalk Elements		
Spiritual health	Mental health	Social health	physical health			
				vegetation		
						Studied area opinion (Guyim region)
						Experts opinion
						Studied area opinion (Hafez region)
				Studied area opinion (Guyim region)		

Source: Author

Table 4: Qualitative effectiveness of hard and soft sidewalk elements on the health dimensions (continue)

Health				Sidewalk Elements	
Spiritual health	Mental health	Social health	physical health		
				Experts opinion	
					Soft element

Health				Sidewalk Elements	
Spiritual health	Mental health	Social health	physical health		
				Studied area opinion (Guyim region)	

Source: Author

As shown in Table 3, the questionnaire was distributed amongst three groups, including pedestrian’s resident of the old- construction district (Guyim town), pedestrians resident new- construction district (Hafez town) and experts of transport and traffic control organization of Shiraz and qualitative correlation results showed that: sidewalks surfaces: have the greatest impact on mental health and physical health according to experts and pedestrians of new-construction district, respectively. In other hand, urban furniture: has the greatest impact on social health and mental health based on experts and the pedestrian of old-construction district. Besides, Vegetation: According to experts and the pedestrians of old-construction district, altogether has the greatest impact on the mental health. Sidewalks surfaces, has shown the lowest and greatest impact on the on spiritual health and mental health, respectively, whereas vegetation, has the most significant impact on mental health.

### 5. CONCLUSION

In the present study, seeks to investigate the effect of urban sidewalks c on the pedestrian’s health using identify health dimensions and components by internal and external resources and, looking at how the relationship and impact of urban sidewalks elements on pedestrian's health components. Ghafarian et al., (2014) stated that sidewalks surfaces have the greatest impact on the physical health of pedestrians, soft elements of sidewalks have the greatest impact on social and mental health and vegetation has greatest impact on the mental health of pedestrians (12). Rahnama and Mesgarani (2015) also showed that the highest measurement weight was recorded for physical and mental health criteria, and then spiritual and social health, respectively (13). Results of this study also show the largest impact of the items such as soft elements, vegetation and surfaces from the perspective of pedestrians of old and new construction districts, on the physical and mental health.

Afrasyabi Raad and colleagues also noted that non-visibility of the lining, holes and unevenness in the streets, inadequate lighting, slippery surface of the sidewalk and level difference on the sidewalk, annoying users such as badgers in the streets was pointed out amongst the most important problems of vulnerable groups, the disabled and veterans in the use of sidewalks (14). According to the results that showed the effectiveness of urban sidewalks elements on pedestrian’s health, therefore, the importance of appropriating of urban sidewalks elements are essential, particularly for vulnerable groups.

In another study entitled "assessing the needs of the elderlies in Urban spaces: Case Study: Park Khaladbarin, located at Shiraz" major problems of elderly vulnerable group were narrow sidewalks, slippery flooring, the floors covered with soil or gravel, piling up construction materials and garbage on the streets and sidewalks, cars parking in the sidewalks and inappropriate level changes (5). On this basis, with respect to the results and impact of the urban sidewalks elements on the pedestrians' health components, attention to these standards, especially for vulnerable elderly's people should be given priority in the design and appropriating of the sidewalks.

Based on the findings of this study and close Comments of new-construction district pedestrians and experts, as well, it can be argued that the standards in the design of the new-construction district (Hafez town) has been more paid attention and obeyed compared to the old –construction district (Guyim district). Due to attraction of health issue in recent decades, large interdisciplinary researches in the fields of

medicine, sociology and psychology, urbanism and urban planning have been done. Much of these researches have been conducted by looking one way to the dominant role of physical health. In other words, little studies were carried out regarding urban environment health in terms of four dimensions of health indicators in the HSE management.

Urban sidewalks Health promotion in particular and urban spaces health promotion in general with regard to all groups of citizens, especially vulnerable groups, requires a strategic plan and assess widely urban spaces health. Therefore, to improve sidewalks to promote pedestrian health, more attention have to be paid to these elements, as well as the standards of vulnerable groups in design of new –construction districts.

Results of the present study can pave the way for other research in the field of HSE and especially safety and health, areas such as the design of the urban sidewalks, urban squares and Palace and other urban spaces and places, where people has constant presence there.

### **5.1. ACKNOWLEDGMENTS**

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# THE RELATIONSHIP OF ORGANIZATIONAL CULTURE AND JOB CONSCIENCE WITH EMPLOYEES PERFORMANCE IN THE ELECTRICITY POWER DISTRIBUTION COMPANY OF KHUZESTAN PROVINCE

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## Abstract

*Review and assessments of organizational culture act are as a tool for data collection and enable managers to identify the condition of organizational culture in addition to be informed of employees' perceptions and beliefs. Of course, it is not possible to identify the organizational culture easily. The aim of this study is to examine the relationship between organizational culture and job conscience and organizational performance of employees of Electricity Distribution Company in Khuzestan. The research method is descriptive-survey and casual; the statistical population includes 300 people; and the sample size is estimated about 166 people using Cochran formula. In order to collect the research data from questionnaires and data analysis, SPSS and LISLER software is used. To collect data in this study, personal information and three questionnaires including Denison organizational culture questionnaire, Barrick and Mount job conscience questionnaire and performance questionnaire based on Paterson's model are used. 53 questions of questionnaire are based on Likert scale. Reliability of questionnaires was achieved %96 using Cronbach's alpha. The research results in accordance with the research questions are as follows. Between organizational culture and employee performance at %95 level, there is a positive and significant relationship. Between organizational culture and job conscience at %95 level, there is a positive and significant relationship. Also, between the job conscience and employee performance at 95% level, a positive and significant relationship exists. Regarding the research questions of organizational culture, their components include 1-participatory, 2- stability and integrity, 3- flexibility, 4- mission; job conscience components consist of 1- reliability and 2- success-orientation; and performance questions contain performance components.*

*JEL classification: M14*

*Keywords: Organizational culture, Conscience, Job conscience, Performance*

## 1. INTRODUCTION

Human forces as the most important factor in organization productivity can help the organization in achieving its aims and plans by applying their talents and capabilities. Also, in order to promote the system and solve its problems, they can present their capabilities and talents to the organization voluntarily, they can be loyal to the organization and by doing real and compassionate work, and they can prevent from creation of frailty in the organization. The organization's employees should have different dimensions such as developed and developing technical, ethical and intellectual aspects. One of the qualities which causes the employees to present their capabilities, talents and expert knowledges without control, voluntarily and amorously, is the job conscience (Soltani, 1998). The term of job conscience has entered to the administrative culture of the country in the recent years and it has been used by the positions and authorities repeatedly. But, unfortunately, fundamental steps haven't been taken for identification of the job conscience development in the society yet (Bakhtiari, 1998). Regard to the concept of job

conscience in the organizations is in fact an ethical and humane look to the work and organization category.

Because, ethics in professional behavior lead to create commitment to do the assigned duties in the best form and without external control and following it, improvement of work results and society situation, inward satisfaction and conscience tranquility are achieved (Liaghatdar and et al, 2011). The necessity of progress of each organization is the compassionate effort with job conscience of employees that the weakness existing in this field is completely perceptible and tangible in the country's organizations.

In fact, one of the most main issues of today's organizations in researcher's belief, is this same relationship between culture and job conscience, due to this, the researcher has considered the relationship of organizational culture and job conscience with employee's performance as the research subject, because, identification of organizational culture and job conscience and its effects on employee's performance can be non-negligible. This research is different with other researches of this view that the relationship of organizational culture as independent variable and job conscience and employee's performance as dependent variable are examined.

## 2. THE RESEARCH LITERATURE

### Culture definition

The word of culture has Latin root and means cultivation or nourishment and it is still applied in the agricultural and gardening terms with the same meaning. In the Romanian and English languages, the word of civilization was applied instead of culture for a long time and the meanings of nourishment, betterment, refining and social progress inferred from it, since the half of eighteenth century, culture is applied in its new concept (Sharifzadeh, Kazemi).

Culture in Persian language lexically and literally in the words dictionaries (Moein, Dekhoda and Amid) is as follows:

Culture in «Moein Dictionary» in the part of word meaning is defined: «politeness and nurture», «knowledge, science, insight», and «set of conventions» (Moein, 1983). In «Dekhoda Dictionary», in definition of culture, it has been mentioned, Farhang is combined from «Far» which means forward and «Hang» which has been taken from Avesta's root of «strait» and with the meaning of dragging and pulling out (Dekhoda, number of letter "F"). In «Amid's Dictionary», culture consists of knowledge, politeness, science, insight, education and nurture, scientific and literal works of a tribe or nation (Amid, 2004).

**Table 1. Culture definitions**

Krober and Kluckhohn (1952)	Culture includes the behavioral patterns which are transmitted by tokens, culture runs in the things made by human's hand, ideas and values.
Becker and Gear (1970)	A set of common concepts
Geertz (1972)	A semantic frame which helps the interpretation and conduction of behavior
Van Maanen and Schein (1979)	Values, beliefs and expectations that the organizations' members share.
Swartz and Jorden (1980)	Shared patterns of beliefs and expectations that at first the norms and then behavior are formed by them.
Ouchi (1981)	A set of tokens, ceremonies and myths that transmit the values and beliefs of organization to its members.
Deal and Kennedy (1982)	A system of informal laws which determine how the persons should behave in most of times.
Louis (1983)	Culture has three aspects: 1-content, 2-feature, 3-group.
Martin and Siehl (1983)	Culture is like a paste which keeps the organization through common patterns of meanings and includes fundamental values, forms and strategies for strengthening the content.

Uttal (1983)	Common values and beliefs which are in interaction with structures and systems of behavioral norms control.
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*Source: Author*

## Organizational culture

Alvesson (2013) and Denison (1996) believe, despite of this issue that the evolution and transformation of organizational culture are evident in the middle of twentieth century, this concept has been presented again by several different methods, also, there is a common point in all of these definitions that the organizational culture has included values, beliefs and hypotheses which have been applied by the members communally and they can establish relationship with these concepts, they have been as a possible guide for progress of selected procedure in the members performances and cause the facilitation in applying a common meaning. The researchers have examined the effect of organizational culture on efficiency.

There is not a definition for organizational culture which has been accepted by all intelligentsia, each one of the intelligentsia has defined the organizational culture with a different view, therefore, perhaps, selection and specification of a unique definition for it aren't correct and on the other hand, each organization has a special culture which has definition or definitions in the realm of that organization (Mirsepasi, 2005). Therefore, with regard to the importance and necessity of presentation of a specified definition of organizational culture, in the following, some of the most important definitions which have been presented by experts, are mentioned.

Moris defines the organizational culture as the relatively stable beliefs of common values and perceptions which are kept by the organization's members (Moshabaki, Khalili Shojae, 2010). Argies calls the organizational culture as an alive system and defines it in the frame of a behavior that people in practice clarify from themselves, and a way that really think and feel and those methods that the people behave with each other really (Zareie Matin, 2003). French believes that an organization is like an ice mount that the main part of it is non-visible. In this interpretation, whatever exists under the water, is organizational culture (Mirsepasi, 2005). Schein believes that the organizational culture is a dynamic phenomenon which is constantly interacting between environment and people and it is formed as the result of external compatibility and internal integration on behalf of a determined group (Mosley). Hoy and Miskel know the organizational culture as an effort for reaching to the feeling, emotions, nature, personality and image of an organization which includes many initial concepts of informal organization, new-emerged values, ideologies and systems (Hoy and Miskel, translated by Seyed Abbaszadeh, 2006). In total and with a look to the definitions of organizational culture which have been proposed by the scientists and experts of management science, their common aspects can be summarized in the following form:

- Norms and values of organizational culture are common among the organization's members.
- Culture reflects the organization history.
- the organizational culture is a set of values and beliefs among the organization's members.
- Culture has been formed socially, namely, it has been created and kept by a group of persons that have formed an organization together.

## Definition of job conscience

Conscience has been mentioned with the meaning of interior, heart and intelligence and it is reminded as the internal and spiritual sense which causes to distinguish between good and bad. In France's language, it has been also applied with the same meaning and as the internal feeling that everyone leads for arbitration about the values of his works (Bakhtiari, 1998). Job conscience consists of the internal commitment feeling in order to observe those obligations which have been agreed mutually in relation with work. In other words, the purposes of job conscience are the heart satisfaction, practical obligation and commitment to those duties that the human intends to do them, in a manner that if no inspector or supervisor controls on his activity, he will not be negligent again in doing the duty (Salimi Daneshgar, 2005). Conscience describes the control power of impulses in a manner that society knows it desirable and facilitates the

duty-based behavior. Conscience embraces some features like thinking before doing, delay in satisfaction of demands, observing the laws and norms, organizing and prioritizing the duty (Ezheie and et al, 2009).

### **Performance definition**

Performance lexically means state or quality of function. Performance has been defined as those activities that are usually as a part of job and activities of person and he must do it (Zakerfard, 2009). Ability and tendency of person have been introduced as the fundamental factors in performance and productivity of person, namely, the person has had the ability (knowledge, skill, experience and competence) to do the works to what extent and he has tendency (motivation, interest, commitment and trust) to do the work to what extent (Gholipur, 2007). It has been believed that the job performance embraces two components, the first component is the duty performance which reflects the job needs and obligations and the second component is the grounded performance which embraces non-defined and non-specified activities like team and supportive work (Zareie Matin and et al., 2006). Job performance is in relation with many factors such as motivation, ability, cognition of job, different environmental and organizational factors, control focus and personality features. Job performance is one of the most important aims that the organization's managers seek it and causes to provide promotion of performance and productivity in the organization, it will cause to promote the national economy and also quality of services and production of organizations (Spector, 2008). Neely (2008) names the amount of effectiveness and efficiency of targeted acts as performance. The most known definition of performance has been presented by Neely and et al. (2002) (the process of explaining the quality of effectiveness and efficiency of the past acts). According to this definition, performance is divided into two parts.

-Efficiency describes the manner of the organization's use of the resources in production of services or products; namely, relationship between the real and desired combination of inputs for production of determined outputs.

Effectiveness describes the degree of attaining the organizational aims. The organizations basically have been created in order to attain the aims and it is the amount of success in attaining the organizational aims in relation with the manner of performance of human forces who are working in the organizations. In many cases, the organizational performance is the result of reflection of properties, spirits, manner of perception of the world, namely, nature and metaphysics, therefore, many great men believe that the material life in fact is the large field of experiment and it is the only tool for diagnosis of humans' competences (Abtahi, 2001).

Therefore, it can be said, the organization's life depends on the correct performance of employees and the managers should be careful that can nourish the employees, notify their strength and weakness points to them and advance toward organizational ideas and aims by the effective management of performance.

## **3. THE RESEARCH BACKGROUND**

### **Domestic researches**

-Yusefi Ghand Ali, Mahnoush (2010) in her research has examined "the relationship between organizational culture and job conscience among employees of oil rich areas, Oil and Gas Exploitation Company in Masjed Soleiman". The research results indicate that at the level of 99%, there is significant and positive relationship between organizational culture and job conscience and the main hypothesis of the research was confirmed. Also, all dimensions of organizational culture except adventure dimension have significant and positive relationship with job conscience. Moreover, there is also significant and positive relationship between organizational culture and dimensions of job conscience. With regard to the gained results, for the problems related to the weakness of job conscience, the organizational culture can be enriched and amended.

-Fathi, Mahramzadeh and Seyed Ameri (2013) have done a research entitled "explaining the relationship between organizational sociability and job conscience of employees in the Youth Sport Ministrations of north-west of Iran". The results express that 1-there is positive and significant relationship between

organizational sociability and its components (receiving education, mutual understanding, support of employees and perspective from future) and job conscience, 2-the components of mutual understanding and perspective from the organization's future can predict the dimensions of job conscience positively and significantly (success-orientation and reliability). Therefore, it can be concluded that the organizational sociability has had an effective role in increase of job conscience of employees.

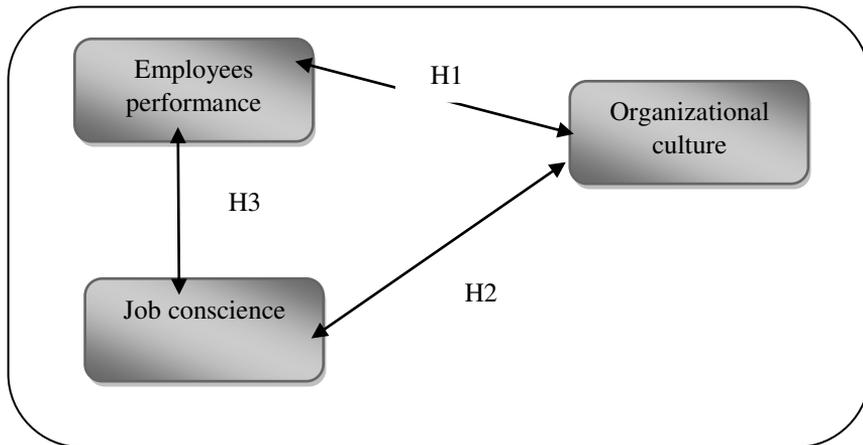
-Alirezaee and et al. (2013) have done a research entitled "the relationship of organizational atmosphere and job conscience with job performance". The findings gained from the route analysis indicated that the cooperative atmosphere and reliability directly, but, innovative atmosphere indirectly predict the performance. They concluded that the job conscience influences on job performance of people. The positive organizational atmosphere also can increase this effect. Therefore, the organizations and managers also can create positive organizational atmosphere through assessment of the personality characteristics of their employees especially their job conscience.

-Ardalan, Beheshti Rad (2014) in his research has examined the "relationship between organizational culture and job conscience of employees with mediator role of organizational sociability of employees in Urmia University". The research indicated that the relationship of organizational culture with job conscience and organizational sociability is positive and significant. The relationship between the organizational sociability and job conscience is positive and significant. Also, the relationship between the organizational culture and job conscience with mediator role of organizational sociability is positive and significant.

### **Outsider researches**

-Asree and et al. (2009) in their research on the index of organizational culture and increase of job satisfaction indicated that the organizational culture can cause to increase the job satisfaction and cooperation spirit among employees. The study of Sunpark and Hyunkim (2009) indicated, there is significant relationship between organizational culture and increase of job satisfaction and cooperation spirit among employees (Ardalan Beheshti Rad, 2014). Barney (1991) reasoned that a powerful organizational culture plays worthy role in the layer of capability, ability and reliable perception which can present the instructions and guides about the behavior of organizational members. The organizational culture in fact has been considered as the main source that the organizations with help of it have been able to retain the profit and numerous researches also have examined the effect of culture on organizational practical efficiency. Coffy (2003) in his research examined the relationship between the organizational culture and performance of building organizations of governmental section in Hong Kong and concluded that among the dimensions of Denison's organizational culture model, "adaptability", "mission" and "compatibility" dimensions have in order the most, middle and least relationship with organization performance. Yilmaz and Ergan (2008) in a research examined the effect of dimensions of Denison's organizational culture model on the organizations performance and indicated that the "adaptability" and "compatibility" have gained in order the most and least scores. In this research, it was specified that the "mission" dimension has the most effect on increase of organization performance under study. The findings of Sinclair and Sinclair (2009) and Dwyer and Kemp (2001) specified that there is significant relationship between organizational culture and organizational practical efficiency. In these researches, the competitive values frame was adopted, because, this tool is the multi-purpose precise measurement for assessment of organizational culture and practical efficiency of organization. Macintosh and Doherty (2010) also in their research entitled "the effect of organizational culture on job satisfaction and tendency to the desertion in Canada's Sport Organizations", have used of grounded method for cognition of organizational culture. By observing other organizations, the initial variables of organizational culture were extracted and were presented to 21 managers for confirmation of interview and they were measured. The research results indicated that the organizational culture existing in these organizations has positive effect on job satisfaction and

negative effect on organization desertion. Hersy and Blanchard (1983) in their research findings indicated that powerful culture leads to create better feeling for employees and do the works better. Also, powerful culture of organization causes to increase the persons commitment to the organization and create alignment among the organization's aims and this factor is an effective case for increase of productivity.



**Figure 1: The conceptual model of the research**

*Source: Denison, Mishra (1995)*

#### **The main question of the research:**

Is there a relationship among organizational culture, work conscience and employee's performance in the Electricity Power Distribution Company of Khuzestan?

#### **The subsidiary questions of the research:**

**The first subsidiary question:** Is there significant relationship between organizational culture and employees' performance?

**The second subsidiary question:** Is there significant relationship between the organizational culture and work conscience?

**The third subsidiary question:** Is there significant relationship between the work conscience and employee's performance?

#### **The research hypotheses**

**The main hypothesis:** There is relationship among organizational culture, work conscience and employee's performance in the Electricity Power Distribution Company of Khuzestan.

#### **The subsidiary hypotheses:**

**The first subsidiary hypothesis:** Examination of the effective factors on organizational culture and work conscience in the Electricity Power Distribution Company of Khuzestan.

**The second subsidiary hypothesis:** Measurement of employee's performance in the Electricity Power Distribution Company of Khuzestan.

**The third subsidiary hypothesis:** Examination of the relationship between organizational culture and work conscience and its effects on the employee's performance of the Electricity Power Distribution Company of Khuzestan.

#### 4. METHODOLOGY

The method of this research based on the aim in terms of this issue that its expected results can be served in the methods of facing with market, is applicable, the research in terms of the nature is correlation. The main aim is this issue that whether there is any relationship between two or among three quantitative (measurable) variables or not. If there is relationship, what will be its extent? And according to the information collection method, it is from the field researches.

**The statistical population:** At current research, 300 persons of personnel in the Electricity Power Distribution Company of Khuzestan are as the statistical population.

**The statistical sample:** To estimate the sample size, Cochran's formula was used. With regard to the gained number, with opinion of supervisor, 170 questionnaires were distributed among the members of statistical population in simple random (available) form and finally, 166 samples were collected and the questionnaires were measured (Azar, Momeni, 2001, p.71).

**Data collection tool:** In this research, in order to collect the information and achieve the aims, anonymous questionnaires have been used which are completed by the personnel of Electricity Power Distribution Company in Khuzestan. The research questions have been included in the frame of the questionnaire items. Each item of the questionnaire has been considered with regard to the main aim and questions and naturally, the response of each question is a step for realization and supply of the main aim of the research. The research questionnaire includes 53 items as follows:

**Table 2. Variables and number of the questionnaire items**

Row	Questioned variable	Number of the questionnaire items	Questionnaire reference
1	Organizational culture	1-23	Denison (2000)
2	Work conscience	24-38	Barrick and Mount (1997)
3	Performance	39-53	Paterson (1992)

*Source: Author*

For collection of the research data, three standard questionnaires including Denison organizational culture questionnaire, Barrick and Mount work conscience questionnaire and performance questionnaire based on Paterson's model were used.

**Validity of the research measurement tool:** Since, in this research, the standard questionnaires according to the table 1-3 have been used, therefore, the measurement tool used in this research has had proper validity and in fact, its validity has been resulted through content method.

Also, the validity of this questionnaire has been confirmed by supervisors, consultant and several persons of informed ones and this questionnaire has the necessary validity.

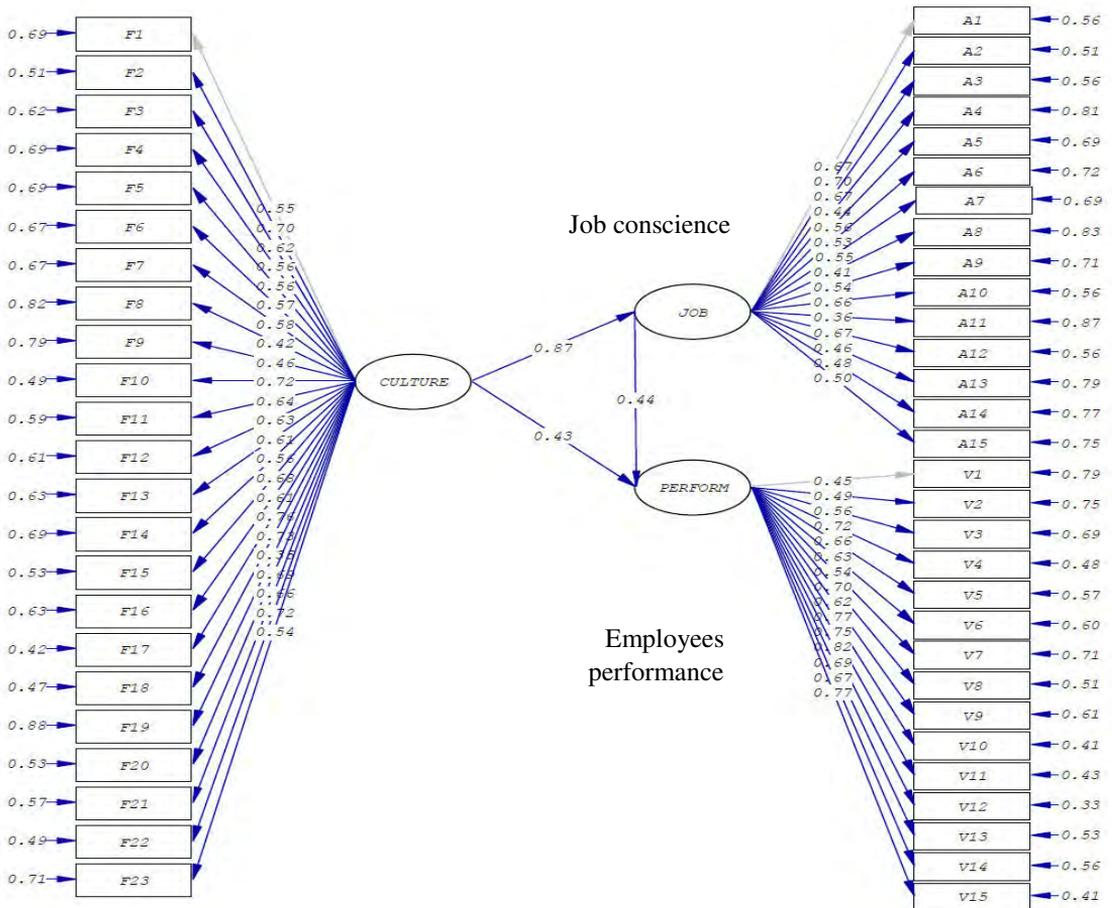
**Reliability of the measurement tool of the research:** With initial distribution of 30 questionnaires, the reliability coefficient for the questionnaire which contains 53 questions, was calculated equal to 0.966. With regard to this issue that the minimum reliability coefficient for the investigative questionnaires is 0.70, it is observed that the gained Cronbach's Alpha coefficient is higher than this amount and it is proper. In the continuation, with general distribution of questionnaires, Cronbach's Alpha coefficient was calculated for the questionnaires which had been completed and could be studied completely, and the results were gained according to the table 2.

**Table 2. The coefficients related to Cronbach's Alpha**

Row	Measured structures	The amount of Cronbach's Alpha coefficient
1	Organizational culture	0.930
2	Work conscience	0.866
3	Performance	0.920
The entire questionnaire		0.962

*Source: Author*

**The information analysis**



Chi-Square=2343.75, df=1322, P-value=0.00000, RMSEA=0.065

**Chart 1. The model of the standardized coefficients of the research by using of LISREL software**  
 Source: Author

As it is observed in the chart 1, in this model, 3 concealed variables (organizational culture, job conscience and performance) and their measurement indexes have been shown clearly.

**4.1. ASSESSMENT OF THE MODEL PROPORTION**

The fitness values for a model are gained through comparison of covariance matrix estimated for the population (according to the model, as it has been specified by researcher) with sample covariance matrix which has been calculated from data. The model has proportion with a series of observed data, when the implicit covariance matrix of the model is equivalent with covariance matrix of observed data, in other words, the remainder matrix and its elements are close to zero.

When a model is specified precisely, has similarity features and estimate and test of it are possible, in this event, for assessment of its fitness, there are many ways that the most important of them have been mentioned in the following:

The most important index of model proportion is Chi-square ( $\chi^2$ ) test. Of course, this test comprises the observance a series of assumptions that sometimes, there is the possibility to violate these assumptions. When the sample size is equal to 75 to 200, Chi-square is a reasonable value of fitness. But, for the models with larger sample size, Chi-square approximately is always significant statistically. Moreover, Chi-square

is also influenced from the amount of correlations existing in the model, whatever these correlations are more, fitness is weaker. Due to this, for the model fitness, other amounts have been developed (Hooman, 2008, p.40). With regard to the above issues, for assessment of the model fitness in this research, some

indexes like Chi-square on freedom degree ( $\chi^2/df$ ), Root Mean Square Error of Approximation (RMSEA) and P-value have been used.

RMSEA which is reported in decimal form, is based on non-centrality parameter. This index for good models is equal to 0.05 or less. Those models that their RMSEA is 0.10 or more, have weak fitness (Hooman, 2008, p.42).

Another general index for accounting free parameters in calculation of fitness index is normed or relative Chi-square which is calculated from simple division of Chi-square amount by freedom degree of model that the amounts between 2 and 3 are often accepted for this index. Anyway, the views about it are different.

At current research, RMSEA=0.065, CFI=0.97, SRMR=0.066, IFI=0.97 and  $\chi^2/df = 1.772$  which express the acceptability of the research model. The presented indexes and comparison of them with desirable amount for a fitted model indicate the proper fitness of the model. The notable point in the model fitness is this issue that, while the structural model fitness confirms that model, it never proves that the model is the unique valid model.

## 5. THE RESULTS OF THE RESEARCH HYPOTHESES TEST

In this part, we study the significance of the gained numbers of the model; in relation with significance of numbers, it should be said, since, in this research at confidence level of 0.95 or error of 0.05, we seek to test the hypotheses, for t-test, those numbers will be significant which are larger than -1.96 and +1.96, namely, if in t-test, a number is between -1.96 and +1.96, it will be significant. In the following model (chart 2), the numbers gained for t-test are significant and by studying the casual relations (measurement indexes with concealed variable) and effects (concealed variables with each other) and with regard to the cases mentioned in the above tables and charts, it can be said that the model in terms of the proportion indexes is in a proper situation.

Therefore, with regard to the model in the state of significance numbers (chart 2) and standard estimate model (chart 1), we study the research hypotheses.

### Test of hypothesis 1

The organizational culture has positive effect on performance.

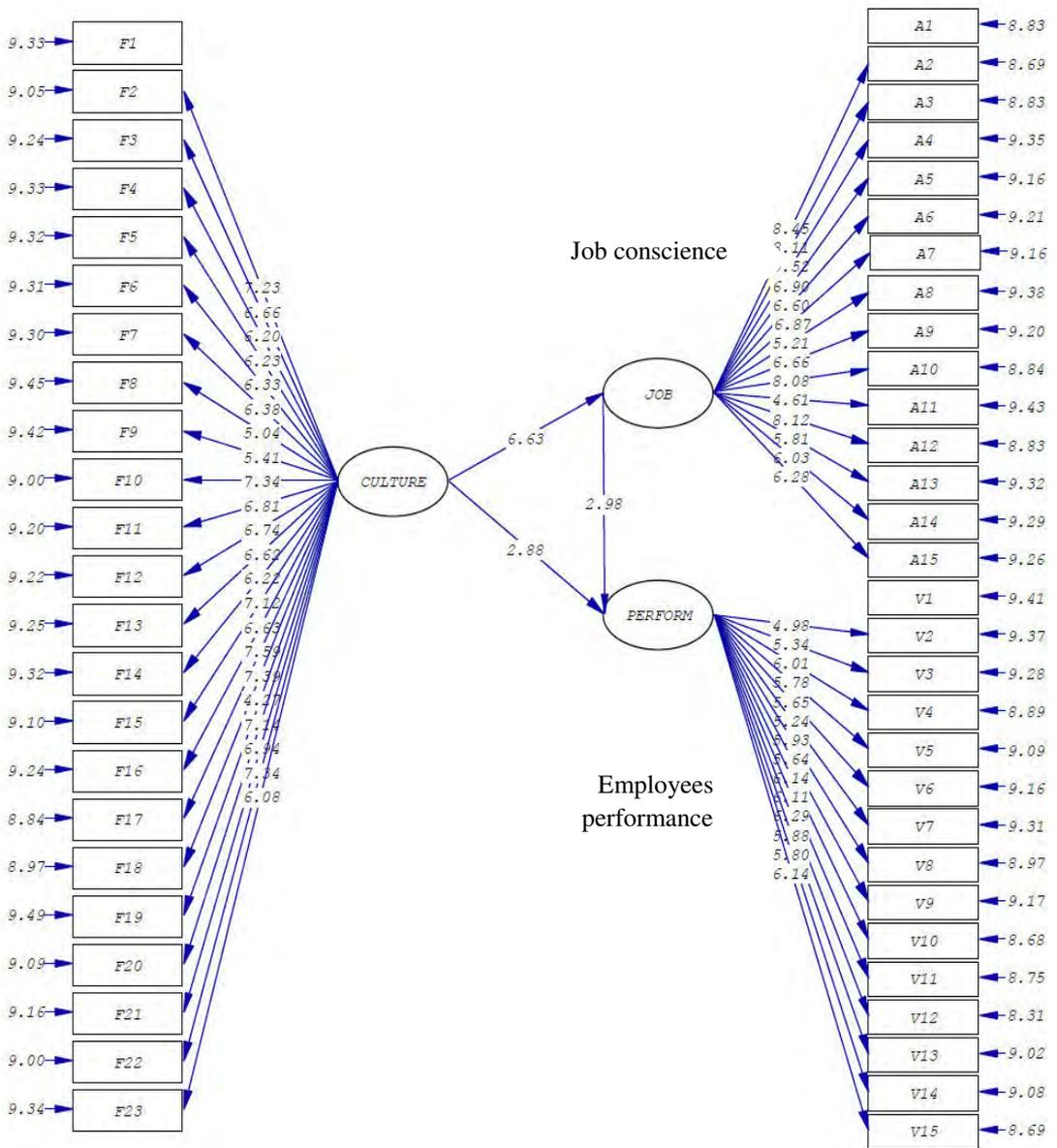
The result of test of the hypothesis 1 is studied with regard to the information of charts 1 and 2. The route coefficient of the exogenous concealed variable of organizational culture on endogenous variable of performance,  $\gamma_1 = 0.43$ , with t-value equal to 2.88 at error level of 0.05 with confidence of 0.95 of intended statistic is significant, consequently, the null hypothesis based on lack of existence of related coefficient is rejected (confirmation of hypothesis 1).

### Test of hypothesis 2

The organizational culture has positive effect on job conscience.

The result of test of hypothesis 2 is studied with regard to the information of charts 1 and 2. The route coefficient of exogenous concealed variable of organizational culture on endogenous variable of job conscience,  $\gamma_2 = 0.87$ , with t-value equal to 6.63 at error level of 0.05 with confidence of 0.95 of

intended statistic is significant. Consequently, the null hypothesis based on lack of existence of related coefficient is rejected (confirmation of hypothesis 2).



Chi-Square=2343.75, df=1322, P-value=0.00000, RMSEA=0.065

**Chart 2. Model in significance state with t-value**

Source: Author

**Test of hypothesis 3**

Job conscience has positive effect on performance.

The result of test of hypothesis 3 is studied with regard to the information of charts 1 and 2. The route coefficient of exogenous concealed variable of job conscience on endogenous variable of performance,  $\beta_3 = 0.44$ , with t-value equal to 2.98 at error level of 0.05 with confidence level of 0.95 of intended

statistic is significant. Consequently, the null hypothesis based on lack of existence of related coefficient is rejected (confirmation of hypothesis 3).

Hypotheses	Direct effect	Direct (standardized) effect	Indirect effect	Total effect	T-statistic	Result
<b>H1: The organizational culture has positive effect on performance.</b>	0.28	0.43	0.26	0.54	2.88	+
<b>H2: The organizational culture has positive effect on job conscience.</b>	0.97	0.87	--	0.97	6.63	+
<b>H3: Job conscience has positive effect on performance.</b>	0.26	0.44	--	0.26	2.98	+

*Source: Author*

1) In the first hypothesis of the research, the result of statistical calculations has been presented and expresses that there is positive and significant relationship between organizational culture and employees performance at confidence level of 95% that this research conforms to the results of researches of Kheradmand and et al., (2010), Namamian, Feizollahi (2015) and Mamizadeh (2001). It can be concluded that with existence of a powerful and cohesive culture and person’s creativity, meantime acquisition of more awareness about the aims and strategies of organization, there will be responsibility sense to the values and norms, commitment to the work and satisfaction feeling that this affair beside powerful management causes to improve the spirit, motivation and increase the organization performance and employee’s productivity.

2) In the second hypothesis of the research, the result of statistical calculations indicates that there is significant and positive relationship between the organizational culture and job conscience at confidence level of 95% and this research conforms to the results of supportive research of Yusefi (2010) and Ardalan and Beheshti Rad (2014). But, with regard to the research of Fathi and et al. (2013) and Farrokhi (2015), there is not significant relationship among organizational culture, variables of involvement in work, adaptability, mission, stability and firmness and job conscience of employees that this difference is due to the difference in the statistical population and research sample.

3) In the third hypothesis of the research, the result of statistical calculations indicates that there is positive and significant relationship between job conscience and employee’s performance at confidence level of 95% and this research conforms to the supportive research of Alirezaee and et al (2013). In this research, he mentions that those employees who indicate higher job conscience from themselves and for doing the assigned duties, spend more precision and energy, feel more responsibility for their duties. Therefore, they try to present the duties with better quantity and quality. In this event, it can be expected that those employees who have had higher job conscience, have better job performance.

## 6. INTERPRETATION

In this research, the relationship among organizational culture, job conscience and employee’s performance was studied that according to the findings of this research, it was specified that there is positive and significant relationship between organizational culture and job conscience and there is positive and significant relationship between organizational culture and employees performance. According to the gained results, it can be expressed that culture plays an important role in the organization. When the members of organization learnt and transmitted the values and beliefs of an organization, definitely, perceive the organization incidents by similar method and attribute a concept to it which is applied as the connector force of them and creation of cognitive and emotional realms among them, intra-organizational and extra-organizational members. In such an organization, when a person was accounted as a part of organization, not only acts like others, but also, like other members has common sense to the organizational issues and challenges. Powerful organizational culture is able to increase the firmness of employees' behavior and it can be a substitute for formal laws and provisions. Also, it causes

the persons to have better feeling about whatever they do and do the affairs in the best form. Consequently, it will cause better performance and more productivity. Increase of productivity will lead to improve the life level and life quality and increase the welfare. In the meantime, better life will cause intellectual growth, increase of work ability of society's people and reduction of the social difficulties. Even, one of the consequences of culture on healthy and secure society can be expressed. Moreover, the organization's managers for realization of job conscience and better performance of employees, in the first step for reaching to the organizational elevation preferably should provide these conditions: 1-movement toward creation of development culture, 2-support of employees, 3-creation of a proper space for interaction, 4-growth and florescence, 5-tendency to the risk, 6-having work independency and 7-creativity and innovation for employees. The development culture provides those conditions that motivation is created in employees and they tend to learn more and gradually, the organization is converted to a learner organization. With another look, the organizational culture means gregarious culture as the next factor influencing on job conscience and employee's performance, preferably, the managers should advance toward creating gregarious culture and doing the works based on gregarious activities. Because, partnership in decisions-making causes the person to have more commitment to the organization in a manner that they know the success of organization as their success. Finally, when mind satisfaction was created in persons, it will lead to increase the productivity and efficiency of employees.

## 7. CONCLUSION

With regard to the first hypothesis of relationship between organizational culture and job conscience, we conclude that in an organization in which powerful organizational culture is governing, the persons without receiving any reward, do activity beyond explanation of their job, are dutiful and conscientious and have responsibility sense to the organization. Therefore, with regard to the hypotheses and results of this research, the following cases are suggested:

With regard to this issue that the role of senior managers is important in the organization, they should undertake a positive role and their behavior should be in the form of a role model that others can imitate it.

Company should use of creative managers for powerful organizational culture and it should support and upgrade those persons who seek new values.

Also, the beliefs of newbie employees in facing with old-line ones are very impressionable and situating the new employees beside old-line ones should be done with more precision, because, their beliefs are changed quickly. Therefore, their work motivations shouldn't be influenced negatively.

Applying new employees and their employment in the special organizational units should be done according to plan based on organizations' needs and scientific and innate abilities of persons so that occasionally not to be influenced from some unmotivated employees.

With regard to the second hypothesis of relationship between organizational culture and employee's performance, the following cases are suggested:

A proper environment should be provided for persons, promotion of awareness and their constant education should be done for creating the needed ground in order to increase the organization performance.

Those conditions should be created in which the job security sense and more opportunity are given to the employees for emergence of their talents and abilities.

The possibility of transmitting the concepts related to the organizational culture, defining and informing the policy of employees should be provided for receiving the employees' expectations and finally achieving the intended aims of organization.

With regard to the third hypothesis of relationship between job conscience and employee's performance, the following case is suggested:

Those employees who have higher job conscience and indicate more perseverance and effort from themselves, definitely, feel more responsibility to their duties, therefore, the Electricity Power Distribution Company in Khuzestan in absorption and retention of employees, in addition to emphasize on the potential and abilities of persons, recruits those persons who have value-based system proportional with organization. Because, such employees can propagate the ethical values and principles which are as an important factor for creating more responsibility in the organization.

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# REORGANIZATION PLAN OF MAHABAD RIVER MARGIN WITH THE AIM OF CULTURAL AND RECREATIONAL SPACE

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## Abstract

*Today, the development of public open spaces on the edge of cities is as an opportunity for the link between natural and artificial environment as the focus of urban professionals and the use of public open spaces in the area of the resort. At the same time to protect the environment and substrates leisure to breathe to enhance social interactions can increase the sense of belonging to the cause of improving health in the community with people through contact with the environment and also considers the strengthening of civil life. In cities with a river in the midst of the current space, evocative and historic city that usually historical atmosphere and forms the core of the city's urban development is usually affected by the river's edge. Along it has been the result of the river part of the city has become the main areas of the city center and along its place. Means of view of the city, is creating a clear picture of the environment that helps you to orientate in town, create a sense of familiarity and security in the area, increasing the depth of the human experience and create shared memories and cohesion of the social fabric, etc., and people expect there is always a fun atmosphere on the water's edge in the image, the edge of the water is associated with freshness. Thus, according to the conditions and objectives, policies and expressed proposal for the survival and viability of the edge of the river can be recorded in the leisure and collective memories of the city and also from aspects will have an important role in fundraising. A unique feature of this natural phenomenon for proper attention and investment can have a memorable environment for domestic and foreign tourists.*

*JEL classification: L52*

*Keywords: Cultural space, Recreational space, Vegetation plant, Environment*

## 1. INTRODUCTION

Existence of rivers in addition to the many advantages, including the provision of water for drinking, agriculture, and industry and energy production plays a very large role in the lively and dynamic cities. If it is in the city is as its breathing. Urban landscape with a river flowing in the other cities boast sells this pride is not unreasonable; because the rivers can disperse the bands beauty and freshness of the vegetables in the city and out the soul of residents from everyday concerns. Today, mankind has found to prevent the harmful effects caused any change in the natural rivers or reducing them and balancing this river to predict the physical laws governing the processes and subsequent changes of any corrective labor and regulatory the river. In other words, the designer must balance increasing emphasis on developmental study of the river to be able to work with the river, rather than just working on it (Richardson, 1996). Designing spaces by the river side, played a major role in the revival of its body and cause an influx of people to such a point that in most cities is extremely rare. There are major differences between urban and suburban rivers in terms of performance, how to use them at leisure and formation service account with them. River of first and second places for walking, appointments, evening meal or dinner, entertainment purchases the like is used; in other words, provides a short-term residents' leisure time. The third type of dense tissue rivers outside the city due to the long time available to them and also the distance from downtown core can be used as a rest and recreation centers for a day or more to be considered river within the city as a place for gathering and use of nature, has great potential for combining architecture and landscaping in the parks and green spaces rivers can provide the needs of urban green space per capita increased

psychological, social and cultural needs of the citizens is also provided (Richardson, 1996). The project is an attempt to organize Mahabad river margin with the aim of creating a social space in order to create a stable atmosphere, lively, healthy and beautiful urban landscape, but also it helps to increase social interactions, social security of citizens and tourists. Is important in most cities, including Mahabad, pay attention to this issue has not been taken and neglect that has caused environmental pollution and the citizens of this ecosystem.

## 2. LITERATURE REVIEW

Ghasemzadeh et al (2014) have done an article entitled "Impact of Zayandehroud drought on social interactions and populated spaces in Isfahan city ". In addition to the flow of water in the bed of the river evaluation of the quality of the environment around the river as quick and easy access to the site, improve service environment to the citizens puts such spaces for sitting, shopping and elements of visual and welfare can have an effective role in increasing citizens' social interactions around of Zayanderud. Behbahani et al. (2012) carried an article entitled preservation and resuscitation of Darabad river-valley landscape based on behavioral patterns. Design solutions in a manner suggesting that focus on the principle of conservation of mountain and river valley and thus has strengthened environmental behavior and reduced the maladaptive behaviors and to minimize the environmental damage caused by the presence of tourists. In this paper, Darabad river-valley was chosen as an example of an environmental design practice aimed at better compatibility with the environment, while protecting the natural structures within the city ended.

## 3. RESEARCH PURPOSES AND METHODOLOGY

The project aims to create a cultural and recreational space for residents and tourists by organizing Mahabad river margin. Besides, as a minor purpose, we can mention these items:

1. Increasing activity and social interactions along the river
2. Creating suitable for the mental health of citizens
3. Creating hospitalized for travel and leisure for citizens

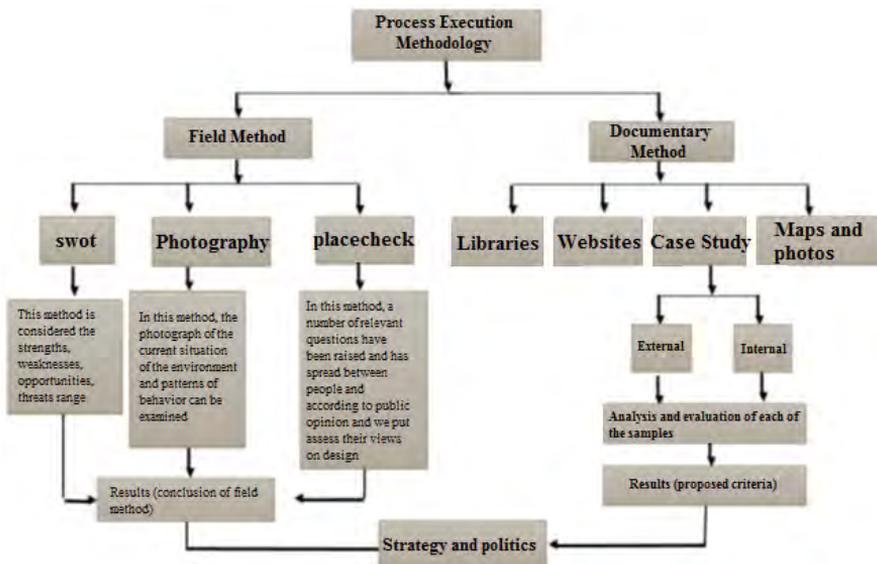


Chart 1. Research Methodology

Source: Author

## **4. THEORETICAL FOUNDATIONS**

### **4.1. CITY AND NATURE**

The perspective of citizens' perception of the city is through its symbols is obtained (Pakzad and Bozorg, 2012). Symbols that represent the incident and the memory of the citizens of space represents the history and important parts of the city for its inhabitants are (Soltani et al., 2013; Mansouri, 2010). Nature plays an important role in shaping the landscape of the city is desirable (Yarahmadi, Khodadad, 2013). In water coastal cities, the most important element in the structure of the natural and human factors, the nature and city. Today we often lacking in the spirit of the place and the specific characteristics of space. So that the needs of people not expected to appear boring and lifeless. In other words, pleasurable and meaningful perspective of the city spaces have been removed. To address this shortcoming planning activities that improve the quality of urban life and the vitality of the pleasant bustle and behavior of people in the city's perspective, is essential (Sajjadi, Vakilian, 2010).

### **4.2. HUMAN AND NATURE**

Today, a balance between human activities and nature, the most important objective of sustainable urban development. Meanwhile, the idea of an interconnected network of green space in the city is considered as strategies to achieve a balance between natural and artificial environments and stable structure in the city (Hashemi, 2010).

Human and natural environment: human with nature and instances when it is obvious that occurs due to changes in its appearance, establishes a close relationship, since the beginning of the moments starts a day (sunrise) has the longest Calendar biological nature (geological period) of time in the form of changes that occur in the form, creates a basis for human behavior.

Human and artificial environment: Environment shaped by the interaction of man and of his own in nature. With all the features that the built environment in terms of the character and the possibility to manipulate voluntarily provide us with the privilege of the counts of the built environment in the areas of positive and negative urban allow to arise the capacity to make sense of complex urban landscape (Mohadesi, 2010).

### **4.3. CITY AND ENVIRONMENT**

In the modern technological society, the environment all the things that we need in everyday life to it; the one hand, the city and the heart of man-made nature and extent of constituents such as land, mountain, forest, sea and desert, and the other factors like water, climate, air, wind, light and solar heat. Human in the history of life on Earth, in addition to thinking about how and why, need has knowledge of the environment in order to intervene and provide necessary conditions for survival and improvement of their living conditions. This trend continued until the sixteenth and seventeenth centuries, the period of the formation of modern science. In the late twentieth century reconciliation between urban development for the needs of a growing urban population on the one hand and the limited capacity of the environment has become a major concern for the other. This challenge needs to review the basic foundation of human relationships, the environment, urban development and limitations (Masnavi, 2011).

### **4.4. THE ROLE OF WATER IN URBAN DESIGN**

Water, is considered one of the elements of the natural environment, which is consistent with other natural elements, in the form of interfering. Only in one of them, with the aim of formulating guidelines for urban planning is done, then provide a brief description of the expectations from the edge of the water in the cities and includes features fun, the creation of leisure wing and refreshing, the regulations improvement and renovation and design recommendations, based on the goals, strategies and policies, separately, to the beach and lakes, banks of permanent rivers and sides seasonal rivers, have been explained. In fact, the blue expanse of the sea and the river, as a place that could happen memories of collective urban space is not seen merely as the edge of the water, meaning the city limits and nature, kind look at the research on the water, hidden if after this, the space is formed in the presence of water can be a vehicle for new regulations for citizens or citizens in today's world, so, according to what has been highlighted today, the

water, the element that can make urban spaces, defining the limits of space and speak human, with human beings, the environment and space, not look at, and with such insight, instead of water in urban design today Iran is empty (Congress Architectural History, 2006).

## 5. SIMILAR EXAMPLES

### 5.1. FARAHZAD RIVER-VALLEY

According to the studies of Farahzad and its privacy by the late 1961 has been away from the uncontrolled development of urban construction and before it can be seen residential construction in this area have been limited to villages of Farahzad, Bagh Feiz and Poonak and much of the land dedicated to agricultural land and orchards. With the expansion of the assignment of lands by various institutions, mass and cooperation-building, highway construction and completion of saved land in other suburbs, the general tendency to reside within Farahzad and privacy increased, and this trend has already led to separation and a garden, occupied space, and the expansion of construction in the foothills and highlands and natural spaces within endanger life. From the '60s to develop multiple access networks within the highway was planned and Yadegar-e-Emam Expressway along the valley and in the North - South was designed and established. In Niayesh and Hemmat Expressways for Dam Bridge to cross a valley along the West - East had ended and Resalat – Marzadaran Expressways cut into transverse valleys (Hamkar Consulting Engineers, 2011).

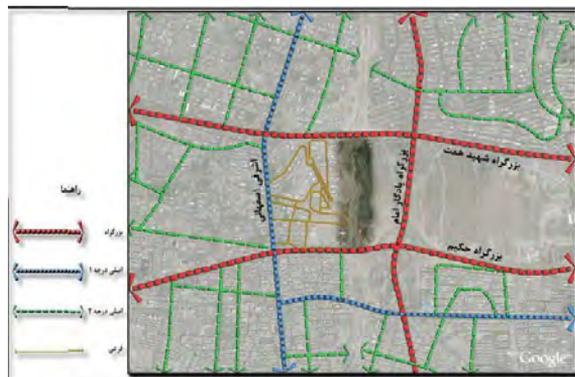


Figure 1: Arterial routes of Farahzad river-valley (Master Plan of Mahabad, 2016)

Source: Author

### 5.2. DARABAD RIVER-VALLEY

Darabad river stems from the Highlands of Tochal which is upstream of interdisciplinary that the most important of these fields is part of the next Shripala shelter and Twin Falls comes down and the Osun River. The intersection of these two fields are Darabad River, Darband valley over 4723 meters and an average width of 7 meters. The river is going on. The mountainous area of approximately 2,200 hectares, has a lot of slope of the castle, less steep ravine. During this part of the intake to 1,500 meters and an average width of about 9 meters in this area. The average depth of 6 meters and the river bed, is stone (Behbahani et al., 2012). The main idea of moving slowly and steadily on the path that leads tourists to the river-valley relationship deeper establish and natural values and aesthetic to river-valley landscape to regain that this becomes an incentive for conservation from the river-valley (Mokhtari, Jamshidi, 2003).

### 5.3. ELKHORN RIVER

North branch of the Elkhorn River diagonally crosses the city of Norfolk in Nebraska America. Since late 1960, the northern branch was controlled by means of a diversion channel. This channel, the city's flood risk and possible reserves and development of safe buildings along the river has created. Since the flood control took place, residents of Norfolk, sought seeks to become a space tourist river. In 2006, a social group that attempted to collect funds and investment for development projects of the river. Groups of

volunteers that recreational spaces, housing, services - catering and trade along the river formed to bring economic opportunity and improve the quality of life in Norfolk and northeast Nebraska.

## 5.4. ONTARIO SEINE RIVER

Twenty-one bridges and 31 road stone staircase, linking the river to the town center and adjacent streets. Landscapes number of opportunities for people to enjoy the environment, eating, shopping, and relaxation of the nature has created. Walk from San Ontario, network of trails along the edges of the river to the lower floors of the downtown and central shops and restaurants form which plays an important role in the context of the city and attract tourists to this area.

## 6. LOCATE THE PROJECT

### 6.1. AREA OF STUDY

Mahabad in West Azerbaijan province is the city. The climate in summer and cold and mountainous areas in the plains and forests of the temperate and winter. Mahabad River passes through the city and the river from the heights of Sardasht and Piranshahr passes and three branches of the branch Beitas (Mount Mamsvarh emanate from the East to Mahabad down), plug of Deh Bekr (emanates from Sarmirgan mountain and from the West down to Mahabad) and cautery branch or main branch (Mount Abraham glory comes to Mahabad dam collapses). After crossing the northwestern city of Mahabad in West of Siminehrood and East of Ghaderchai enters to Urmia Lake, this river used for irrigation of agricultural land is located. Mahabad River is the only river that connected to the lake. A dam built on the river in addition to power generation, drinking water supply of the city. Another diversion dam built for irrigation 8 km Mahabad in a place called Yousef Kandi, this river through the middle of spectacular landscapes and enchanting cities other has added to the beauty of the city and give the city a special beauty and as veins vital role in the leisure residents, and provides social interactions. Unfortunately, except for the image obsolete over time with injuries caused by environmental and human confrontation functional and beautiful from this perspective is not observed. As the title of the study area, with a length of 2,000 meters and an average width of 65 meters and covers an area of about 13 hectares (Master Plan of Mahabad, 2016).



Figure 2: Position of river in Mahabad (Master Plan of Mahabad, 2016)

Source: Author

## 7. DESIGN BASICS

### 7.1. PREPARE A VISION STATEMENT

- River, a place for leisure and environmentally sustainable
- River, charming atmosphere for people of different age groups and leisure facilities, sports, emotional, educational and cultural
- River, a space for public participation

- River, multi-functional space and a dynamic economy

## 7.2. SETTING GOALS

### 7.2.1. Macro Goals

- Create a social space for citizens and tourists through design river margin
- Achieve the dynamism and diversity of activities and bodies and user groups
- Create the image and unique identity

### 7.2.2. Micro Goals

- To minimize environmental pollution limits
- Increasing the possibility of activities and social interactions along the river
- Creating an appropriate atmosphere for the mental health of citizens
- Substrates for leisure for citizens
- Fix shortage of tourist accommodations and service spaces

## 8. THE PROCESS OF DESIGN AND DOCUMENTATION PROJECTS

### 8.1. DISTRIBUTION FUNCTIONS

Distribution of functional space in the river is influenced by factors such as limitations of the natural and cultural role of the river as a core, tourism - leisure in the city of Mahabad, accordingly and on the separation of homogeneous functions, the river into two functional "health resort" and "cultural promenade" is divided. As recreational activities in the western part of the river - promenade and in the eastern part of cultural activities - recreational suggested.



Figure 3: Distribution of functions and sequences (Master Plan of Mahabad, 2016)

Source: Author

### 8.2. RECREATIONAL SPACES

One of the basic needs of recreational spaces in the planning and design of urban spaces and play an important role in boosting the morale of the citizens. These spaces are determined by its components and the three main elements in this space include: Communication, the aesthetics and amenities. In order to communicate parkway on the east-west highway communication within the project has been suggested.

And since the land on either side of the River north - south area must be connected together, the space connection is established via a pedestrian bridge, public spaces and so on. In order to active and dynamic welfare services to users of the parkway spaces space and encourage them to continue the path along the river has been suggested.

### **8.3. CULTURAL SPACES**

Urban spaces are not the only arena of expression and especially culture, but the exchanges in economic, cultural production and consumption and exchange platforms has provided cultural landmarks and cultural functions are performed. Cultural functions are an important influence on the aesthetic, social, economic, etc. in order to more social interactions in these spaces, festivals, and other temporary uses for that kind of role, inviting users to other parts of the river, has been suggested.

### **8.4. SPORTS SPACES**

Sport is one of the main spaces creates excitement on the track and causing attract different age groups. Being near to the residential context, the local people of these areas is made possible, including the proposed services. For this collection, according to the morphology of the land around the river bike path has been suggested that the strengthening of relations between the two Mellat Park and Khanevadeh Park, bike is a simple tool that anyone can learn how to work and ride it easily and because of its relative low cost, most people can afford it and for certain low-income groups is the perfect vehicle. In terms of urban space, the space occupies less than other vehicles and not have any adverse effects on the environment and use it helps the health of the people.

## **9. VEGETATION PLANT**

### **9.1. VETIVER VEGETATION PLANT**

It is suitable for slope stability and the waste water treatment, water reclamation contaminated by plant and other environmental goals used. However, because the river from the city of Mahabad and natural resources and induce a sense of the nature of the patrons, the design has been trying to avoid the symmetry and alpine slides and organic designs are proposed. Vetiver System is a simple, administrative, cheap, affordable and very effective in terms of soil and water conservation, sediment control, land consolidation and modernization of land, as well as the revival of vegetation. At the same time as vegetation makes improve the environment.

### **9.2. MAPLE LEAF**

It is a tree with a broad crown and dense with large bright green leaves with a wide ghosting. Fall beautiful leaves it provides a magnificent view of the loss comes in bright yellow. Deep root system and fast growth rate it has endured heat and cold, even at high altitudes and grows well in most soil types and does not require special feeding. As mentioned in the above paragraphs in the current situation, the studied site can be seen.

### **9.3. BUCKTHORN TREE**

It's a beautiful tree with open crown form, gray leaves and a very interesting design, special applications. The root system is strong and deep, rapid growth rate, in certain types of soil grows not require irrigation and are resistant to pests and diseases.

### **9.4. AGERATUM SILVER**

Permanent plants and evergreen with rapid growth that reaches a height of 40 cm leaves in silver - gray oval with deep cuts. Yellow flowers that appear in summer because of the beautiful color of its leaves in green space planning considered.

### **9.5. FLOWERING QUINCE**

Deciduous shrubs with spherical form and with thorny branches to a height of 2.5 meters flowers for mass and cup-shaped white, red, orange that appear in early spring before the leaves emerge on the branches.

### **9.6. ACHILLEA MILLEFOLIUM**

Perennial herb with a maximum height of 1 m fern-like leaves and fragrant flowers are yellowish gray that appear in summer.

### **9.7. MINIATURE ROSES**

Bushy shrub with small leaves and flowers and a maximum height of half a meter filled with petals and small flowers appear in spring and summer.

### **9.8. CARPOBROTUS EDULIS**

Green plant with fleshy stems and progressive, permanent and flowers such as sunflowers pink and planting it in large numbers as coating and is suitable slope.

## **10. CONCLUSIONS**

In the era of globalization and global competition, part of the government's success is tied to having a successful communal space. Public spaces emerging field of social prestige human life in society, hence these spaces as old as the history of human life and is a member of the community. Today, the development of public open spaces on the edge of cities as an opportunity to bond between natural and artificial environments as the focus of urban professionals and the use of public open spaces in the area of the resort is due at the same time to protect the environment and substrates leisure to breathe to enhance social interaction and a sense of belonging to increase and improve health indicators in society by contacting people the environment. It is also intended to strengthen civic life. Means of view of urban establish a clear picture of the environment that helps you to orientate in town, create a sense of familiarity and security in the area, increasing the depth of the human experience and create shared memories and cohesion of the social fabric, etc., and people expect space is always at the water's edge and fun mental image, the edge of the water is associated with freshness. Thus, according to the conditions and objectives, policies and expressed the proposal for the survival and viability of the edge of the river can be recorded in the leisure and collective memories of the city and also various aspects will play a significant role in the fundraising unique feature of this natural phenomenon if proper attention and investment can have a memorable environment for domestic and foreign tourists.

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# THE RELATIONSHIP BETWEEN INSTITUTIONAL INVESTORS STABILITY AND THE RISK OF COMPANIES' STOCK PRICE DECLINE

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## Abstract

*Institutional shareholders as one of the corporate governance mechanisms are known as a regulatory factor which due to the different investment motives, have different effects on corporate performance. Studies have provided numerous division of institutional shareholders. One of the division of investment in terms of length of time, has divided them into two long-term investment and short-term investments. In this study to assess the effect of the institutional shareholders stability on risk of stock prices falling, a sample of listed companies in Tehran Stock Exchange by systematic deletion was selected and the results indicates that independent institutional investors, with long-term investment has greatly effect on the risk of falling stock prices, while the dependent institutional investors with long-term investment has no significant relationship with the risk of stock prices decline also institutional investment with short-term investment has significant relationship only with one of the indicators for measuring the risk of stock price decline.*

*JEL classification: G20*

*Keywords: Institutional Investors, Stock Prices Falling, Skewness Coefficient of Stock Returns*

## 1. INTRODUCTION

The risk of falling stock prices (stock prices falling) is a phenomenon in which stock prices are having a negative and fast changing (Chen and Huang, 2001). Another definition of the stock prices falling is a phenomenon in which, suddenly and negative revision in investor expectations about a company's stock price occurs (Houghton et al., 2009). If the manager for a long period participate in the preservation and accumulation of bad news, a big gap will be creating between the intrinsic value of stock price and which determined by investors (bubble stock prices). When the mass of negative news reaches the point of explosion, enter market, leading to a price bubble and the stock prices falling (Houghton et al., 2009).

Separation of ownership and management, leading to the formation of the relationship between representation and conflict of interest between managers and shareholders, and this causes the managers to make opportunistic behaviors, and make decisions that is in the interests of them and against the benefits of shareholders.

Timely recognition of losses and specifying the terms of its potential for shareholders and creditors makes them react more quickly to prevent further losses. On the other hand, the researchers demonstrate that institutional investors, decisions can have effective role in reducing the benefits of profit management which is done by senior executives. The supervision institutional investors can improve the quality of information provided by managers as well as management and increases the company's financial information transparency. In fact, the representation theory proves managers are trying to hide bad news and reveals good news for the company quickly. This could have a negative impact on the quality of the presented reports, but institutional investors supervision, can increase the quality of the reports provided by management by dampen the negative effects of these efforts. (Chen and Huang, 2001)

But the recent financial crisis and studies on the causes and reasons for the occurrence of the crisis showed and designing programs to prevent recurrence, despite the fact that institutional investors in the research are

important factors in increasing efficiency and improve company performance and crisis period institutional investors has negative role in guiding forward-moving of organizations. The findings such as Cruz and colleagues show that institutional investors cannot always guarantee increased efficiency and improve financial performance, Therefore, studies on institutional investors and their motivations, and their behavior will continued with greater emphasis. The findings show that the investment of institutional shareholders effects on the behavior of managers in control trading company. (Mirzaee, 2011).

## **2. THEORETICAL FOUNDATION**

### **2.1. INSTITUTIONAL INVESTORS**

As defined by Bushi (1998) institutional investors are large investors such as banks, insurance companies, investment companies, pension institutions and so on. Based on the capital market of the Islamic Republic of Iran, institutional investors including banks and insurance companies, holding and investment companies, pension funds, corporate financing and investment funds registered with the Securities and Exchange per person natural or juridical which buy more than 5% by more than 5 billion of the nominal value of stock exchanges in Press Publisher, public organizations and institutions, Governmental and public organizations and institutions, public companies and board members and directors of the issuer or who have the same functionality (Yeganeh and Molavi ,2011).

### **2.2. THE STOCK PRICES DECLINE**

Sudden changes subject in stock prices in recent years, especially after the 2008 financial crisis, has attracted many researchers and professional's attention. The major changes occur in both the fall and the stock price rise. Given the importance investors attach their stock returns, the phenomenon of the stock prices falls leading to a sharp decline in returns which compared with rise, is more concerned. The definition of the stock prices decline has three distinctive features: A) the decline of the stock price change is very large and unusual in stock price which occurs with no occurrence of an important economic event, b) these changes are very large and negative, and c) the decline of stock prices is a phenomenon of contagious at the market level, which mean that a stock price decline is not confined only to a particular stock, but includes all types of stock available in the market (Moradi and others, 2011).

## **3. RESEARCH METHODOLOGY**

The study of the classification is applied based on the purpose of the research. Applied research aimed at the development of practical knowledge in a particular field. As well as applied research to practical application of knowledge driven, as well as research, in terms of classification is based on the purpose and is based on the description and interpretation of the relationship rather than express and provide more complete definition or its difference from other things and of nature is the library and field method which library method is used in all scientific research and in some of them the research topics, from the beginning to the end is based on the library findings that researchers by refer to books, journals ,review the publications content and obtained the results by summarizing it . And in field method the researcher lives among the population of the research and investigate a certain topic in the environment. The researcher does not do any manipulation of the environment and no interference in the normal flow of events. In the survey method, observation forms the main ingredient. In other words, the purpose of research studies is that researchers which the research topic was in access of researcher.

### **3.1. METHODS AND TOOL OF DATA COLLECTION**

Data and information required for the investigation are classified into several categories, data from the literature and studies and data of assumptions and variables that both of these data have been extracted through exploring different documents. In other words, the collection of data related to the literature the text mining and search the Internet is used and the information have been extracted from books, Latin articles, Persian and articles, Persian theses. As well as data relating to the assumptions and variables is extracted

from the financial statements, the accompanying notes in the electronic records of the Tehran Stock Exchange (cds called archives), databases of the Securities and Exchange Tehran, monthly stock figures documenting the stock exchanges and as well as devise processor and RAHAVARD software. Excel software was used for the preparation of information, so that after the extraction of information from the sources listed variables, The data in the created worksheet enter in the software and then required computing environment to achieve variables was performed. Then to conduct research and econometric estimation using the data collected, the software Eviews is used.

### 3.2. THE RESEARCH STUDY POPULATION

To test the hypothesis of the research study population research and a particular time interval for collecting data and implementing the test should be determined, the time period required for collecting primary data in accordance with previous studies and the availability of and lack of information and resources for data collection is determined, therefore, in this study required information for a five-year period from 2009 to 2013 for developed hypotheses have been collected.

### 3.3. EXPLANATION OF THE MODEL AND VARIABLES MEASUREMENT

Since this study was to evaluate the effect of view institutional investors stability on the risk of falling stock prices, the views of institutional investors is an independent variable and the dependent variable of this study is to the risk of falling stock prices, continuing the pattern of research to examine the hypothesis is proposed:

#### Research Model:

$$\begin{aligned} CRisk_{it} = & \beta_0 + \beta_1 LONGIDNP_{it} + \beta_2 LONGGDP_{it} + \beta_3 SHORT_{it} + \beta_4 KUR_{it} \\ & + \beta_5 RET_{it} + \beta_6 MB_{it} + \beta_7 LEV_{it} + \beta_8 ROE_{it} + \beta_9 LNSIZE_{it} \\ & + \varepsilon_{it} \end{aligned}$$

Items and variables of the variables formula in basic variety is defined and explained in detail.

#### 3.3.1. Dependent Variable

The dependent variable is the variable affected by the independent variable. According to the definition and study of literature, the dependent variable is the risk of falling the stock price which the measure in below:

$Crisk_{it}$  = indicates the risk of falling stock prices generated by three criteria: (1) the skewness coefficient of daily returns specific to the year T (2) the logarithm of the ratio of the number of price growth days' standard deviation to the number of falling stock prices days in the year T (3) the difference between the daily number of company-specific positive and negative returns for the year T is calculated.

#### 3.3.2. Independent Variables

The variable which measure by the researcher, manipulate or is selected, to study the relation or its impact on other variables is called the independent variable. According to the main question on the basis of studies, independent variables and how to measure them are as follows:

LONGINDP = independent institutional ownership with long-term investment

The variable refers to shareholders that their ownership period as compared to the other shareholders was more during intended period that in this study the financial statements of institutional investors will be used so that if institutional investors, report their long-term investment, shareholder with long-term investment will be known. And is calculated by dividing the shares of stockholders by the total issued shareholders.

### 3.3.3. Control Variables

In study, the effects of all variables on each other cannot be studied simultaneously. So the researchers control the effects of some of these variables, and neutralized them. The following variables can affect the risk of falling stock prices, their impact on the independent variables by adding to research model is controlled.

KUR = skewness of daily stock returns

RET = accrued daily returns

MB = ratio of market value to book value

LEV = financial Leverage of company in year T is equal to the ratio of debt to assets in year T.

ROE = equity return of stockholders in year T to the ratio of net profit T book value of equity of stockholders.

LNSIZE = logarithm of the market value of equity

### 3.4. DATA TYPES

In the present study analyzed cross-sectional data sets and hybrid models have been used. Thus, several companies over the period, are studied and analyzed. Data were combined in Rich in information environment provided for the development of techniques to estimate the information and results. The following types of data that are commonly used to analyze experimental results are discussed into three groups:

Time series data

Cross-sectional data

Integrated time-series data

#### 3.4.1. Models Used in Mixed Data

One of the most important problems of mixed variables is in description of removed variables or estimated in estimation. For this reason, the analysis that is done on the basis of these observations, often is not compatible with reality. Accordingly, using panel data models, estimates can be achieved efficiently. The format of the mixed data known as components error model, are as follows:

$$Y_{it} = B_1 + \sum_{j=2}^k B_j X_{jit} + \sum_{P=1}^s \gamma_P Z_{Pi} + \delta \cdot t + \varepsilon_{it}$$

In the above equation Y represents the dependent variable, X the observed explanatory variables and Z represents invisible explanatory variables affecting the dependent variable for each cross-sectional which to explain better these variables values of the error components is separated. Symbol i represents observed cross-section of units, t represents a time period and j and p represents the difference between observed non-observed variables in the models. The  $\varepsilon_{it}$  Represents panel data estimation error that indicates that have all conditions related to the error terms under Gauss- Marcov assumptions.

#### 3.4.2. Fixed Effect Model

Fixed effect model is the regression slope in any constant unit and constant sentence is different from one variable. Although temporal effect is not significant, but there was significant difference between the level and level coefficients does not change with time. One way to demonstrate the cross-sectional effect is using dummy variables. The overall shape of the model is as follows:

$$Y_{it} = a_1 + a_2 DUM_2 + a_3 DUM_3 + \beta_2 X_{it} + \beta_3 X_{it} + e_{it}$$

In this regard  $X_{it}$  Represents a vector of independent variables, DUM represents dummy variable to show the effect of cross-sectional  $Y_{it}$  Vector of dependent variables and  $e_{it}$  The error equation. Fixed effect models according to the presence or absence of such period in fixed sentence, is distinguished to two-way fixed effect models and one-way fixed effect models. In two-way fixed effect models, slopes are constant, but the fixed sentence is different at any time. Effect of time for the t years by entering -1t dummy variable is shown as follows:

$$Y_{it} = a_1 + \lambda_1 + \beta_1 X_{it} + \beta_2 X_{it} + e_{it}$$

In this regard  $X_{it}$  Represents a vector of independent variables,  $Y_{it}$  Vector dependent variables,  $e_{it}$  Error equation sentences and  $\lambda_1$  Effect of time on fixed sentence.

### 3.4.3. Random Effects Model

If the variables selected randomly and no correlation between explanatory variables errors, random effects method used to obtain estimates. In this method using a generalized least squares (GLS), the model is estimated as follows.

$$Y_{it} = a + \beta_1 X_{it} + \beta_2 Z_{it} + e_{it} + u_{it}$$

Relations above if  $\theta = 1$ , estimate model with random effects changed estimation with fixed model, and if  $\theta = 0$  the model estimation with the random effect has become a for combining the data model and estimation of least squares. A random regression model including the form below.

$$Y_{it} = a + \beta_1 X_{it} + \beta_2 Z_{it} + e_{it} + u_{it}$$

In the above equation  $e_{it}$  Equals the amount of error of equitation and  $u_{it}$  Result of random effect of each unit  $e_{it} + u_{it}$  Total error  $(e_{it}, u_{it}) = 0$  is for every t and I. In random effects models, generalized least squares estimators is the best estimators of BLUE<sup>3</sup>.

### 3.4.4. Diagnostic Tests

To determine the type of data used in the models used a combination of different tests. CHOW is most common test model to prove the effect of the model data combined estimate (POOL), Hausman test for using a fixed effect model versus random effect model and LM test for random effects versus POOL.

## 3.5. THE DATA COLLECTION METHODS AND DATA SOURCES

Gathering information is beginning the process during which the researcher collected field or the library data. And inductively compress them by category and then analyze them. To collect the data and information required in this study were used libraries. Data research collection method is document analysis, databases and required data in financial statements audit and information's along with that of companies extracted from devise processor and RAHAVARD software site stock securities.

## 3.6. ANALYSIS OF DATA

The research data analysis and hypothesis testing is done by the software Excel and Eviews. Therefore, the information provided by databases, the is first classified by software Excel and then transferred to the Eviews to perform statistical tests on them. To test the research hypotheses, regression analysis and Spearman correlation, multiple linear regression was used to analyze hypotheses.

### 3.6.1. Hypothesis Testing for Regression Coefficients

Assuming  $\epsilon_i \sim N(0, \sigma^2)$  then we can assume zero regression coefficients using the t test:

H1:  $\beta_i \neq 0$ , H0:  $\beta_i = 0$

Using statistics  $t_0 = \frac{\hat{B}}{\sqrt{se(\hat{\beta})}}$  And the value of  $t_{n-1, \alpha/2}$ ,  $H_0$  hypothesis can reject or accept.

Thus, if  $t_{n-1, \alpha/2} > |t_0|$  assumed  $H_0$  rejected if  $t_{n-1, \alpha/2} < |t_0|$  we accept  $H_0$ . Rejecting the null hypothesis means that the coefficient is not zero and i entered model but if we accept the null hypothesis is that i is no needed to enter in the model and can be removed from the model.

### 3.6.2. Significance Test of Regression Equation

The overall fit of the regression equation F test is used and the null hypothesis and the opposite is as follows:

$$H_0 = \beta_1 = \beta_2 = \dots = \beta_k = 0$$

$H_1$  = at least one of  $\beta$  is not zero

If the 95% statistic calculated from the regression equation is smaller than table, the  $H_0$  hypothesis cannot be rejected Otherwise  $H_0$  is rejected and the regression equation will be significant. For significant equation ANOVA is used, if the P-value is less than 0.05, significantly is confirmed.

### 3.6.3. Test The Normality of the Dependent Variable

To evaluate the significance of the dependent variable Kolmogorov Smirnov test (KS) is used. The null hypothesis and the opposite is as follows:

$H_0$  = distribution of risk of falling stock prices profit is normal

$H_1$  = distribution of risk of falling stock prices profit is not normal

If the P-value is greater than 0.05, so  $H_0$  cannot be rejected therefore normal distribution of risk of falling stock prices profit accepted.

Normality test of the dependent variable the first linear regression condition is met and the assumption of normality of the dependent variable for all testing hypothesis is used.

### 3.6.4. Linearity Test and The Independent Variables

Linearity is condition that show independent variable of a linear function is independent from other variables. If Linearity in the regression equation be high, it means there is a high correlation between independent variables and by high value of  $R^2$ , model will not be valid. In other words, although it seems to be a good model, but with independent variables were not significant. To test the linearity in the regression of the value of tolerance or bias variance is used to mean to what extent any predictive variables entered into the model has been estimated by other independent variables. For this purpose, must be based on an index of 30 is tolerated and indicate that the problem is serious but lesser amounts of regression coefficient means the credit is determined.

### 3.6.5. Independence Test Errors

One of the assumptions is considered in regression is independence of errors (the difference between the actual values and the values predicted by the regression equation) of each other. If the independence errors hypothesis is rejected or errors correlated with each other, there is no possibility of using regression. In order to evaluate the independence of the errors of each Durbin-Watson used. If this statistic is in the range of 1.5 or 2.5 the test  $H_0$  (lack of correlation between errors) is accepted, otherwise  $H_0$  rejected (there is a correlation between errors).

### 3.6.6. Normality Test Errors

One of the assumptions considered in the regression is that errors are normally distributed with zero mean. It is obvious that in case of unestablished default the regression cannot be used for this purpose so standard values errors should be calculated and Charts and graphs of normal distribution of comparison between the two graphs should be carried out.

## 4. RESULTS AND DISCUSSION

### 4.1. DESCRIPTIVE STATISTICS

In this section the data presented in the form of descriptive statistics and correlation. Indices are used to describe the data as follows:

- Central index: mean, median, mode
- dispersion index: changing range, variance and standard deviation
- distribution index: skewness coefficient and kurtosis coefficient

Indices are calculated for all variables as above and in Table 1 is presented.

**Table 1. Descriptive statistics of variables**

Variables		Average	Middle	Highest number	Lowest number	Standard deviation	Elongation	Skewness	Jarek statistics	Jarek statistic is likely
Risk of collapse of stock prices	Coefficient of skewness of returns	0.110	0.100	0.200	-0.480	0.150	0.030	0.580	108814.5	0.000
	Logarithm of the ratio of standard deviation to the number of days the number of days of price decline	1.683	1.703	1.997	0.522	1.425	0.322	-1.523	49.31419	0.000
	The difference between the number of positive and negative daily special wine	58.700	50.900	264.400	0.000	51.500	42.800	7.500	33.49982	0.000
Percent of property owners independent body with the intention of long-term investment		48.20	50.500	99.340	0.000	26.600	2.100	-0.100	68395.21	0.000
Percent owned by institutional owners affiliated with the intention of long-term investment		4.400	0.000	91.200	0.000	12.500	27.800	4.600	3585132	0.000
Institutional owners of property with the intention of short-term investment		6.100	0.400	73.500	0.000	12.400	12.900	3.000	8552414	0.000

Variables	Average	Middle	Highest number	Lowest number	Standard deviation	Elongation	Skewness	Jarek statistics	Jarek statistic is likely
Stretch daily stock returns	0.610	-1.201	50.300	2.000	32.400	12.900	49.250	83.80016	0.000
Accrued daily returns	11.150	1.040	165.200	0.425	25.190	41.420	7.830	124.3303	0.000
Accrued daily returns	1.663	1.499	87.070	- 154.322	7.086	332.168	- 11.873	60241.23	0.000
The company's financial leverage	0.650	0.640	0.500	0.040	0.290	0.720	0.230	985703	0.000
Return On Equity	5.960	5.848	8.228	4.295	0.721	3.433	0.768	844.2121	0.000
Logarithm of the market value of equity	0.020	0.030	0.330	3.330	0.000	0.720	0.030	631.73016	0.000

Source: Author

The above table for the probability statistic Jarek shows to that all variables have a significance level of less than 0.05 percent, which represent the non-normality of the data variable, but according to the central limit theorem data from more than 30 have tends to normality. According to the central limit theorem total and average values of a random sample of n-tuple which are selected from population approximately to one Symmetry distribution tends.

## 4.2. HYPOTHESES

In this section we examine and test hypotheses and test proposed regression model.

In general, as presented in the third quarter, regression model to test the hypothesis is as follows:

$$CRisk_{it} = \beta_0 + \beta_1 LONGIDNP_{it} + \beta_2 LONGDP_{it} + \beta_3 SHORT_{it} + \beta_4 KUR_{it} + \beta_5 RET_{it} + \beta_6 MB_{it} + \beta_7 LEV_{it} + \beta_8 ROE_{it} + \beta_9 LNSIZE_{it} + \varepsilon_{it}$$

To test the hypothesis, the panel data regression analysis (panel data) will be used. Given that the data used in the study are panel data and panel data have specific steps to carry out the tests to Overall estimate using panel data model involves the following steps:

Detection reliability test on the data

The test model estimation in the form of panel data

The test determines the fixed effects or random effects

Parameter estimates

### 4.2.1. Testing the Reliability of Variables

To investigate the reliability of the variables tests such as LLC, ISP and PP and the ADF is used. The test results are sometimes very different in this research. Dickey-Fuller test (ADF) is used, which is the most important unit root tests.

### 4.2.2 Test F (Chow) To Select Changing and Constant Intercept

To test this hypothesis test, F Limer (Chow test) is used. Since in the study there is two main hypotheses and three sub ones for each hypothesis there will be a regression model. Therefore, to select the appropriate model F Limer test for each of the following models has been done. In test F (Chow) hypotheses are introduced as follows:

Hypothesis H0: the intercepts of model are equals = mixed data model

Hypothesis H1: the intercepts of model are different from sample to another sample = fixed effects model.

**Table 2. F Limer test to select the source variable or fixed width**

Research hypotheses	Exam type	Amount statistics	Probability statistics	Result
Hypothesis (1)	Test F (Limer)	1033514	0	H assuming zero cannot be verified and fixed effects model is confirmed.
	Chi-square test	151887.915	0	
Hypothesis (2)	Test F (Limer)	82051231	0	H assuming zero cannot be verified and fixed effects model is confirmed.
	Chi-square test	49383.7307	0	
Hypothesis (3)	Test F (Limer)	82051231	0	H assuming zero cannot be verified and fixed effects model is confirmed.

*Source: Author*

According to the table above, which represents the output of the test f Limer, show the probability of F statistics for all of the hypotheses is less than 5%. Therefore, H0 is rejected and H1 is confirmed in other words, as shown in the table Limer F-test results indicate that for all assumptions, the fixed effects model is confirmed, Therefore, the test for the fixed effects model versus the random effects model Hausman test is required.

**Table 3. Hausman test for selection of fixed and random effects**

Research hypotheses	Exam type	Amount statistics	Degrees of freedom	Probability statistics
Hypothesis (1)	Chi-square test	0.0000	11	1.0000
Hypothesis (2)	Chi-square test	0.0000	11	1.0000
Hypothesis (3)	Chi-square test	0.0000	11	1.0000

*Source: Author*

According to the obtained values, since the probability statistic of Hausman for both hypotheses is greater than the significance level of 5% therefore we gained sufficient reason to reject the fixed effects model and to test relative theories random effects model is used.

**4.3. ESTIMATE COEFFICIENTS HYPOTHESIS OF RESEARCH**

After reliability tests and test F Limer, theoretical models coefficients should be estimated in consistent with the obtained results of the above test that the multiple regressions were used:

Hypothesis 1: Hypothesis states that there is a significant negative relationship between independent institutional ownership and long-term investment and risk of falling.

Given that for the dependent variable (the risk of falling stock prices) three criteria and indicators to measure is defined therefore for test the hypothesis 1, there are three output which an independent institutional ownership with long-term investment have significant relationship by all three measure indicators of risk of falling stock price, in other words independent institutional ownership with long-term investment by all three measure indicators of risk of falling stock price is less than 0.05, the coefficient indicates that the relationship is negative in the sense that independent institutional ownership with the intention of long-term investment could be effective in companies performance efficiency and decrease the risk of falling the stock price Durbin-Watson statistic is indicative of the lack of solidarity, because the value of this test for all three outputs are provided in the table (4) is between 1.5 and 2.5.

Therefore, there is no obstacle to the use of regression. F probability statistics that show the validity of the model, indicates that there is a significant linear relationship between the variables, because the probability of F statistic is less than 0.05.

**Table 4. The results of the first hypothesis (the dependent variable: the coefficient of skewness of returns)**

Variable	Coefficients	T statistics	Significance level
Constant number	0.014	-0.652985	0.014
Percent of property owners independent body with the intention of long-term investment	0.048	2.0147	0.048
Stretch daily stock returns	0.041	3.354	0.041
Accrued daily returns	0.038	2.314	0.038
The ratio of market value to book value	0.29	1.024	0.29
The company's financial leverage	0.211	1.0215	0.211
Return On Equity	0.591	-1.0268	0.591
Logarithm of the market value of equity	0.409	0.468	0.409
Coefficient of determination	2.149	F statistics	2.149
Adjusted coefficient of determination	0.0225	Probability F	0.0225
Durbin-Watson statistic			0.5632
The results of the test the first hypothesis (the dependent variable: logarithm of the ratio of standard deviation of price growth in the number of days the number of days descending)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25.48964	-0.637485	0.0295
Percent of property owners independent body with the intention of long-term investment	-0.1045	2.0302	0.0335
Stretch daily stock returns	0.2555	3.3695	0.0565
Accrued daily returns	-0.3445	2.3295	0.0535
The ratio of market value to book value	0.0265	1.0395	0.3055
The company's financial leverage	0.0175	1.037	0.2265
Return On Equity	0.0131	-1.0113	0.6065

Variable	Coefficients	T statistics	Significance level
Logarithm of the market value of equity	0.0176	0.4835	0.4245
Coefficient of determination	0.241	F statistics	1.476
Adjusted coefficient of determination	0.201	Probability F	0.0155
Durbin-Watson statistic			1.587
The results of the test the first hypothesis (the dependent variable: the difference between the number of positive and negative daily returns)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25.47154	-0.619385	0.0476
Percent of property owners independent body with the intention of long-term investment	-0.0864	2.0483	0.0416
Stretch daily stock returns	0.2736	3.3876	0.034
Accrued daily returns	-0.3264	2.3476	0.071
The ratio of market value to book value	0.0446	1.0576	0.3236
The company's financial leverage	0.0356	1.0551	0.244
Return On Equity	0.0312	-0.9932	0.624
Logarithm of the market value of equity	0.0357	0.5016	0.4426
Coefficient of determination	0.2381	-0.619385	2.167
Adjusted coefficient of determination	0.1981	2.0483	0.0406
Durbin-Watson statistic			1.581

Source: Author

Hypothesis 2: The second hypothesis states there is a significant negative relationship between dependent institutional ownership and long-term investment and risk of falling.

Results of the test of this hypothesis is presented below

**Table 5. The results of the second hypothesis (the dependent variable: the coefficient of skewness of returns)**

Variable	Coefficients	T statistics	Significance level
Constant number	-25.49434	-0.642185	0.0248
Percent of property owners independent body with the intention of long-term investment	-0.1092	2.0255	0.0588
Stretch daily stock returns	0.2508	3.3648	0.0518
Accrued daily returns	-0.3492	2.3248	0.0488
The ratio of market value to book value	0.0218	1.0348	0.3008
The company's financial leverage	0.0128	1.0323	0.2218
Return On Equity	0.0084	-1.016	0.6018
Logarithm of the market value of equity	0.0129	0.4788	0.4198

Variable	Coefficients	T statistics	Significance level
Coefficient of determination	0.2308	F statistics	2.160276
Adjusted coefficient of determination	0.1908	Probability F	0.0333
Durbin-Watson statistic			1.563232
The second hypothesis test (dependent variable: logarithm of the ratio of standard deviation of price growth in the number of days the number of days descending)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25.47124	-0.619085	0.0479
Percent of property owners independent body with the intention of long-term investment	-0.0861	2.0486	0.0819
Stretch daily stock returns	0.2739	3.3879	0.0749
Accrued daily returns	-0.3261	2.3479	0.719
The ratio of market value to book value	0.0449	1.0579	0.3239
The company's financial leverage	0.0359	1.0554	0.2449
Return On Equity	0.0315	-0.9929	0.6249
Logarithm of the market value of equity	0.036	0.5019	0.4429
Coefficient of determination	0.2384	F statistics	2.167876
Adjusted coefficient of determination	0.1984	Probability F	0.0409
Durbin-Watson statistic			1.581632
The second hypothesis test (dependent variable: the difference between the number of company-specific positive and negative daily returns for the year)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25.45014	-0.597985	0.0587
Percent of property owners independent body with the intention of long-term investment	-0.065	2.0697	0.093
Stretch daily stock returns	0.295	3.409	0.096
Accrued daily returns	-0.305	2.369	0.093
The ratio of market value to book value	0.066	1.079	0.345
The company's financial leverage	0.057	1.0765	0.266
Return On Equity	0.0526	-0.9718	0.646
Logarithm of the market value of equity	0.0571	0.523	0.464
Coefficient of determination	0.2595	F statistics	2.188976
Adjusted coefficient of determination	0.2195	Probability F	0.062
Durbin-Watson statistic			1.602732

Source: Author

Outputs hypothesis 2 testing shows that the relationship between dependent institutional ownership and long-term investment with measurable indicators of risk of falling stock prices is not significant. In other word, owners in reducing the risk falling of stock prices does not play an important role as likely evidence of this variable in the above table shows, which all are greater than 0.05 although the presence of this type of owners has not been clearly ineffective because the negative coefficients of the variables and probability statistics less than 0.01 indicates this type of landlords are active in controlling the risk of deflation, but apparently affiliated with this group of institutional owners, like the owners will not play an independent role.

Hypothesis 3: The third hypothesis suggests that there is a significant positive relationship between institutional ownership and short-term investment and risk of falling relationship.

Skewness of returns.

**Table 6. The results of the second hypothesis (the dependent variable: the coefficient of skewness of returns)**

Variable	Coefficients	T statistics	Significance level
Constant number	-25.51374	-0.6616	0.0054
Percent of property owners independent body with the intention of long-term investment	-0.1286	2.0061	0.0394
Stretch daily stock returns	0.2314	3.3454	0.324
Accrued daily returns	-0.3686	2.3054	0.0294
The ratio of market value to book value	0.0024	1.0154	0.2814
The company's financial leverage	-0.0066	1.0129	0.2024
Return On Equity	-0.011	-1.0354	0.5824
Logarithm of the market value of equity	-0.0065	0.4594	0.4004
Coefficient of determination	0.2114	F statistics	2.140879
Adjusted coefficient of determination	0.1714	Probability F	0.0139
Durbin-Watson statistic			1.543832
The third hypothesis test (dependent variable: logarithm of the ratio of standard deviation of price growth in the number of days the number of days descending)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25.49064	-0.6385	0.0285
Percent of property owners independent body with the intention of long-term investment	-0.1055	2.0292	0.0625
Stretch daily stock returns	0.2545	3.3685	0.0555
Accrued daily returns	-0.3455	2.3285	0.0525
The ratio of market value to book value	0.0255	1.0385	0.3045
The company's financial leverage	0.0165	1.036	0.2255
Return On Equity	0.0121	-1.0123	0.6055
Logarithm of the market value of equity	0.0166	0.4825	0.4235
Coefficient of determination	0.219	F statistics	2.148476

Variable	Coefficients	T statistics	Significance level
Adjusted coefficient of determination	0.179	Probability F	0.0215
Durbin-Watson statistic			1.562232
Read table (4-7) the results of testing the third hypothesis (the dependent variable: the difference between the number of company-specific positive and negative daily returns for the year)			
Variable	Coefficients	T statistics	Significance level
Constant number	-25/46954	-0.6174	0.0393
Percent of property owners independent body with the intention of long-term investment	-0.0844	2.0503	0.0836
Stretch daily stock returns	0.2756	3.3896	0.0766
Accrued daily returns	-0.3244	2.3496	0.0736
The ratio of market value to book value	0.0466	1.0596	0.3256
The company's financial leverage	0.0376	1.0571	0.2466
Return On Equity	0.0332	-0.9912	0.6266
Logarithm of the market value of equity	0.0377	0.5036	0.4446
Coefficient of determination	0.2401	F statistics	2.169576
Adjusted coefficient of determination	0.2001	Probability F	0.0426
Durbin-Watson statistic			1.583332

*Source: Author*

Outputs hypothesis 2 testing shows that the relationship between dependent institutional ownership and long-term investment with measurable indicators of risk of falling stock prices is not significant. In other word, owners in reducing the risk falling of stock prices does not play an important role as likely evidence of this variable in the above table shows, which all are greater than 0.05 although the presence of this type of owners has not been clearly ineffective because the negative coefficients of the variables and probability statistics less than 0.01 indicates this type of landlords are active in controlling the risk of deflation, but apparently affiliated with this group of institutional owners, like the owners will not play an independent role.

Hypothesis 3: The third hypothesis suggests that there is a significant positive relationship between institutional ownership and short-term investment and risk of falling relationship.

#### Skewness of returns

Table (6) that shows the output sub-hypothesis test (3), indicates that institutional investors intended to invest in the short term to reduce the risk of falling the only index of skewness of returns (one of the parameters to calculate the risk of collapse of the stock price) has a negative but significant correlation but with other of stock prices indicators has no significant correlation, of course, as well as institutional owners with long-term investment These owners is not ineffective, however, negative ratio with statistics evidence less than 0.1 is evident to this assumption.

In all tables related to hypotheses test, Durbin-Watson statistic between 1.5 and 2.5 that does not show prevents for the use of regression. Durbin-Watson statistic is a measure to measure and display co-linearity between variables that in the case of linearity must remove line, and then used the regression tests.

## **5. CONCLUSION AND RECOMMENDATION**

In this study, three hypotheses to evaluate the impact of institutional ownership on the risk of falling stock prices was examined. And test the hypotheses at the 5% level shows that institutional ownership with longer-term investment, more examined supervising and control of listed companies in Tehran Stock Exchange, which would reduce the risk of falling stock price result of research is consistent with the results of Coronets (2007), Kim and Zhang (2013) and Callen, Fang (2013), the same as they, in their study by separating institutional investors into two groups of shareholders institution with long-term goals and short-term or regulatory and non-regulatory have shown institutional shareholders motivation in the control and supervising management with the company's financial performance has significant and positive relationship.

(It is recommended that users of the financial statements, in using financial statement of companies consider the factor of combining Shareholders. Based on these findings, the presence of independent institutional investors with supervising motivation (institutional investment who have entity long-term objectives in investment) play an important role in reducing the volatility of stock price and risk of falling stock prices. Therefore, it's better for investors to pay attention to such owners in buying shares and stock options to invest because to the existence of this type of owner (independent institutional shareholders with long-term motivation) has influential role in reducing the probability of the risk of falling the stock price.

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# ASSESSING THE EFFECT OF ACCOUNTING INFORMATION SYSTEMS ON KNOWLEDGE MANAGEMENT STRATEGIES FROM THE PERSPECTIVE OF HANSEN

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## Abstract

*This research is functional purposely and descriptive and survey in collecting data. This research is called correlated research in checking relation between two or several variables. Statistical population included by Tehran Sina bank managers and experts and staffs. In this research, sampling has been used; after distributing related questionnaires, the results have been analyzed by using SPSS and have used to check LEZREL. T test has showed a sample in which, components and also concept of science management strategies is proper situation in Tehran Sina bank. In one-order factor confirmed analysis, all science management strategies' t-value questions are accepted. And  $\chi^2/df$  and RMSEA are one and two orders factor confirmed analyses after science management strategies after amending suggests model befitting, and in factor confirmed analysis, all accounting information systems' t-value questions is accepted. And  $\chi^2/df$  and RMSEA imply model's befitting. Due to  $\chi^2/df$  and RMSEA and t-value, the research structural model also is suitable. The research structural model is 1.90, 4.49 and 0.075 respectively after doing necessary amends include  $\chi^2/df$  and t-value and RMSEA that suggest the research structural model befitting.*

**JEL classification:** G32

**Keywords:** Accounting information system, Science management strategies, Human oriented strategy, System oriented strategy, Composite strategy.

## 1. INTRODUCTION

Accounting information system (AIS) as one of subsets of information technology has wide application and accelerate economic and social growth. Thus, the corporates and economic businesses in many countries have edited and implemented a special program to upgrade this technology it has been very effective in developing science level and offering new approaches in providing used tools. While financial indexes growth and profiting and increasing economic activities have attracted attention to this matter. Thus, due to problems of lack of knowledge about dimensions of this kind of systems and invisible damages result of lack of attendance to financial information and accounting in the corporates, there is sensitivity for managers especially beneficiaries.

The accounting systems are prepared packages which suppliers provide them to satisfying standard in wide range of organizations. These systems are designed and produced in various scopes such as: management accounting, financial accounting, warehouse, rights and fees or even planning organizational sources etc.

Several thousand providers in international and national level offer their various productions in response to organizations businesses, and in result, today organizations are facing with evaluating and selecting proper accounting information system to serve as trade intelligence and deciding support. To solve this problem and creating proper competitive interest, accurate selecting management information system with proper level of deciding support and business intelligence is necessary. Hence, evaluating and measuring

effect of these systems based on supporting deciding and business intelligence about management accounting information and determining proper measures scientifically are necessary.

Now, gradually individuals and organizations found very important science role in competitive environments and this phenomenon located itself among wealth making sources quickly. So some believe that science management can be used for professional activities in current conditions (Nordin, 8: 2009).

Yet, most of organizations lack ways and strategies for science management (Rawli, 417: 1999).

Schultz and Job divided science management strategies which are used by transnational corporates in U.S to four categories: coding, clarity, focuses, and unfocused and they concluded that focused conclusions are better than other strategies (Shualtz and Job, 2001, 132). Professor Cho et al published a set of science management strategies, their results show that clear or codified science strategies or implicated or personalized strategies are not supplement in relation with organization performance (Cho et al, 2003, 404).

This research use Hansen et al strategic science management classification in 1999.

Number of science management strategies and component are: 3 strategies and 13 components from Hansen's view. These strategies include human oriented strategy (person by person), system oriented strategy (person by documentation) and composite strategy.

In this research, we check effect of accounting information systems on science management strategies from Hansen's view, and due to researcher's business in Tehran Sina bank and his familiarity with this organization affair and identifying staffs' needs and attending to this important pillar, we want to check this research among Sian bank staffs. It is notable that this matter has not been checked already.

## **2. LITERATURE AND THEORETICAL FOUNDATIONS**

### **2.1. ACCOUNTING INFORMATION SYSTEMS**

Accounting information system is one that collects and saves financial data during accounting processes and after processing this data, produces organization decision makers used information (investors, creditors, managers, and). Accounting information system finally can help organization decision makers and managers in strategic programs by offering financial intelligent reports. Although an accounting information system can only include few pages and user guide notebook based on a simple accounting system, but today accounting information system as a complicated system is based on information technology capacities and traditional and professional accounting processes and ways.

Trilo et al research on accounting information systems: offered reporting challenges in real time in 2014, and in this article, stated accounting reporting interests in real time, and also compared with traditional ways and believe that most firms tend to adjust accounting information with current problems. In this article, most technics are offered can help to improve accounting application in real time.

Yong min Cho in korea, offered investigation on relation between factors penetrating in accounting information system that checks direct relation between penetration factors on accounting information system to identify effect adjusting evolution level.

The results of this research show positive and meaningful correlation between accounting information system and penetration factors of user interference (user capacity and organization size). He considered accounting information system as importance degree and evolution level of any factor.

Gordon and Mill (2008) tried to provide comprehensive framework through accounting information system and consider special needs of any organization through describing organization theory literature, management guide and accounting variables that are basic measurement for organization operation. Environment, organization structure and decision style are suggested as main dimensions of contingency variables. Any contingency factor is defined according to suitable condition of accounting information system. Although a composite of organization environment conditions and decision style appear that have

interests or compatibility, but in this research, the clear and explicit results have not offered on organization effectiveness and goals.

Chang Wagleton (2003) studied facilitating role of managers accounting information system on their operation and decision. They concluded that using accounting information has meaningful effect on facilitating managers' decision in all levels. Also they found that effect of using accounting information on subunits operation for parts that experience higher levels of interstitial relations.

Piper et al studied lack of certification AIS on defocusing and features AIS operation. This study is done as a questionnaire in Taiwan and responders were 126 managers. The results showed that wide range information upgrade financial and functional managers' satisfactions and result AIS with various tasks in a situation. In an unfocused organization, proper information with wide and accumulative range increases financial and operational managers' satisfaction.

World views of accounting information system (cloud and attendant approach) by Claudio et al in 2015, stated SWOT theory in AIS concept.

## **2.2. SCIENCE MANAGEMENT STRATEGIES**

Guide principles set form an organization decision on achievement, saving, manipulation and using science base (Kesten, 2007).

In 2010, science management team effect was studied on creativity in organization teams by Yang Sung and Jean Nam Joy. The study by De Long and Fye is done check organizational culture role in applying effective science management in which, 24 organizations are covered began and managed a project related to science, the results of this research showed effective organization relation in the organization in applying a maintain science management, and also highlighted on this supposition that effective science management has relation with organizational culture directly.

Shultz and Job (2001) divided science management strategies that were used by transnational firms in U.S to four groups: coding, clarity, focused and unfocused, concluded that focused strategies are better than other strategies.

In Lee et al (1995) research in Korean firms, their science strategies divided to offensive strategies, internal and human oriented science, external science and inactive re-usage, and concluded that the organizations that use three first strategies, have better financial operation.

Kankanchi et al (2003) have believed that science management strategies must use science management according to kind of own industry.

Checking relation between organizational cultures and understanding organization abilities by Zigler and Prison in 2000 these two researchers tend to consider doing collectivism and power distance as organizational culture dimensions and showed that there is a meaningful relation between above components and understanding abilities.

Gupta & Covindaragan research in steel corporate Nucor: they checked study of distance between science management in theory and action due to organizational culture role in science management and its requirements and concluded that flexible organizational structure helps science management and allows developing science without attending individual's role, performance, businesses and other traditional obstacles.

Chevron Lawson researches on various organizational culture by science management and concluded that there is an effective relation between organizational culture and science management, hierarchical culture doesn't support science management successful application. Market culture shows that innovation doesn't support science management. Also, there are no satisfying results related to effect of this kind of culture in supporting science management on specialism group culture.

### 2.3. HUMAN ORIENTED STRATEGY

Humanist strategy mainly highlights on creating science through interaction between scientists and reliance on socializing science process. Thus, in recent years, balance and dynamic approaches also are added to this classification.

### 2.4. SYSTEM ORIENTED STRATEGY

System oriented strategy is science management strategy that tend to achieve and gain science from experts and scientists and coding this science and packaging it to next usages (Byounggu, Choi, Heeseok Lee, 2003).

### 2.5. COMPOSITE STRATEGY

Balance approach is a mean strategy between two range of humanism and systematism and believes in dynamic approach, organizational science situation in any determining time level is amount of closeness to these two strategies (Wu, Wei-Wen, 2007).

### 2.6. HYPOTHESES

Main hypothesis

Accounting information systems has meaningful effect on science management strategies.

Secondary hypotheses

- Accounting information systems has meaningful effect on human oriented strategy (person by person).
- Accounting information systems has meaningful effect on system oriented strategy (person by documentations).
- Accounting information systems has meaningful effect on composite strategy.

## 3. RESEARCH METHODOLOGY

Since in this research, we look for improve and optimize affairs, and want to identify current conditions and helping decision making process, the research is functional on purposely and is correlation one in collecting data that correlation is positive and is done in survey way.

Statistical populations in this research are all Tehran Sina bank staffs. To sampling, simple accidental sampling is used. Number of sample is calculated according to Cochran formula.

$$n = \frac{(Z_{\alpha})^2(P)(1-P)}{\varepsilon^2} = \frac{1/96^2 \times 0/25}{0/08^2} = 150$$

To achieve 150 correct and complete questionnaires, 200 questionnaires are distributed; after collecting questionnaires, finally, 163 questionnaires are considered as proper and its information entered into SPSS software.

Collecting information tool in this research is questionnaire. Thus, after studying theoretical basics and investigation history on accounting information systems and science management strategies from Hansen's view, we check relation between these two cases that these two questionnaires are realized and its reliability is checked by using masters and experts polling, and after confirming its reliability, questionnaire items are distributed according to recognized dimensions and components in Tehran Sina bank and then we analyze collected information.

To analyze information, spss is used in which, Cronbach alpha is used to check reliability and assure this fact that questionnaire is calculating same variables. T-test for organization current condition, kmo for

sampling quality, Kolmogrov test for checking variables normality and Spearman or Pierson correlation test (according to variables normality or lack of normality) and regression test for checking correlation among variables (accounting information systems are considered as independent variable and science management strategies are considered as dependent variables) are used and finally, we check and analyze research conceptual model by using lizrel software.

## 4. RESEARCH FINDINGS

### 4.1. DEMOGRAPHIC STATISTICS

The people answered questionnaires in this research, have demographic features as:

**Table 1. Demographic situation**

Demographic features	Variables	Abundance	Abundance percent
Marriage	Married	119	73
	Single	41	25.2
	Lost data	3	1.8
Education	Diploma and less that that	10	6.1
	Associate degree	16	9.8
	Bachelor	73	44.8
	Master and doctor	63	38.7
	Lost data	1	0.6
History of work	Less than 5	33	20.2
	Between 5 to 15	87	53.4
	Between 15 to 25	27	16.6
	More than 25	16	9.8
Organizational post	Manager	5	3.1
	Assistant	15	9.2
	Director	38	23.3
	Expert	62	38
	Banking officer	36	22.1
	Lost data	7	4.3

*Source: Author*

### 4.2. NORMALITY TEST

To check normality supposition of variables, Kolmogrov-Smirnov test is used.

**Table 2. Descriptive statistics of research variables**

Variables	Standard deviation	Average	Meaningfulness level
Science management strategy	0.42813	4.1857	0.134
Accounting information systems	0.44489	3.9794	0.192

*Source: Author*

### 4.3. MAIN HYPOTHESIS TEST

Accounting information systems have meaningful effect on science management strategies.

**Table 3. Fitness correlation and staff's operation**

	Accounting information systems	Science management strategy
Pearson correlation coefficient	1	0.349**
Accounting information systems		0.00
Mutual meaningfulness		
Number	143	137
Pearson correlation coefficient	0.349**	1
Accounting information systems	0.000	
Mutual meaningfulness		
number	137	149

*Source: Author*

According to this table, since  $\text{sig} < 0.05$ , then, Hypothesis  $H_0$  is rejected, and there is a correlation between accounting information systems and science management strategy. Correlation coefficient is 0.349.

#### 4.4. FIRST HYPOTHESIS TEST

Accounting information systems have meaningful effect on human oriented strategy (person by person).

**Table 4. Correlation between accounting information systems and human oriented strategy**

	Accounting information systems	Science management strategy
Pearson correlation coefficient	1	0.136**
Accounting information systems		0.112
Mutual meaningfulness		
Number	143	139
Pearson correlation coefficient	0.136**	1
Accounting information systems	0.112	
Mutual meaningfulness		
Number	139	156

*Source: Author*

According to this table, since  $\text{sig} > 0.05$ , then, Hypothesis  $H_0$  is rejected, and there is no correlation between these two variables.

#### 4.5. SECOND HYPOTHESIS

Accounting information systems have meaningful effect on system oriented strategy (person by documentations).

**Table 5. Correlation between accounting information systems and system oriented strategy**

	Accounting information systems	System oriented strategy
Pearson correlation coefficient	1	0.461**
Accounting information systems		0.000
Mutual meaningfulness		
Number	143	137
Pearson correlation coefficient	0.461**	1
Accounting information systems	0.000	
Mutual meaningfulness		
Number	137	149

*Source: Author*

According to this table, since  $\text{sig} < 0.05$ , then, Hypothesis  $H_0$  is rejected, and there is a correlation between these two variables. Correlation coefficient is 0.461.

#### 4.6. THIRD HYPOTHESIS

Accounting information systems have meaningful effect on composite strategy.

**Table 6. Correlation between accounting information systems and composite strategy**

	Accounting information systems	Composite strategy
Pearson correlation coefficient	1	0.310**
Accounting information systems		0.000
Mutual meaningfulness		
Number	143	138
Pearson correlation coefficient	0.310**	1
Accounting information systems	0.000	
Mutual meaningfulness		
Number	138	150

Source: Author

According to this table, since  $\text{sig} < 0.05$ , then, Hypothesis  $H_0$  is rejected, and there is a correlation between these two variables. Correlation coefficient is 0.310.

#### 4.7. T-TEST PATHOLOGY

Among various tests which are used to check population mean and desirability supposition of science management strategies and its components, one-sample t-test has been used and average of scores higher than 3, are considered as unsuitable situation.

Science management strategies average and dispersion and its components are offered in below table.

**Table 7. Composite strategy has maximum average and system oriented strategy has minimum average.**

Science management strategies components	Number	Average	Standard deviation	Average standard deviation
Human oriented strategy	156	4.19944	0.49363	0.03952
System oriented strategy	149	4.1040	0.46960	0.03847
Composite strategy	150	4.2467	0.53170	0.04341
Science management strategies	149	4.1857	0.42813	0.03507

Source: Author

**Table 8. Average test**

Science management strategies components	Test value=3					
	t	df	Meaningfulness level One sequence sig	Average difference	Assurance distance	
					Low threshold	Up threshold
Human oriented strategy	156	4.19944	0.49363	0.03952	1.116	1.272

Science management strategies components	Test value=3					
	t	df	Meaningfulness level One sequence sig	Average difference	Assurance distance	
					Low threshold	Up threshold
System oriented strategy	149	4.1040	0.46960	0.03847	1.028	1.180
Composite strategy	150	4.2467	0.53170	0.04341	1.160	1.332
Science management strategies	149	4.1857	0.42813	0.03507	1.116	1.255

Source: Author

All components and also science management concept has  $\text{sig} < 0.05$  and hypothesis  $H_0$  is rejected and contradict hypothesis is accepted, being low and different show freedom degree amount of any component in which, some people didn't answer some questions or their questions are not usable. Due to this fact that up and low thresholds of all variables and also science management strategies is positive, the average of these variables is more than 3.

Due to above, one can say that components and also science management strategies have suitable condition in Tehran Sina bank.

#### 4.8. FACTOR CONFIRMED ANALYSIS OF RESEARCH VARIABLES

In this part, there are the results of factor confirmed analysis. It is notable that to decrease variables and considering them as placed variable, factor chare must be greater than 0.3 (Momeni and Faal Ghayom, 2007). The main question is: does this measurement model is suitable? To answer this question, one must check  $\chi^2$  and other befitting scales of fitting model. So that when model is proper that has optimum below moods. The less Chi-two test, it is better, because this difference test between data and model. Being this index below represents little difference among conceptual model with observed data in the research. GFI (Goodness of Fit Index) test and AGFI (Adjusted Goodness of Fit Index) must be more than 90 percent. The less RMSEA test, it is better; because this is model errors square average (Law, 1998).

##### 4.8.1. One-order factor confirmed analysis after science management strategies

Since amount of RMSEA is 0.096, and allowed threshold is 0.08, thus, the model needs to do reforms. Again, we apply model after doing necessary reforms. This time, the results of assessment suggests model suitability and due to calculated Lizrel,  $X^2/\text{df}$  is 99.74 divided to 59 that is 1.69 that is less than statistics average, 3. Being amount of this index below represents little difference between measured model and observed data. Also RMSEA amount is 0.065. Allowed threshold of RMSEA is 0.08; the less this amount, the model has better fitting.

Table 9. First order factor confirmed results of science management strategies

Placed variable	Questions	Non-standardized charges	Standardized charges	Error quantity	t-value
Human oriented strategy	1	0.38	0.38	4.32	8.40
Human oriented strategy	2	0.62	0.62	6.32	6.76

Placed variable	Questions	Non-standardized charges	Standardized charges	Error quantity	t-value
System oriented strategy	3	0.60	0.60	7.59	7.70
System oriented strategy	4	0.54	0.54	6.49	7.91
System oriented strategy	5	0.48	0.48	5.18	8.30
System oriented strategy	6	0.44	0.44	5.18	8.30
Human oriented strategy	7	0.33	0.33	3.73	8.54
Composite strategy	8	0.43	0.43	5.27	8.47
System oriented strategy	9	0.58	0.58	7.06	7.65
Composite strategy	10	0.56	0.56	7.01	7.98
Composite strategy	11	0.49	0.49	5.80	8.10
System oriented strategy	12	0.43	0.43	5.03	8.25
System oriented strategy	13	0.55	0.55	6.68	7.82

Source: Author

Due to this point that accepted amount for t-value is higher than 1.96, and less than -1.96, all variables t-value amount is accepted.

**4.8.2. Second order factor confirmed analysis of science management strategies**

The results of evaluation suggest model befitting, due to Lizrel output, calculated  $X^2/df$  is 99.74 divided to 59 is 1.69 that is less than statistics average, 3. Also, RMSEA amount is 0.065.

**Table 10. Second order factor confirmed analysis results of science management strategies**

Placed variable	Consequences	Non-standardized charges	Standardized charges	t-value
Science management strategies	Human oriented strategy	0.95	0.97	4.32
	System oriented strategy	0.91	0.91	6.08

	Composite strategy	1.10	1.11	7.95
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*Source: Author*

Due to this point that accepted amount for t-value is higher than 1.96, and less than -1.96, all variables t-value amount is accepted.

#### 4.8.3. Factor confirmed analysis of accounting information systems

Since RMSEA amount is 0.92, and allowed threshold is 0.08, therefore, model needs to do reforms. Again, we apply model after doing necessary reforms. This time, the results of evaluation suggests model befitting, due to Lizrel output, calculated  $X^2/df$  is 224.43 divided to 114 is 1.96 that is less than statistics average, 3. Being amount of this index lower represents little difference between measured model and observed data. Also RMSEA amount is 0.077. RMSEA allowed threshold is 0.08; the less this amount, the model had better fitting.

Table 4-15 summary includes software output after doing necessary reforms.

**Table 11. Results of factor confirmed results of accounting information systems**

Placed variable	Questions	Non-standardized charges	Standardized charges	Error quantity	t-value
Accounting information systems	1	0.32	0.52	8.37	6.57
	2	0.29	0.40	8.57	4.87
	3	0.48	0.63	7.97	8.28
	4	0.52	0.56	8.19	7.06
	5	0.37	0.50	9.38	6.21
	6	0.40	0.58	8.21	7.46
	7	0.46	0.61	8.18	8.00
	8	0.52	0.65	7.91	8.56
	9	0.57	0.67	7.89	9.12
	10	0.36	0.46	8.59	5.78
	11	0.31	0.48	8.54	6.09
	12	0.38	0.51	8.48	6.52
	13	0.37	0.47	8.55	5.91
	14	0.42	0.55	8.35	7.01
	15	0.37	0.47	8.48	5.93
	16	0.31	0.39	8.71	4.77
	17	0.37	0.43	8.62	5.36

*Source: Author*

Due to this point that accepted amount for t-value is higher than 1.96, and less than -1.96, all variables t-value amount is accepted.

#### 4.9. Checking research structural model

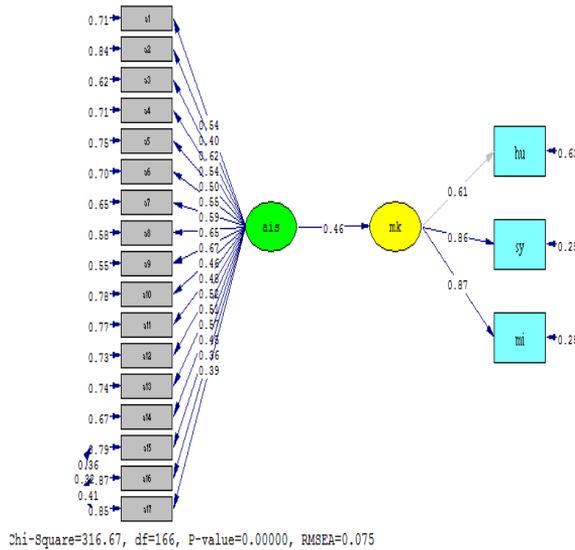
Since RMSEA amount is 0.089, and allowed threshold is 0.08, thus, the model needs to do reforms. Therefore, model needs to do reforms. Again, we apply model after doing necessary reforms. This time, the results of evaluation suggests model befitting, due to Lizrel output, calculated  $X^2/df$  is 224.43 divided to 114 is 1.96 that is less than statistics average, 3. Being amount of this index lower represents little difference between measured model and observed data. Also RMSEA amount is 0.077. RMSEA allowed threshold is 0.08; the less this amount, the model had better fitting.

**Table 12. Fitting indexes of research structural model**

Indexes	AGFI	GFI	RMR	CFI	NNFI	NFI	RMSEA	$\chi^2/df$
Model amounts	0.98	0.99	0.0072	0.92	0.99	0.85	0.075	1.90

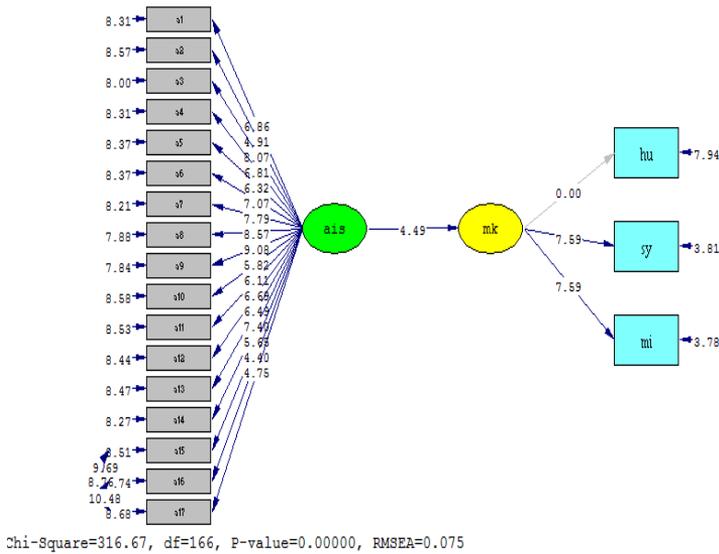
Source: Author

Due to this point that accepted amount for t-value is higher than 1.96, and less than -1.96, all variables t-value amount is accepted.



**Figure 1. Research conceptual model in standard assessment mood**

Source: Author



**Figure 2. Research conceptual model in meaningful numbers mood**

Source: Author

## **5. DISCUSSION AND CONCLUSION**

In first hypothesis, results of hypothesis test show that due to this fact that P-Value (sig) is 0.00, hypothesis zero is rejected and contradicted hypothesis is accepted, thus, it is concluded that: accounting information systems have meaningful effect on science management strategies.

In second hypothesis, results of hypothesis test show that due to this fact that P-Value (sig) is 0.112, hypothesis zero is rejected and contradicted hypothesis is accepted, thus, it is concluded that: accounting information systems have meaningful effect on human oriented strategies.

In third hypothesis, results of hypothesis test show that due to this fact that P-Value (sig) is 0.00, hypothesis zero is rejected and contradicted hypothesis is accepted, thus, it is concluded that: accounting information systems have meaningful effect on system oriented strategies (person by documentations).

In fourth hypothesis, results of hypothesis test show that due to this fact that P-Value (sig) is 0.00, hypothesis zero is rejected and contradicted hypothesis is accepted, thus, it is concluded that: accounting information systems have meaningful effect on composite strategy.

## RESOURCES

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# PRIORITIZE THE FACTORS AFFECTING THE CREDIT RISK IN BANKS WITH USE OF ANALYTICAL NETWORK PROCESS (ANP)

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## Abstract

*The main purpose of this study was to investigate the factors affecting the credit risk using network analysis process (ANP) is. The population of this research managers and specialists Bank (Case Study in Bank Saderat Gilan) and collection tools that 8 questionnaires banking experts' distribution, and finally 8 were gathered and to answer research questions and indicators data analysis analytical network process (ANP) was used. By analyzing the research criteria using analytical network process (ANP) found that of the 17 criteria identified effective credit risk in banks, the benchmark of quality processes and procedures for review of the facility, the risk weaknesses in internal controls, concentrate risk the whole system has the highest weighting coefficient in the words, of the most important criteria considered in the whole system. The basis risk criteria, risk, stock price and risks of the transaction to the lowest index compared to other research criteria are weighted. The results of this study can be applied to banks and bankers, financial managers have applications in the field.*

*JEL classification: G34*

*Keywords: Credit risk, Multi-criteria decision making, Analytical network process (ANP)*

## 1. INTRODUCTION

Banks and financial institutions as well as other risks faced by each firm. The nature of financial activities and dealing with concepts such as credit, payment systems and different rates, these institutions puts on special risks On the other hand the rapid development of financial activities, technical innovations and more complex financial system's risk management principles will become an indispensable component of any financial institution (Hemmati, Mohebbi Nezhad, 1430).

Since banks are due funds, lending activity is one of the important activities of banks. This part of banking activities and credit risk are required to evaluate the creditworthiness of borrowers by banks. In order to reduce this type of risk and the cost of an increase in bad loans, banks and credit institutions in recent years with regard to the recommendations of the Committee wings, great attention to credit risk categories have (Taghavi et al., 1429).

Provide financial facilities deemed one of the most important activities of the banking system. For lending to credit rating and ability to repay principal and interest of the recipient facilities to be determined. So one of the important aspects in the process of lending by banks, realistic estimate of the probability of repayment by customers so that actions and decisions necessary to prevent or cope with potential losses taken into account. Some of the consequences of credit control and process validation can help increase cash flow in the bank, make better decisions on lending and increasing the confidence of repayment is (Fallah et al., 1431).

This study is important because of the following reasons.

- Improved process control and predict losses of facilities and the repayment of a loan repayment advantage for banks and credit institutions will create.
- Weakness or lack of effective supervision of the proper implementation of projects and related facilities consumption, and prolonged process set up projects to increase the cost of banks.
- Non-performing loans, the bulk of funding for banks constitute potential that in case of repayment of bank activity increases and in case of its realization in today's competitive environment, the Bank enters serious damage.

What is the question being, given the risk and uncertainty of the banks prioritize the factors affecting credit risk?

## 2. THEORETICAL FOUNDATIONS AND REVIEW OF THE RESEARCH HISTORY

Credit risk of the institutions of monetary and credit important and sensitive resources used for credit, in fact debt financial institution shareholders, people and banks that in case of failure during this cycle, both the validation and repayment of bank debt will weaken. The other important thing is that the balance sheets of financial institutions, credit loan as the demands of term deposits of individuals as Dion Annie considered. This means that a debt collection period in the short term is impossible, but debt repayment It is necessary for the immediate and otherwise institutions will be faced with bankruptcy. According to the Basel Committee, the credit risk is the risk of failure to meet the obligations pledged to the bank as a result of special circumstances. This type of risk in economic conditions such as increased economic recession. Quantification of credit risk and risk management skills to provide favorable conditions for the board of directors and senior management as well. To measure the credit risk is required to view or historical data. In other words, credit risk is the risk of postponement, the receipt or non-receipt of principal and interest suspected of financing in the form of loans offered to applicants. Credit risk of the institutions of monetary and credit is important that resources are used to loan the debt Monetary Authority (the bank) to shareholders of the organization (banks) that if no progress is also possible to validate and power return on investment, undermines shareholders. The most important approach to reduce the risk of credit losses, identify and evaluate the customer's credit classification is commonly referred to validation (terraces, 1431)

In the present study the analysis of credit risk criteria examined 17 criteria are as follows:

**Table 1. Criteria Names**

Title	symbol
Portfolio risk of loan	X1
Re-pricing risk	X2
Basis risk	X3
Risk of yield curve	X4
Risk of choice ability	X5
Currency exchange rate risk	X6
Stock price risk	X7
Risk of commodity price	X8
Concentration risk	X9
The quality of reviewing loan stages and process	X10
Supervising how to use the loan	X11
Customer assessment and Validation System	X12
Risk of embezzlement and financial abuse	X13
Recruitment techniques, appointment and work environment security	X14

Title	symbol
The risk of weak internal controls	X15
Risk of failure to complete the transaction	X16
Frequent changes in regulations and guidelines due to government political risk	X17

*Source: Author*

Durand (1941), was the first analysis of a distinction based on the results Fisher used in his study to investigate this matter, which are variable in terms of provider loan is important and what characteristics are statistically for risk management are impressive credentials. His most important variables examined included: job seekers, job stability, the number of years of residence in the current location, bank accounts, life insurance policies and savings, gender and pay the monthly installments of the loan applicant. Durand first model formulated loan information, experiences obtained from the use of the loan for the granting of credit loans without having to experts. He also made recommendations for credit risk analysis. Many experts, Durand established credit scoring system known today.

Koopman and Lucas (2003), in his study believe that credit risk is almost always move in line with macroeconomic variables and the risk management process is an important issue. They use the information in the field 97-1993 times gross domestic product, credit spread has tried commercial failure, the above opinion in that regard. The results show their relation to the cyclical behavior of the "credit margin" and "gross domestic product" in ordinary commercial sequences (six years) there.

Mohammed Akmal and Mahmoud Salem (2008) in an article entitled "Study of technical efficiency of the banking sector in Pakistan", using data from 30 banks (4 state-owned banks, 18 local banks and 8 foreign banks) and DEA two-step review works of bank-specific factors and macroeconomic factors on the bank's performance. In the first phase of the data envelopment analysis method technical efficiency and scale used for the calculation and then using Tobit regression was conducted to evaluate the effects of macroeconomic and bank-specific. The results showed that banking performance improved in 2000 compared to local banks and foreign banks in private and state-owned banks were more efficient.

Espinoza and Prasad (2010), began a study entitled "Factors Affecting Non-current loans" using data, about 80 banks in the Persian Gulf. The results of this study suggest that this species:

- Loan Non-Current ratio increases with the economic slowdown.
- Non-Current interest rates led to an increase in the loan.
- Larger banks as well as banks with lower cost of non-current loans lower.
- Increase the level of credit leads to an increase in the level of Non-Current loan elderly in the future.

Castro (2013), a study entitled "Factors macroeconomic credit risk in the banking system: the GI PSI" did. In this study, the relationship between macroeconomic developments and credit risk in countries "Greece, Ireland, Portugal, Spain, and Italy recently due to adverse economic and financial conditions have affected, were studied.

### 3. RESEARCH METHODOLOGY

The preferred method of the present research, network process of ANP, a technique decision making multi-criteria appropriate to take a decision on the issue of the criteria for qualitative and quantitative, and can be issues with dependency relationships inside and outside the influence of the cluster (feedback) offline cluster of standards and options can be solved. ANP widespread applications in various decisions, such as predicting the financial crisis, the forecast macroeconomic situation, the issue of outsourcing manufacturing activities, locating the equipment of choice project selection and selection of suppliers of machines (S. Hashemi and F. Dehghanian, 1432,6- 6-12)

1. ANP theoretical hourly basis based on powerful tool called super matrixes, for systems with established interdependence and feedback. The concept is super matrixes like Markov chain process modeling and implementation of network analysis in a matter of deciding to do the following steps are necessary (A. Mohammadi Lord, 1430, 53-145): (1) determine the criteria for the decision making process necessary is achieved with the help of senior managers or staff who measures are included in the final decision, appoint one.

2. Establishing a network: the determined decision criteria, these criteria can be grouped in cluster-related. Relations should also impact / influence on each other to determine the criteria and clusters. This step is the most important part of a network of analytical decision-making.

3. Performing comparing the gain vector priorities: comparisons in this step is done. According to the framework decision is one hour. The value of equal importance, relatively little importance intense and extraordinary importance attributed numerical values from 1 to 9. This comparison includes comparison of clusters and clusters of elements. Compare clusters to obtain the interactions between clusters to obtain cluster interactions are done with their priorities. In a pairwise comparison matrix, the value of the order is reversed,  $a_{ji} = \frac{1}{a_{ij}}$  clusters is necessary after comparing paired comparison matrix is normal. To Do If  $A = [a_{ij}]$  pairwise comparison matrix clusters, then the normal matrix in the form of equation (1) will be.

Equation (1) 
$$A = \left[ \frac{a_{ij}}{\sum_j a_{ij}} \right]$$

Also pairwise comparison of each of the elements inside the clusters in terms of its impact on any other element or elements in its cluster is done.

4. Special matrix calculations: in network analysis in the form of a matrix of pairwise comparisons are made and priority local Vector with an estimate of the relative importance of elements or clusters obtained can be obtained by solving the equation 2-7 where A matrix of paired comparisons, and in particular the vector and the vector quantity A is  $I_{max}$ :

Equation (2) 
$$(A - I_{max} * I) * W = 0$$

To calculate the normal vector is especially the comparison matrix and then, the average value of each row of a particular vector for the vector version of criteria in order to be special.

$$\begin{bmatrix} a_{11} & \dots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \dots & a_{nn} \end{bmatrix} \rightarrow \begin{bmatrix} a_{11}/\sum_{j=1}^n a_{1j} & \dots & a_{1n}/\sum_{j=1}^n a_{1j} \\ \vdots & \ddots & \vdots \\ a_{n1}/\sum_{j=1}^n a_{nj} & \dots & a_{nn}/\sum_{j=1}^n a_{nj} \end{bmatrix} \rightarrow \begin{bmatrix} \frac{\sum_{j=1}^n a_{1j}}{n} \\ \frac{\sum_{j=1}^n a_{2j}}{n} \\ \vdots \\ \frac{\sum_{j=1}^n a_{nj}}{n} \end{bmatrix} = \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix}$$

Equation (3)

Special super matrixes uneven: the meeting of special vectors derived from paired comparisons of elements in a matrix, particularly the uneven  $n * n$  super matrixes can be achieved. Special super matrixes include horizontal blocks all clusters in terms of the criteria or standards is controlled or uncontrolled. The super matrixes, each column is composed of clusters that each cluster represents the vector elements, especially paired comparisons of those, to the criterion of the upper control column.

To use the technique ANP and its application to various issues, can be software such as Ecnet, Superdecision or math programs such as Excel, Maple and Mathematica used (500, 2007, D. Gurpinar and C. Gencer), may be managers and investors prefer simpler methods for their decisions so if the technique ANP of user-friendly software such as Super decision that by the year contribute the development is used, it is far easier to be in addition to acceptable results in the decision-making offers. In this study, the software is used Super decision to solve the problem.

The study population consisted of all managers and professionals, the Bank provided expertise that is involved in research in addition to the surveys and meetings of expert specialists to 8 of banking experts that the managers and bank experts were referred to experts to have expertise indices were as follows:

- Related technical knowledge at the graduate level.
- Work experience in related jobs.
- Having graduate degrees.

As well as to collect data and field research methods were used libraries. There are several methods of data collection methods were used in this study during which banking experts to study the criteria for test and compared using the whole time.

#### 4. IMPLEMENTATION PROCESS AND RESULTS

**Step One:** Determine the elements of the system

The research identified 17 criteria are the same elements.

**Step Two:** Determine the importance of the criterion based on objective

Given at the vertices of a graph elements, and relationships that should govern the relationship between the stations or points will be given. For example, the element A to the element B influences? Or vice versa? Or interact? Or no effect on each other?

Elements of pair-wise comparisons and judgments of experts to communicate directly with each other elements can be questioned. Then the group decision-making to achieve consensus of an expert panel for the relationship between any two elements A and B may apply the charges.

**Step Three:** Determine the importance of standards with regard to the interdependence between the criteria by comparing test criteria

At this point the importance of interdependence criteria, according to criteria to be determined. In fact, the importance of standards with regard to the interdependence between the criteria is calculated.

**Table 2. Matrix of paired comparisons of criteria related to currency exchange rate risk**

Currency exchange rate risk	Commodity Price Risk	Monitoring the use of loan
Commodity Price Risk	1	4.1531
Monitoring the use of loan	0.2408	1

*Source: Author*

**Table 3. Matrix of paired comparisons of criteria related to Concentration risk**

Concentration risk	Portfolio risk payment loan	Quality procedures and loan review process	Assessment and accreditation systems of customers	The risk of fraud and financial abuse	Engineering recruitment, appointment and safe working environment
Portfolio risk payment loan	1	0.1944	0.7248	0.1857	0.1354

Concentration risk	Portfolio risk payment loan	Quality procedures and loan review process	Assessment and accreditation systems of customers	The risk of fraud and financial abuse	Engineering recruitment, appointment and safe working environment
Quality procedures and loan review process	5.1440	1	0.3434	0.1944	0.7579
Assessment and accreditation systems of customers	1.3797	2.9121	1	0.2064	0.3281
The risk of fraud and financial abuse	5.3841	5.1435	4.8446	1	0.1825
Engineering recruitment, appointment and safe working environment	7.3841	1.3195	3.0474	5.4782	1

Source: Author

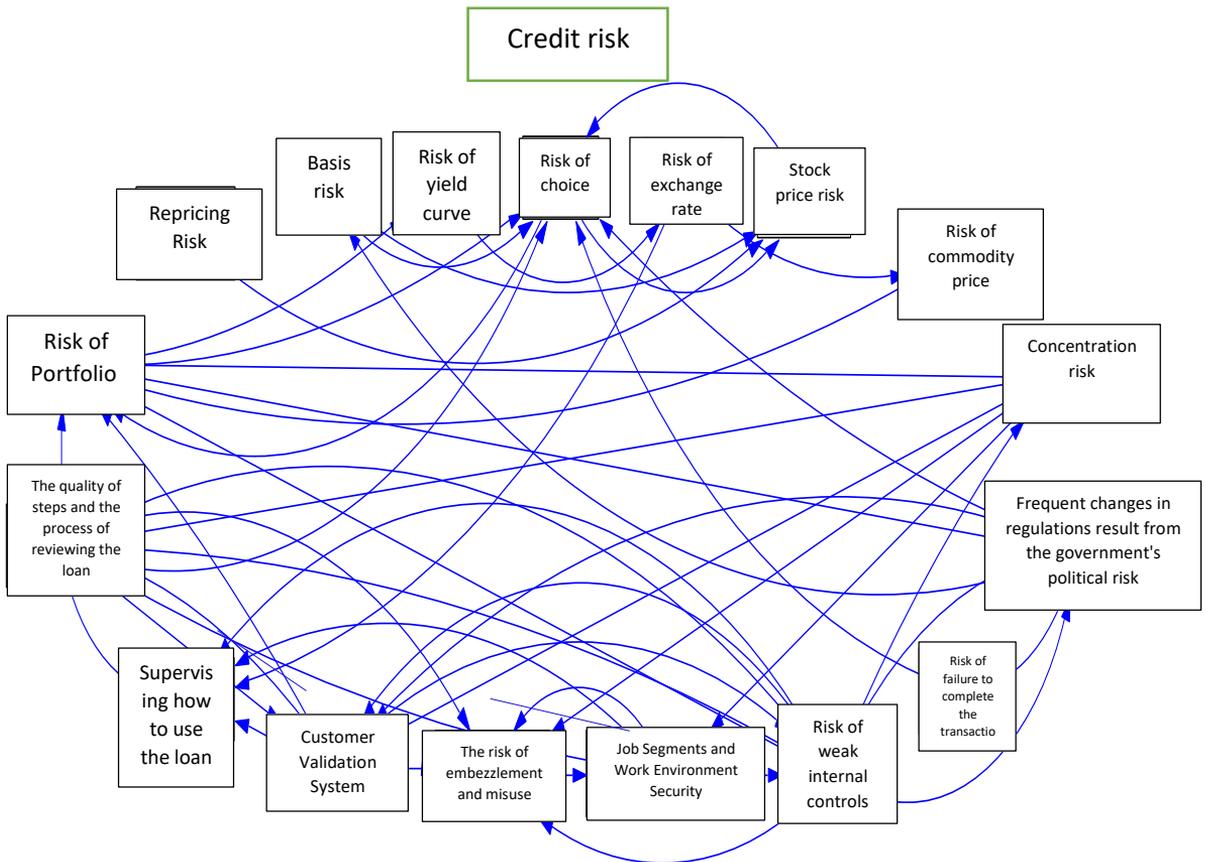


Figure 1. The conceptual model based on relevance criteria

Source: Author

**Table 4. Matrix of paired comparisons of criteria related to Quality procedures and loan review process**

Quality procedures and loan review process	Portfolio risk payment loan	Selection feature Risk	Monitoring the use of loan	Assessment and accreditation systems of customers	The risk of fraud and financial abuse	Internal controls weaknesses risk
Portfolio risk payment loan	1	0.6988	0.1738	0.1944	0.3701	0.3671
Selection feature Risk	1.4310	1	0.2109	0.2233	0.3702	0.3081
Monitoring the use of loan	5.7527	4.7415	1	1.6438	2.7019	1.6438
Assessment and accreditation systems of customers	5.1435	4.4777	0.6084	1	2.9926	1.8882
The risk of fraud and financial abuse	2.7019	2.7018	0.8279	0.3342	1	0.2971
Internal controls weaknesses risk	2.7941	3.2453	0.6084	0.5296	3.3659	1

Source: Author

**Table 5. Matrix of paired comparisons of criteria related to assessment and accreditation systems of customers**

Assessment and accreditation systems of customers	Portfolio risk payment loan	Quality procedures and loan review process	Monitoring the use of loan	The risk of fraud and financial abuse	internal controls weaknesses risk
Portfolio risk payment loan	1	0.1738	0.1818	0.2335	0.1494
Quality procedures and loan review process	6.0933	1	1.4870	2.7019	0.9170
Monitoring the use of loan	5.7537	0.6725	1	3.3522	2.1660
The risk of fraud and financial abuse	4.2827	0.3701	0.2983	1	0.7640
Internal controls weaknesses risk	6.6934	1.0905	0.4617	1.3089	1

Source: Author

**Table 6. Matrix of paired comparisons of criteria related to engineering recruitment, appointment and safe working environment**

<b>Engineering recruitment, appointment and safe working environment</b>	<b>Quality procedures and loan review process</b>	<b>Monitoring the use of loan</b>	<b>The risk of fraud and financial abuse</b>	<b>Internal controls weaknesses risk</b>
Quality procedures and loan review process	1	1.5201	0.7579	0.3665
Monitoring the use of loan	0.6578	1	0.6084	0.3222
The risk of fraud and financial abuse	1.3195	1.6438	1	0.7579
Internal controls weaknesses risk	2.7285	3.1037	1.3195	1

*Source: Author***Table 7. Matrix of paired comparisons of criteria related to regulations frequent changes and guidelines resulting from government political risk**

<b>Regulations frequent changes and guidelines</b>	<b>Portfolio risk payment loan</b>	<b>Basis risk</b>	<b>Selection feature Risk</b>	<b>Assessment and accreditation systems of customers</b>	<b>Internal controls weaknesses risk</b>	<b>Transaction failure risk</b>
Portfolio risk payment loan	1	0.3379	0.8122	0.7152	0.6342	0.4125
Basis risk	2.9594	1	4.8152	4.1234	3.2121	2.7154
Selection feature Risk	1.2312	0.2077	1	0.6231	0.5125	0.3356
Assessment and accreditation systems of customers	1.3982	0.2425	1.6048	1	0.6128	0.2871
Internal controls weaknesses risk	1.5767	0.3113	1.9512	1.6113	1	0.4511
Transaction failure risk	2.4242	0.3683	2.9797	3.4831	2.2168	1

*Source: Author*

**Table 8. Matrix of paired comparisons of criteria related to internal controls weaknesses risk**

Internal controls weaknesses risk	Portfolio risk payment loan	Concentration on risk	Quality procedures and loan review process	Monitoring the use of loan	Assessment and accreditation on systems of customers	The risk of fraud and financial abuse	Transaction failure risk
Portfolio risk payment loan	1	1.2315	0.2221	0.3123	0.4523	0.1122	0.9456
Concentration on risk	0.8120	1	3.2154	3.8127	4.3233	2.6178	5.3159
Quality procedures and loan review process	4.5025	0.3110	1	2.5187	2.9159	0.7145	3.8159
Monitoring the use of loan	3.2020	2.2623	0.3970	1	1.203	0.6711	2.0581
Assessment and accreditation on systems of customers	2.2109	0.2313	0.3429	0.9801	1	0.7980	3.0289
The risk of fraud and financial abuse	8.9126	0.3820	1.3995	1.4900	1.2532	1	6.3190
Transaction failure risk	1.0575	0.1881	0.2621	0.4859	0.3302	0.1583	1

Source: Author

**Table 9. Matrix of paired comparisons of criteria related to credit risk**

Goal	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
X1	1	1.58	2.80	1.35	0.81	0.74	2.10	1.12	0.28	0.17	0.45	0.42	0.66	0.49	0.18	0.29	0.35

	X9	X8	X7	X6	X5	X4	X3	X2	Goal
X10									
5.84	3.55	0.89	0.47	1.35	1.23	0.74	0.35	0.63	X1
7.51	5.18	1.40	0.71	2.11	1.77	1.16	0.56	1	X2
8.92	7.14	2.42	1.34	3.78	3.42	1.95	1	1.77	X3
6.45	4.60	1.18	0.64	1.82	1.64	1	0.51	0.86	X4
4.95	2.80	0.71	0.37	1.09	1	0.60	0.29	0.56	X5
4.52	2.64	0.65	0.35	1	0.91	0.54	0.26	0.47	X6
8.19	6.25	1.82	1	2.84	2.69	1.55	0.74	1.40	X7
6.0241	4.01	1	0.54	1.51	1.39	0.84	0.41	0.71	X8
1.51	1	0.24	0.16	0.37	0.35	0.21	0.14	0.19	X9
1	0.66	0.16	0.12	0.22	0.20	0.15	0.11	0.13	X10
2.64	1.76	0.40	0.22	0.61	0.56	0.33	0.17	0.29	X11
2.47	1.59	0.37	0.20	0.57	0.50	0.31	0.15	0.27	X12
3.98	2.45	0.58	0.35	0.88	0.81	0.49	0.23	0.41	X13
2.89	1.83	0.43	0.25	0.65	0.60	0.36	0.18	0.29	X14
1.23	0.70	0.16	0.13	0.24	0.21	0.16	0.13	0.14	X15
9.00	8.69	3.03	1.60	4.64	2.78	2.57	0.82	2.25	X16
2.05	1.27	0.31	0.18	0.48	0.51	0.25	0.17	0.24	X17

Goal	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
X11	2.22	3.38	5.84	3.00	1.77	1.62	4.48	2.49	0.56	0.37	1	0.93	1.46	1.11	0.42	6.36	0.77
X12	2.37	3.69	6.49	3.22	1.97	1.73	4.80	2.66	0.62	0.40	1.06	1	1.58	1.24	0.46	7.24	0.84
X13	1.51	2.41	4.18	2.02	1.22	1.12	2.79	1.69	0.40	0.25	0.68	0.63	1	0.5	0.29	5.64	0.54
X14	2.04	3.36	5.34	2.71	1.65	1.51	3.98	2.28	0.54	0.34	0.89	0.80	1.33	1	0.38	6.20	0.71
X15	5.55	7.14	7.51	5.95	4.62	4.11	7.40	6.21	1.42	0.81	2.35	2.16	3.40	2.60	1	8.90	2.04
X16	3.40	0.44	1.21	0.38	0.35	0.21	0.62	0.32	0.11	0.11	0.15	0.13	0.17	0.16	0.11	1	0.12
X17	2.85	4.16	5.81	3.86	1.93	2.06	5.52	3.19	0.78	0.48	1.28	1.18	1.85	1.39	0.49	8.19	1

Source: Author

To measure the reliability of an index called "incompatibility rate" we use. Table 13 inconsistency rate matrix related to network analysis offers. Given that all matrices couple inconsistency rate of less than (0.1) is calculated as a result of those polled approved credit replies.

**Table 10. Compatibility matrix rate for network analysis**

Row	Matrix name	Compatibility rate
1	Loan Portfolio risk	0
2	Basis risk	0
3	selection feature Risk	0.015
4	Currency exchange rate risk	0
5	Concentration risk	0.09
6	Quality procedures and loan review process	0.03



	X15	X14	X13	X12	X11	X10	X9	X8	X7	Factors
	0	0	0	0	0	0	0	0	0	X1
	0	0	0	0	0	0	0	0	0.5	X2
	0	0	0	0	0	0	0	0	0.0832	X3
	0	0	0	0	0	0	0	0	0	X4
	0	0	0	0	0	0	0	0	0.0932	X5
	0	0	0	0	0.0970	0	0	0.4028	0	X6
	0	0	0	0	0	0	0	0	0	X7
	0	0	0	0	0	0	0	0	0	X8
		0.2029	0.2071	0.0660	0	0.1608	0	0	0	X9
0.0989	0	0.0540	0.1358	0.1572	0	0	0	0	0	X10
		0	0	0	0	0	0	0	0	X11
0.1084	0	0.0664	0	0.1578	0.1488	0	0	0	0	X12
	0.5000	0	0	0	0	0	0	0	0	X13
0.2102	0	0.1338	0	0.0762	0.0833	0	0	0	0	X14
0		0.0944	0.0466	0.0461	0.0846	0.1921	0	0	0	X15
0	0	0	0	0	0	0	0	0	0	X16
0.0636	0	0	0.0463	0	0	0	0	0	0	X17

Factors	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
X16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1143
X17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2045	0	0

Source: Author

**Step Five:** Determine the priority (weight) criteria

**Table 12. The calculated weight for each criterion using the ANP method**

Criterion code	Criterion name	Criterion weight
X1	Portfolio Risk loan	0.0291
X2	Re-pricing risk	0.02123
X3	Basis risk	0.0128
X4	Risk of early yield curve	0.02439
X5	Risk of choice ability	0.03839
X6	Currency exchange rate risk	0.04335
X7	Stock price risk	0.01649
X8	Risk of commodity price	0.02859
X9	Concentration risk	0.10949
X10	The quality of reviewing loan stages and process	0.16518
X11	Supervising how to use the loan	0.06936
X12	Customer assessment and Validation System	0.07554
X13	Risk of embezzlement and financial abuse	0.04868
X14	Recruitment techniques, appointment and work environment security	0.06388
X15	The risk of weak internal controls	0.15067
X16	Risk of failure to complete the transaction	0.01668
X17	Frequent changes in regulations and guidelines due to government political risk	0.08618

Source: Author

## 5. CONCLUSIONS AND DISCUSSION

Banks face risks in their operations to be able to eliminate them, but it allows you to manage there. To survive, banks must control risk and to identify factors affecting the various risks themselves. In this regard, the credit risk of the bank's risk can be cited. The aim of this research is to prioritize criteria for credit risk using network analysis process (ANP) is. In this research, risk factors, including 17 variable affecting credit risk were identified using analytical network process (ANP) to prioritize the factors affecting the credit risk there.

By analyzing the research criteria using analytical network process (ANP) found that of the 17 criteria identified effective credit risk in banks, the benchmark of quality processes and procedures for review of the loan, the risk weaknesses in internal controls, concentration risk the whole system has the highest weighting coefficient in the words, of the most important criteria considered in the whole system. The basis

risk criteria, risk, stock price and risks of the transaction to the lowest index compared to other research criteria are weighted.

Priority factors affecting the credit risk on the basis of findings by the quality of the process and the vetting process loan, the risk weaknesses in internal controls, risk concentration, frequent changes in regulations and instruction, due to political risk administration, evaluation and validation customers, monitoring the use loan, Engineering Recruitment, appointment and safe working environment, the risk of fraud and financial abuse, the risk of currency exchange rates, risk selection capabilities, portfolio risk loan, the risk of commodity price risk, yield curve risk pricing again, no transaction risk, stock price risk, basis risk.

The results provide evidence that the following suggestions are offered:

- 1) Credit risk control model using a combination of techniques and analytical network process ANP DMATEL
- 2) Join other macro-economic factors such as unemployment, liquidity growth, savings, investment, international trade, national income, GDP, the impact on credit risk.
- 3) The effect of individual culture, and social organization on credit risk.

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## ANALYSIS OF EFFECTIVE CRITERIA ON CREDIT RISK IN BANKS BY USING THE DEMATEL TECHNIQUE

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### Abstract

*The main goal of this research is the analysis of effective criteria on credit risk by using DEMATEL technique. The statistical society is bank managers and experts (case study on Guilan Saderat Bank), and some questionnaires were used of which 18 numbers of them were distributed between bank experts, and finally every 18 questionnaires were collected. The DEMATEL technique besides MATLAB software was used to answer the research questions and data analysis. According to the analysis of the research criteria using the DEMATEL technique, it is found that the risk measure of internal controls weakness has the most effectiveness on other criteria in the whole system among the 17 identified criterions affecting credit risk in banks. In other words, it is the most important criterion and has the greatest impact and influence on the whole system. The criteria of frequent change in regulations and instructions result of the government political risk is the most sensitive criterion compared to other research criteria. The results of this study can be applied to banks and bankers, financial managers of this field.*

*JEL classification: G34*

*Keywords: credit risk, multi-criteria decision-making, DEMATEL technique*

### 1. INTRODUCTION

Banks and financial institutions face risks as well as other businesses. The nature of financial activities and dealing with concepts such as credit, payment systems and different rates put these institutions at special risks; on the other hand, the rapid development of financial activities, technical innovations and being more complex of financial system make risk management principles as an indispensable component of any financial institution (Hemmati, Mohebi Nejad, 2009).

Since banks are medium to funds, lending activity is one of the important activities of banks. This part of banking activities is at credit risk, and requires the evaluation of borrowers' creditworthiness by banks. In order to reduce this type of risk and the cost of an increase for non-performing loans, banks and credit institutions have great attention to credit risk with regard to the recommendations of the Basel Committee in recent years (Taghavi et al., 2008).

Providing financial loans is one of the most important activities of the country banking system. For lending, the credit rating and the ability level of the recipient loans to repay the origin and interest should be determined. So, one of the important aspects in the process of lending by banks is realistic estimates of the lack of repayment probability by customers by which necessary actions and decisions are taken into account to prevent or cope with potential losses. Some of the consequences of credit control and the implementation of process validation lead to an increase of the cash flow in bank, better decisions-making on lending and increase the confidence of repayment (Fallah et al., 2010).

The study is also important for the following reasons:

Improving the control process of loans and their repayments, and prediction of the losses of non-repayment loans make some relative advantages for banks and credit institutions.

The weakness or lack of effective supervision on the proper implementation of projects and related loans consumption, and prolonged process of setting up projects lead to increase the cost of banks.

Non-performing loans make the great part of potential funding for banks, thus in case of repayment, they increase bank activity power; while cause serious damages to the bank in the case of lack of repayment in today's competitive situation.

Now, a question arises that considering the risk and uncertainty of banks and credit risk management models, can a method be used to select and manage an appropriate set of effective criteria for credit risk in banks?

According to the presented topics and also the theoretical framework of the research, the research questions are as follows:

- How is it possible to analyze portfolio selection criteria using the DEMATEL Technique?
- Which criteria affect and which one are affected?
- Which one is the most important criterion in the system?
- Which criterion has the most impact and which criterion is the most affected?

## 2. THEORETICAL FUNDAMENTALS AND OVERVIEW OF THE RESEARCH BACKGROUND

Credit risk is important and sensitive in monetary and credit institutions, because the resources used to grant credit, indeed the financial institution's debt to shareholders, is people and banks in which by the lack of this cycle, the credibility and debt repayment power of the banks will be weakened. On the hand, the other important point is that in the balance sheet of financial institutions, credit loans and deposits of individuals are regarded as long-term claims and instantaneous debts, respectively; and this means that it's impossible to collect long-term claims in the short term, but repayment of debt is urgently needed, otherwise the institution will face bankruptcy. According to the Basel Committee, credit risk is the likelihood of default on the bank due to special circumstances. This type of risk increases in unfavorable economic conditions, such as economic recession and crisis. Quantifying credit risk gives the appropriate conditions for skills and risk management to the board and senior management. Historical observations or data are required to measure the credit risk. In other words, the credit risk is the probability of postponement, suspicion of the receipt or non-receipt of the original and profits of financial loans which are provided to applicants in the form of loans. Credit risk is important in monetary and credit institutions, because the resources used for loans are indeed the debt of a monetary entity (the bank) to the shareholders of that organization (the bank) in which by the lack of this cycle, both the credibility and capital return power will weaken the shareholders. One of the most important approaches to reducing the credit risk is identification of the degree of measurement and the credit classification of customers, which is called validation (Padganeh, 2010).

In this study, 17 criteria were analyzed for the analysis of effective criteria on credit risk in the following table:

**Table 1. Names of criteria**

Title	Symbol
Portfolio risk of loan	X1
Re-pricing risk	X2
Basis risk	X3
Risk of yield curve	X4
Risk of choice ability	X5
Currency exchange rate risk	X6

Title	Symbol
Stock price risk	X7
Risk of commodity price	X8
Concentration risk	X9
The quality of reviewing loan stages and process	X10
Supervising how to use the loan	X11
Customer assessment and Validation System	X12
Risk of embezzlement and financial abuse	X13
Recruitment techniques, appointment and work environment security	X14
The risk of weak internal controls	X15
Risk of failure to complete the transaction	X16
Frequent changes in regulations and guidelines due to government political risk	X17

*Source: Author*

Durand (1941) was the first one who used differentiation analysis based on Fisher results, and in he addressed which variables are important for the providers of the loan and what characteristics are statistically significant for credit risk management in his study. The most important variables of his test are: applicant occupation, job stability, number of years of residence in the current location, bank accounts, life and savings insurance policies, gender, and the amount of monthly installments that they apply for. The Durand model is the first formulated form of loan information derived from experiences that can be used by donor agencies without the need for credit experts in providing loan. He also introduced recommendations for credit risk analysis. Many experts consider Durand as the founder of today's credit system.

Koopman and Lucas (2003) believed in their study that credit risk moves almost entirely and in the same path with macroeconomic variables, and this is an important point in the risk management process. They have tried to test the belief by using data from 1993-1997 on gross domestic product, credit spread and commercial deficits. The results of their research show that there is a consistent relationship between the "credit spread" and "GDP" in the ordinary trading sequences (six years) in terms of the periodic behavior.

Mohammad Akmal and Mahmood Salem (2008), in a paper entitled "Reviewing the Technical Efficiency of the Banking Division in Pakistan," investigated the effects of bank specific factors and macroeconomic factors on bank efficiency by using information from 30 banks (4 state banks, 18 local banks and 8 foreign banks) and a two-stage data envelopment analysis approach. In the first stage, the data envelopment analysis method was used to estimate the technical efficiency and scale, and then, it investigated macroeconomic and specific banking effects using Tobit regression. The results of the study showed that banking efficiency improved since 2000 and foreign banks were more efficient than private local and state banks.

Espinoza and Prasad (2010), addressed in the study entitled "Investigating the Factors Affecting Non-Current Loan", using information from about 80 banks in the Persian Gulf region. The results of this research are as follows:

- The Non- Current loans ratio increases by declining in economic growth.
- An increase in interest rates leads to an increase in non-current loans.
- Larger banks, as well as lower-cost banks have lower rates of non- current loans.
- Increasing the level of credits lead to increase the level of non-current loans in the future.

Kastro (2013) conducted a study entitled "Macroeconomic Risk Factors in the Banking System: GIPSI Case". In this study, the relationship between macroeconomic progress and credit risk was examined in the countries of "Greece, Ireland, Portugal, Spain, and Italy" where recently affected by unfavorable economic and financial conditions. The findings of this paper show that all the political criteria which can be implemented to promote growth, employment, productivity and competitiveness and to reduce public and external debt in these countries are essential for stabilizing their economies.

### 3. RESEARCH METHODOLOGY

The methodology of this research is the DEMATEL method of multi-criteria decision-making technique. The DEMATEL technique was presented by Fontela and Gabus in 1976. This technique, which is a kind of decision-making methods based on paired comparisons, was first introduced at the Geneva Research Center. This methodology was then used to solve complex problems such as famine, energy, environmental protection, etc. (Troesick et al., 2003). DEMATEL method is one of the decision-making tools based on graph theory that enables us to plan and solve problems; in order to better understanding the causal relationships, we can draw up a map of the multi-criteria network relationships in the cause and effect group (Fontela and Gabus, 1972). This methodology may confirm the interrelationships between variables / criteria or limit the relationships in a developmental and systematic process. The final product of DEMATEL process is to provide graphic-based images that can divide the contributing factors into cause and effect groups, and make the relationship between them understandable as a structural model (Asgharpur 2010).

The statistical society of the study is all managers and specialists of the bank who are experienced; in this research, in addition to field studies and expert meetings, we referred to 18 bank experts who were managers and proficient of the bank. These experts had the following indicators as follows:

- Related technical knowledge at least at the master level.
- Work experience in related businesses
- Having a master degree or higher

Also, field and library methods were used to collect research data. There are several methods for collecting information, which a questionnaire was used here. The bank's experts compared the criteria of research as pair issue by using the Likert spectrum.

### 4. THE PROCESS OF CONDUCTING THE RESEARCH

**Step 1:** identifying the elements that make up the system.

- The elements are the 17 specific criteria of research.

**Step 2:** Put the assumed elements at the vertices of a graph and determine the relationships that should govern the relationship between stations or vertices. Typically, has the element A influences on element B? Or vice versa? Have they interaction or they have no effect on each other?

Comparisons of the elements are in pairs and the judgment of the experts is questioned for direct communication of the elements with each other. Then, we apply the law of group decision-making in order to reach a collective agreement on the judgment of the experts for the possible relationship between both elements A and B.

**Step 3:** We ask the intensity of the final relations of the elements from the experts (in a collective agreement). This intensity was rated from 0 to 10. First, according to the experts' conscience, the relations of the ineffective elements on the zero point were abandoned. Then, the effectiveness of effective elements was determined based on scores 1 to 10 by a survey of experts through a questionnaire.

**Table 2. Likert spectrum**

Very little		Little		Average		Much		Too much		Effect level
1	2	3	4	5	6	7	8	9	10	Score

*Source: Author*





	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
X1	4.6779	0	0	2.2679	0	3.7279	0	0	0	0	0	6.5175	0	0	2.3522	3.4375	0
X2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: Author

**Step 6:** Calculate the Matrix of Total Relationships with MATLAB software

Calculate the infinite sequence set of direct and indirect effects of elements on each other as a geometric progression based on the rules of the graphs. For example, if we call the normalized matrix as M, then computing this sum will require the use of (I-M)<sup>-1</sup>. Indirect effects of the elements are convergent to the inverse matrix, since the direct effects across the chains of the existing graph will be continuously reduced.

The infinite sequence of direct and indirect effects of elements on each other is as follows:

$$T = \lim_{k \rightarrow +\infty} (M^1 + M^2 + \dots + M^k) = M \times (I - M)^{-1} \quad (3)$$



	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
Factor																	
X10	0.1472	0	0	0	0.1427	0	0	0	0	0	0	0	0	0	0	0	0
X11	0	0	0	0	0	0	0	0	0	0.1833	0.1580	0	0.1387	0	0.1024	0	0
X12	0.0588	0	0	0	0	0	0	0	0	0	0	0	0	0.1547	0	0	0
X13	0	0	0	0	0	0	0	0	0	0.1833	0.1580	0	0.1948	0	0.1736	0	0
X14	0	0	0	0	0	0	0	0	0.1674	0.1897	0.1596	0.1186	0.1897	0	0	0	0.0776
X15	0.0975	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X16	0	0	0	0	0.1033	0	0	0	0	0	0	0	0	0	0	0	0
X17	0.1170	0	0.567	0	0.0932	0	0	0	0	0	0	0.1630	0	0	0.0588	0.0860	0

Source: Author

The above equation calculates the possible severity of all direct and indirect relationships (derived from given responses).

The intensity of the indirect relations (of the elements on each other) can also be calculated. This intensity is obtained with the same argument as above from the following geometric progression.

$$I = \lim_{k \rightarrow +\infty} (M^2 + M^3 + \dots + M^k) = M^2 \times (I - M)^{-1} \quad (4)$$

**Table 5: Matrix of total relationships intensity**

	X9	X8	X7	X6	X5	X4	X3	X2	X1	Factor
0.001	0.0004	0.0001	0	0.0001	0.0009	0.0001	0	0	0	X1
0.0197	0.0082	0.0029	0	0.0013	0.0168	0.0013	0.0004	0	0.0006	X2
0.0188	0.0059	0.0132	0.0003	0.0132	0.0121	0.0151	0.0162	0	0.0203	X3
0.1993	0.0017	0.0066	0.0199	0.0066	0.0034	0.0007	0.0004	0	0.0125	X4
0.1144	0.0018	0.0322	0.0004	0.0322	0.0036	0.0194	0.0179	0	0.0225	X5
0.211	0.0165	0.0189	0.0001	0.0189	0.0339	0.0027	0.0009	0	0.0011	X6
0.0318	0.003	0.1222	0.0004	0.1222	0.0061	0.0222	0.0146	0	0.0185	X7
0.1966	0.0013	0.0008	0.0005	0.0008	0.0028	0.0254	0.0168	0.1106	0.0213	X8
0.0022	0.0009	0.0003	0	0.0003	0.0019	0.0001	0	0	0.0001	X9
0.0335	0.0026	0.1619	0	0.1619	0.0054	0.0004	0.0001	0	0.0002	X10
0.0121	0.0015	0.0037	0.0001	0.0037	0.0778	0.0027	0.0774	0	0.0033	X11
0.0271	0.0002	0.0009	0.0027	0.0009	0.0005	0.1359	0.0001	0	0.0017	X12
0.0303	0.0096	0.042	0.1278	0.042	0.0198	0.0043	0.0024		0.0806	X13
0.0018	0.0006	0.0012	0	0.0012	0.0012	0.0014	0.0913		0.1139	X14
0.013	0.0054	0.0019	0	0.0019	0.0111	0.0009	0.0003		0.0004	X15
0	0	0	0	0	0	0	0		0	X16
0.2285	0.0949	0.0335	0.0003	0.0335	0.195	0.0153	0.0051	0	0.0065	X17

	X17	X16	X15	X14	X13	X12	X11	X10	Factor
	0.0051	0	0.0785	0.0002	0	0.0005	0	0.0009	X1
	0.0992	0	0.0181	0.0048	0.002	0.097	0	0.0182	X2
	0.0714	0.0002	0.0167	0.1799	0.0033	0.1112	0	0.083	X3
	0.0203	0.016	0.0412	0.0042	0.155	0.0052	0	0.0305	X4
	0.0932	0.1033	0.2175	0.1991	0.003	0.1428	0	0.2023	X5
	0.2003	0	0.1853	0.0098	0.0004	0.0196	0	0.119	X6
	0.0359	0.0004	0.1862	0.1624	0.0034	0.1632	0	0.2271	X7
	0.0163	0.0004	0.2267	0.1872	0.0049	0.1868	0	0.0048	X8
	0.011	0	0.1694	0.0005	0	0.0011	0	0.002	X9
	0.0318	0	0.0294	0.0016	0.0001	0.0031	0	0.0189	X10
	0.0179	0	0.0195	0.0289	0.0004	0.0201	0	0.0234	X11
	0.0028	0.0022	0.0056	0.0006	0.0211	0.0007		0.0041	X12
	0.1171	0.1034	0.0539	0.0264	0.0007	0.032		0.1945	X13
	0.007	0	0.0103	0.0162	0.0002	0.01		0.0076	X14
	0.0655	0	0.0119	0.0032	0.0001	0.0064		0.012	X15
	0	0	0	0	0	0		0	X16
	0.1529	0.0002	0.2103	0.0563	0.0024	0.1128	0	0.2109	X17

Source: Author

**Step 7:** Create a causal diagram

The next step is to calculate the sum of the rows and columns of the T matrix. The sum of the values of the components in the rows and the sum of the elements of the columns indicates their effectiveness and the level of being affected of the components, respectively. The sum of the rows and columns is obtained using relations (3-4) and (3-5).

$$(D)_{n \times 1} = [\sum_{j=1}^n T_{ij}]_{n \times 1} \quad (D)_{n \times 1} = [\sum_{j=1}^n T_{ij}]_{n \times 1} \quad (5)$$

$$(R)_{1 \times n} = [\sum_{i=1}^n T_{ij}]_{1 \times n}$$

Where C and R are matrices of  $n \times 1$  and  $1 \times n$ , respectively.

In fact, it can be said that  $(R_i + C_i)$  determines the significance of the indices, and the type of relationship between the indices is also determined by  $(R_i - C_i)$ . If  $(R_i - C_i) > 0$ , the relevant criterion is effective and if  $(R_i - C_i) < 0$ , then the relevant criterion is being affected.

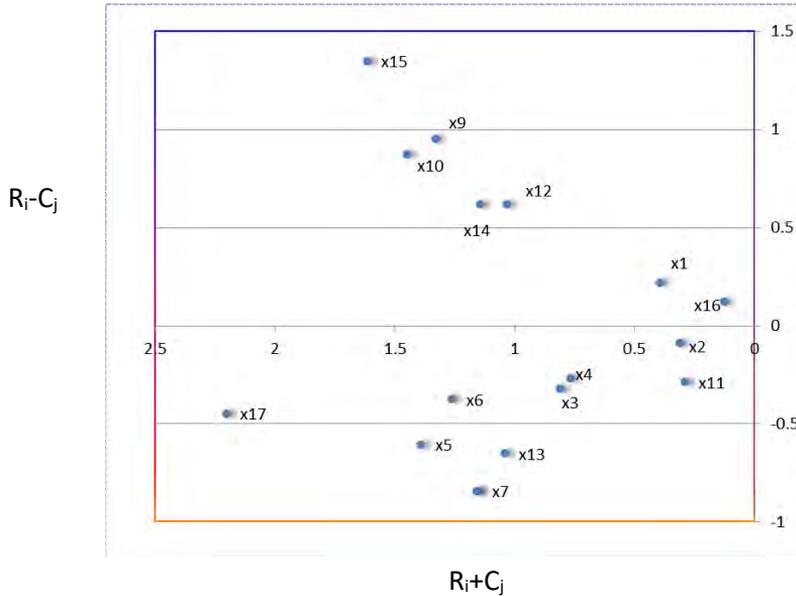


Chart 1. Casual diagram by using the DEMATEL technique

### 5. RESEARCH FINDINGS

Calculate the sum of the rows and columns of the matrix of total relationships. The sum of row  $i$  which denoted by  $R_i$ , represents all direct and indirect effects of element  $i$  on all other factors, and so it can be called the degree of permeability. Similarly, the sum of the column  $j$  which represented as  $C_j$ , is introduced as the degree of being affected of the factor  $j$  from all other factors.

Table 6: matrix of total effectiveness / being affected

Criteria No.	Criteria name	Effectiveness (R <sub>i</sub> )	Influenceness (C <sub>j</sub> )	R <sub>i</sub> + C <sub>j</sub>	R <sub>i</sub> - C <sub>j</sub>
X1	Risk of loan Portfolio	0.3035	0.0877	0.3912	0.2158
X2	Risk of repricing	0.1106	0.2001	0.3107	-0.0895
X3	Basis risk	0.2439	0.5666	0.8105	-0.3227
X4	Risk of yield curve	0.2479	0.5169	0.7648	-0.269
X5	Risk of choice	0.3923	0.9986	1.3909	-0.6063
X6	Risk of exchange rate	0.4423	0.8195	1.2618	-0.3772
X7	Stock price risk	0.1523	0.9974	1.1508	-0.844

Criteria No.	Criteria name	Effectiveness (R <sub>i</sub> )	Influenceness (C <sub>j</sub> )	R <sub>i</sub> + C <sub>j</sub>	R <sub>i</sub> - C <sub>j</sub>
X8	Risk of commodity price	0.1545	1.0022	1.1567	-0.8477
X9	concentration Risk	1.1411	0.1895	1.3306	0.9516
X10	Frequent changes in regulations result from the government's political risk	1.1592	0.289	1.4482	0.8702
X11	Risk of failure to complete the transaction	0	0.2888	0.2888	-0.2888
X12	Risk of weak internal controls	0.8252	0.2062	1.0314	0.619
X13	Job Segments and Work Environment Security	0.1932	0.8457	1.0389	-0.6525
X14	The risk of embezzlement and misuse	0.8812	0.2627	1.144	0.6186
X15	Customer Validation System	1.4805	0.1321	1.6126	1.3484
X16	Supervising how to use the loan	0.1232	0	0.1231	0.1231
X17	The quality of steps and the process of reviewing the loan	0.8759	1.3249	2.2008	-0.449

*Source: Author*

## 6. CONCLUSION AND DISCUSSION

Bank-based financing system in Iran's economy shows the important role of the banking system on the economic performance of the country. Indeed, any weaknesses and disruptions in the performance of the banking system of the country can lead to significant harmful effects in all sectors of the economy. On the one hand, banking is associated with various risks in which credit risk is one of the most important. The purpose of this research is to evaluate and analyze the effective criteria for credit risk in banks. In the present study, the effective factors on credit risk first were identified including 17 variables, and then we analyzed the effective factors on credit risk by using the DEMATEL technique.

Also, in response to research questions, it was found that the risk of internal controls weaknesses, the concentration risk, the quality of stages and the process of loan review, recruitment techniques, assignment and work environment security, customer assessment and validation system, portfolio loan risk, and the risk of Non-performing transaction are effective factors, and risk of stock prices, risk of abuse and financial

mismanagement, risk of choice, frequent changes in regulations and guidelines resulting from the political risk of government, risk of exchange rate, the basis risk, the monitoring of the use of the loan, the risk of yield curve, and the risk of re-pricing are factors which were been affected. Among the criteria, the risk of internal controls weaknesses has the most effectiveness, and frequent changes in regulations and guidelines result from the government's political risk is the most affected one. Given the total effectiveness and being affected of factors, the risk of internal controls weakness has the greatest importance.

The research results provide evidence that the following suggestions are possible:

- 1)Prioritizing and comparing research criteria by using the ANP network analysis process and other multi-criteria decision making methods.
- 2)Designing a risk credit controlling model by using the combination of the DEMATEL technique and the ANP network analysis process
- 3)Adding other macroeconomic factors such as unemployment, liquidity growth, savings, investment, international trade, national income, and GDP which affect credit risk.

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# HUMAN RESOURCES MANAGEMENT OF MULTI NATIONAL MANUFACTURING MILITARY

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## Abstract

*The purpose of this study was to review the human resources management of multinational Companies manufacturing military. This study was analytical descriptive and the scroll type of this Study was questionnaire. For information gathering about test assumption we used of questionnaire. The way that after selecting the sample from the studied population that included all multinational companies manufacturing military, questionnaires were replicated to the desired number and emails to this company were given to their top managers. The sample size is based on Morgan s model and in selection of sample random sampling was used. After gathering information data was analyzed using SPSS software. Then in inferential part the T test and LOON test were used. Results showed that human resources management of multinational companies manufacturing military. In both normal and crisis condition has difference meaning. Also the results showed that collision style, functional management, strategies for attracting and maintaining and using and developing of human resources, different types of strategies for human resources management and working out the method used human resources management in multinational companies manufacturing military in normal and crisis condition has difference meaning.*

*JEL classification: J24*

*Keywords: Human resources management, The multinational companies, Manufacturing military.*

## 1. INTRODUCTION

Human resources are capital that is not diminished with over time and it is the only asset of the Organization that has ability to grow and cooperate in the activities and it leads to increased value and competitive advantage. Therefore, the ability to create and define specific programs in organization affects the performance of the organization. The purpose of human management is the policies and actions needed to implement part of the task of management that it depends on the aspects of employee activity. Especially in recruiting, training employee, performance evaluation, giving bonuses, and create a healthy and fair environment for company employees. (1)

Managing human resources concentrates on internal consistency and coordination of human resources management practices for its creation the skills and abilities of the staff that supports competitive strategies and achieves business goals. The importance of human resources management is increasing. Because human management emphasizes a knowledge based economy, which employees are considered as the main component for achieving competitive advantages. (2) Decisions and actions of management that will shape their creation skills and abilities of employees throughout the organization that encourage value and innovation and thus support competitive advantages. Today multinational are undoubtedly one of the most influential actors in international community. Actors who are not only subject to international rules and imposed by other actors in internal community but because of the enormous power and intense of countries, institutions of international organizations as individuals and internationally accountable authorities may be affected by indirect actions and laws. (3) Today any military and civilian quality goods and services will be excluded from competition market. In this field of competition and mobility, the only means capable of survival will be that they will be able to use all their full of human resources and tools and those who adopt the traditional management model that is based on the leadership and leadership of the bureaucrats are subject to defeat and waste inventory. The objectives of the human resources management system in the law

enforcement force are the strategic objectives of the organization which is an effective strategic objective for the security of the society. Based on this approach organization that carefully map their human resources and strategy into higher performance than organization that do not do this. (4)

By improving the human resources management, the duties of the police can be followed with better quality. Homeland security and defense of national resources as the first and most essential factor in ensuring the security of all progress and development are known. Any weakness or failleures in this area can cause irreparable damage to the security of the country. Therefore, the ability and power of military rehabilitation and equipment readiness in the armed forces will guarantee the maintenance of the system and will test the security and health of the country. (5)

The question is that what is the features the management of human resources of multinational companies manufacturing military?

How the deal the management of resources with his staff in normal and critical condition? How are strategies related to the attraction maintenance and use of human resources in multinational companies? To answer these questions given the importance of the subjects mentioned, the purpose of this study is management of multinational companies manufacturing military. (6) What is being studied in this project is the management of these companies. Therefore, this research begins with brief introduction and statement of the problem in the first chapter which called general chapter.

In second chapter theoretical foundations are accompanied by a review of resources and prior research on the subject.

The third chapter of this study, the research methodology will be followed up with the implementation steps. In fourth chapter the research results are obtained and in chapter five conclusions and suggestions are made. The necessity of doing this research is that today without the use of human resources management and particularly for multinational companies which condition are harder for them.

It cannot say any things in the market and the performance of international companies is Influenced by management human resources. The most effective way to achieve a competitive advantage in the current situation is too make employees more efficient through their improvement and what is important in the development of human resources is that improvement of human resource does not provide only technical and specialized training, instead should have to pay more attention to staff development.(11-13) However, in multinational companies manufacturing military, human resources are a strategic source for competition it is an integral part of strategic planning topics and most of companies programs and resources in these companies have a high degree of strategic nature. One of the main factors leading a new approach to management human resource of these multinational companies is the process of technological change and changes, social and economic in the internal and external environment of organizations that are constantly faced with it. Moreover, the type of companies wants to match with the changes and in normal and crisis as war and behavior and correct encounters management human resources and attitude towards their employees. There must have a comprehensive vision and strategy, and considers a variety of requirements. (14-17)

Nowadays, the most basic competitive asset of organization, is skilled human resource or informational staff. At the same time many organization lacking expertise and skills. Which can effectively provide strategic human resource plans. (18)

The result of this study can be useful in the scientific field for researcher that study in this field and management human resources related areas in different companies and in multinational companies and particularly international companies manufacturing military and bring new dimensions to them. Also in application field results can have a clear message for authorities of institutions and military organization and also multinational companies that they have better planning for improvement of management human resources. The results of this study can accelerate the implementation process of management human resources and components of it in the organization and managers and authorities of these organization perceive of the importance of quick management human resources in their organizations. Also in applied term demodulation of management human resources in organization have results that all organizations gradually benefit from it. (19)

Looking at the literature and related studies on this topic, it is clear that there is no comprehensive study within the country and this study can be as a leading study in this field. That way results of this study can have new ideas for management human resources in multinational companies and particularly follow military equipment companies and identify new plans for responsible planning (20).

**1.1. RESEARCH METHODS AND OBJECTIVES**

Considering the purpose and nature this research, that descriptive analytical and survey type and scroll down of this study is questionnaire. Spatial realm of this study is all the multinational companies manufacturing military in the world.

Time domain of this study is February and March of 1395. This study is in management human resources domain in multinational companies. Sample (statistical society) of this study contains all top managers of multinational companies manufacturing military, with information collected from 320 top managers that work in these companies. Sample size is defined based on Morgan s Curtsy s table and sample random method is used to select sample. The reason for using this method is because the variance intergroup has been high here and reduce it a sample random method is used.

157 subjects were selected as the statistical sample. After gathering information data was analyzed with SPSS software version 24.

Primarily, to verify the validity of the questionnaire attempts were made to use an inventory scale that had previously been proven credible. For structures that did not have a valid scale for them, making the scale based on valid theories and attributes. Some criteria were quite objective and there was no need to prove the validity of their structure. The reliability of the researcher –made questionnaire le1 was determined by calculating the Cronbach s alpha coefficient. In this study Cronbach s alpha coefficient for each related components are presented in table1. The closer the Coefficient to 1. The questionnaire is more reliable. H s alpha with using SPSS software we calculated the Cronbach s alpha coefficient that its value was equal to 0. 82. Therefore the questionnaire has the necessary reliability.

**Table1. Cronbach s alpha coefficient for each of the sub sections of the questionnaire and entire questionnaire**

<b>Cronbach s alpha</b>	<b>Sub-sections</b>
0.79	Demeanor of management human resources
0.80	Performance-management
0.81	Attraction related strategies and maintenance and employment and improvement of human resources
0.81	Types of solutions of this company for management human resources
0.80	Working out the method used management human resources
0.82	Total questionnaire

*Source: Author*

The main purpose of this study is human resources management review of multinational companies Manufacturing military. The research objectives are as follows:

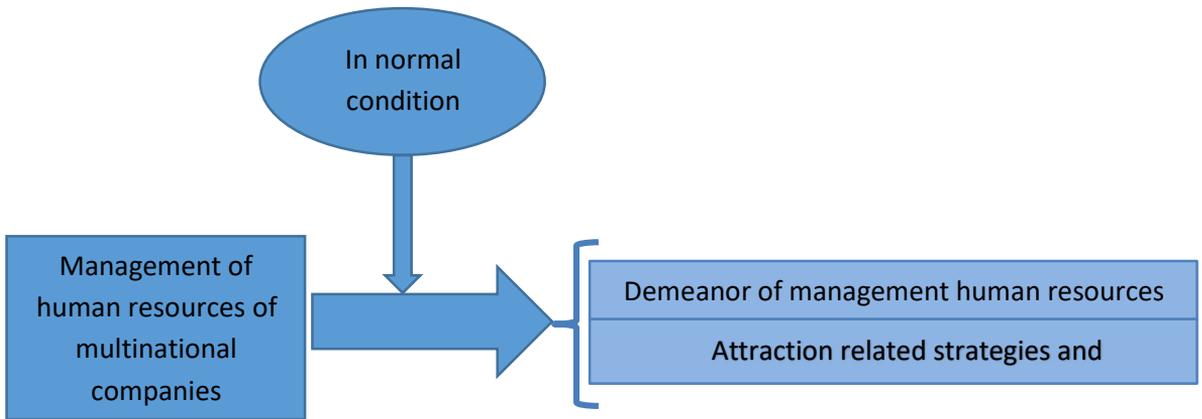
-Behavior (demeanor) of management human resources in multinational companies with company staff in normal and crisis conditions as war.

Performance management of multinational companies manufacturing military in normal and crisis Conditions.

Determine types of solutions for these companies for management human resources and compare them together in normal and crisis conditions.

-Comparison of the working method used of management human resources in these companies.

-The conceptual model of research is shown in figure 1.



**Figure1. The conceptual model of research**  
*Source: Author*

## 2. RESEARCH RESULTS

### 2.1. KOLMOGOROV-SMIRNOV TEST

**Table2. Checking the normality of data**

The significant level	Kolmogorov-Smirnov statistic	Variables
.096	.0128	Demeanor of management human resources
.093	.079	Performance management
.070	.103	Related strategies
.0102	.119	Types of solutions
.054	.095	Efficiency
.059	.087	Management human resources

*Source: Author*

Considering that all levels are significantly more than 0/05, therefore the zero hypothesis is based on the normalization of the data is acceptable. Therefore, parametric test can be used. It is noteworthy that variables of research are obtained by averaging the relevant questions.

### 2.2. INFERENCE ANALYSIS OF FINDING

The hypothesis test in statistic is to examine claims or assumptions about distribution parameters in statistical societies. In this method, zero hypothesis is investigated which is chosen according to the subject of the hypothetical study as an alternative hypothesis to be tested correctly each one of them is tested. In this research independent test is used to answer the research question and hypothesis.

**2.2.1. Review the main hypothesis**

Hypothesis: management human resources of the multinational companies of manufacturing Military in normal and crisis condition have significant difference. In order to examine this hypothesis first, the LOON test is performed. In this zero-parity equation versus inequality of variances will be tested.

**Table 3. LOON test for the main research hypothesis**

<b>Significant level</b>	<b>F statistics</b>	<b>Loon test</b>
.000	12.351	

*Source: Author*

Considering to significant level, the equation of variance for the main variables (management human Resources) reject. Therefore, the T test of two groups is independent with the hypothesis of variances for the variables.

**Table 4. Review the main hypothesis**

<b>Confidence interval 6 difference</b>	<b>Standard deviation difference</b>	<b>Average difference</b>	<b>Significant level</b>	<b>Degree of freedom</b>	<b>T Statistic</b>	<b>Variable</b>
Upper line 0.81937 bottom limit 1.10395	0.06362	-1.16314	0.000	338.851	18.283	Management human resources

*Source: Author*

Considering the significant level in the table above that it is less than 0.05, therefore demeanor of Management human resources in multinational companies with company’s staffs in normal and crisis condition like war have significant difference.

**2.2.3. Second sub hypothesis**

Performance management of multinational companies of manufacturing military in normal and crisis. Condition have significant difference.

**Table 5. LOON test for the second hypothesis**

<b>Significant level</b>	<b>F Statistic</b>	<b>Loon test</b>
0.513	0.429	

*Source: Author*

Considering to significant level of LOON test, the hypothesis equation of variance is acceptable for Performance management. Therefore, the T test of two groups, assuming the equality of variance for this variable is done.

**Table 6. Testing the second hypothesis of research**

<b>Confidence interval 95% differences</b>	<b>Standard deviation difference</b>	<b>Average difference</b>	<b>Significant t level</b>	<b>Degree of freedom</b>	<b>T Statistic</b>	<b>Variable</b>
Minimum 1.09046 Maximum 0.84817	0.96159	-0.96931	0.000	384	15.737	Management performance

*Source: Author*

Considering to significant level in above table that is less than 0.05, performance management of multinational companies of manufacturing military in normal and crisis condition have significant difference.

### 2.2.4. Third sub hypothesis

Related strategies to attraction and maintenance and development of human resources in Attraction and maintenance and development of human resources is accepted therefore, T test of two independent groups, assuming equality variance for this variable is done.

**Table 7. LOON test for third sub hypothesis**

Significant level	F Statistic	Loon test
0.631	0.231	

*Source: Author*

Attraction and maintenance and development of human resources is accepted therefore, T test of two independent groups. However, the significance level of LOON TEST is accepted. The equation of equality of variances for the related strategies is the attraction and maintenance of the web and the application and development of human resources. Therefore, T-Test of two independents groups is done assuming the equality of variances of this variable assuming equality variance for this variable is done.

**Table 8. Testing the third sub-hypothesis of the research**

Confidence interval %95 difference	Standard deviation difference	Average difference	Significant level	Degree of freedom	T Statistic	Variable
Minimum 1.18588 Maximum 0.87789	0.07830	-1.03189	0.000	347.256	13.179	Strategies related to human resources

*Source: Author*

Considering to significant level in above table that is less 0.05, related strategies to attraction and maintenance and utilization and development of human resources of multinational companies of manufacturing military have significant difference in normal and crisis conditions.

### 2.2.5. The fourth sub hypothesis

Different strategies for human resources in multinational companies in normal and crisis condition have significant difference.

**Table 9. LOON test for fourth sub hypothesis**

Significant level	F Statistic	LOON test
0.338	0.922	

*Source: Author*

Considering to significant level of LOON test equality hypothesis for different strategies for Management human resources is accepted. Therefore, T test for two independent groups, assuming Equality of variance for this variable is accepted.

**Table 10. Fourth sub hypothesis of research**

Confidence interval %95 difference	Standard deviation difference	Average difference	Significant level	Degree of freedom	T Statistic	Variable
Maximum 0.81937 Minimum 1.10394	0.7234	-0.96166	0.000	384	13.293	Different management human resources

*Source: Author*

Considering to significant level in above table that is less than 0.05, different strategies for management human resources in multinational companies of manufacturing military in normal and crisis condition as war have significant difference.

**2.2.6. The fifth sub hypothesis**

Effectiveness of the applied methods of managing resources in different multinational corporations is different in normal and crisis condition like war.

**Table 11. LOON test for fifth sub hypothesis of research**

Significant level	F Statistic	LOON test
0.338	0.992	

*Source: Author*

Considering to significant level of LOON test, equality hypothesis of variance for using the method used of management human resources is accepted. Therefore, T test for two independent groups assuming for this variable done.

**Table 12. Testing of fifth sub hypothesis of research**

Confidence interval %95 difference	Standard deviation difference	Average difference	Significant level	Degree of freedom	T Statistic	Variable
Minimum 1.10394 Maximum 0.81937	0.07234	-0.96166	0.000	0.384	13.293	Detection of method used of management human resources

*Source: Author*

Considering to significant level in above table that is less than 0.05, therefore detection of method Used of management human resources in multinational companies of manufacturing military have Significant difference.

**3. CONCLUSION**

The findings shown that management human resources of multinational companies of manufacturing military in normal and crisis condition have significant difference. Evidence suggests that all industries pass through periods whose rate of change is relatively low, and at intervals between these period there are some critical moments of uncertainly or imbalance in the industry and unrest. In addition, sometimes some companies for gain competitive advantage and excellence causes such situation that in both cases mentioned, other companies are inevitable adopt themselves to new condition and to survive and or due to their impossibility and their ability to function in such space they are defeated and removed from the scene.

**According to the results obtained by this study the following suggestion can be presented:**

- Considering to the results that shows the way of management human resources in multinational Companies with their staff in normal and crisis situation like war is different and normally in war condition management specific human resources is necessary. It is suggested that companies take advantage of successful experiences of management human resources of important companies in crisis situation.
- Because of performance management of multinational companies of manufacturing military in Normal and crisis condition is different, suggested that all performance management in normal period and different be under evaluation and determine their strengths and weaknesses that we are witnessing the best performance management in crisis condition.

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# THE RELATIONSHIP BETWEEN PARTICIPATION IN ARTISTIC COMPETITIONS AND THE ACADEMIC ACHIEVEMENT MOTIVATION OF PRIMARY SCHOOL STUDENTS IN LARESTAN CITY IN THE ACADEMIC YEAR (2015-2016)

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## Abstract

*The purpose of this study is to investigate the relationship between participation in artistic competitions and the academic achievement motivation of primary school students of Larestan in the academic year (2015-2016). The research method is descriptive correlational. The statistical population consisted of all primary school boy students in Larestan city, using Morgan table and a stratified random sampling method and 260 persons were selected as the sample. To collect theoretical foundations, library and Internet methods were used and field method was used to collect data. To assess the variables of the research, a checklist of artistic activities (painting, craftwork, auditory training, storytelling and the show) and the Hermann's motivation development questionnaire were used. Their validity was assessed by using the opinions of professors and reliability of the questionnaires was assessed using Cronbach's alpha method and then were used. Data were analyzed using descriptive and inferential statistics including Pearson correlation coefficient and stepwise regression. Results indicated that there is a significant relationship between artistic activities and academic achievement motivation ( $\text{sig} < 0.05$ ). Also, there was a significant relationship between the dimensions of artistic activities and the motivation of academic achievement ( $\text{sig} < 0.05$ ). The result of stepwise regression was that storytelling, presentation and craft work respectively had the most effect on the amount of motivation for academic achievement.*

*JEL classification: G32*

*Keywords: Artistic competitions, Motivation for academic achievement, Students, Elementary level.*

## 1. INTRODUCTION

The basic goal of education is to achieve full humanity. But the cultivation of a perfect person does not only require the acquisition of knowledge, skills and abilities, but also requires the opening of the mind against what is happening in the world, communicating with others and gaining experience (Bagheri, 2007). The present century is a period of knowledge and information, incredible developments and advancement and development in many aspects of life. It's the world of changes and wonders. A window of science opens to humanity every moment. Nowadays, schools can no longer recognize only the classical sciences and the writings of the ancients and consider transferring as one of their educational goals, but also they must equip their children and youth with their own knowledge and time skills (Pour Zahir, 2014). Since the important condition for the growth and prosperity of any society is the existence of knowledgeable, efficient and creative people, the development and strengthening of the motivation for advancement leads to the creation of energy and the proper direction of the behavior, interests and needs of individuals in line with the valuable and definite goals (Tamanai Far and Gandomi, 2011). The motivation for academic achievement in each society indicates the success of the educational system in targeting and paying attention to the needs of the individual. Therefore, the educational system can be known efficient and successful when students' academic achievement has the highest and highest grades in different periods (Mirzabeigi, 2014). One of the main roles of art is the creation and strengthening of the power of wonder and excitement, which if accompanied with stylization and spiritual refinement, will lead

to positive and constructive creativity, and on the other hand it helps to satisfy the basic and psychological needs of the child, such as the need to express himself. The individual manifests his thoughts and beliefs and feelings by creating different forms of art, in this way, the initiative is also cultivated, and this self-confidence and creativity are effective at all levels of learning. Among the educators, Bloom's views on the role of art in raising the abilities and mental skills can be considered (Bloom, 2013). According to Brody (1977), arts provide human access to knowledge, insight, values, and meanings (for example, introspection, spiritual excellence) that do not exist in any of the other content areas of the curriculum. That is why the purpose of art and participation in artistic activities, especially in schools, is not the artist's becoming an artist, but only to enhance the student's knowledge of his surroundings (quoted by Fallahi et al., 2011). It's safe to say that all children love art activities. They experience defeat and victory in such activities and in carrying out practical tasks, designing and building. In this way, the ground for creativity and their development is provided (NavabSafavi et al., 2008). Therefore, art and participation in artistic competitions can be considered as one of the most effective means and methods of human education in the present day that its results and works in various aspects, especially in terms of creativity and motivation for advancement, are among the most important. Considering that art can lead him into evolutionary stages by taking into account his great needs, the need to use it in schools in order to grow creativity and promote academic motivation is felt more and more and since the art is the student's interest and it has a high status in educational methods, it can serve as a tool for educating students in different educational period and make the ultimate goals of the education system. Art has long been the subject of attention by psychoanalysts and prominent psychologists, and numerous studies and studies have been conducted by them on investigating the mental states of the artist and the psychological analysis of the artwork. Freud examined numerous works of art in the form of poetry, plays and stories from the perspective of psychoanalysis during his career. He considers artistic activities based on deprivation of life and backward desires. He also believes that the pleasures of literature and art are due to psychological pressures and conflicts. According to him, the psychological refinement caused by the creation of works of art leads to the release of excitement, moderation of the psychological pressure and relaxation of the artist (Nabavi, 2013). Considering that no research has been done similar to this research and since Iran does not pay enough attention to the subject of art and teaching in schools, this research was necessary. This paper seeks to answer the question of whether there is a significant relationship between students' participation in artistic competitions and the academic achievement motivation of students in elementary school in Larestan?

## 2. RESEARCH METHOD

The present study, with respect to the purpose is an applied research and from the point of view of data collection is a descriptive field study. The statistical population of this research includes all students of elementary school boy in Larestan. The sample of this research was also obtained using the Morgan table which 260 students were selected as samples using random stratified random sampling. In this research, theoretical foundations of the research have been collected using library studies. As well as data collected by field method. In the field method, the questionnaire is one of the most common ways of collecting information. In this research, a questionnaire was used that included the checklist of artistic activities and the Hermans Progress Motivation Scale, the students' checklists list included 20 artistic activities in 5 fields, including painting, crafting, listening, storytelling, and presentation, with scores of 1 to 5 points and arranged by the art teacher after observing the performance and performance of each session. Hermans' Achievement Motivation Scale (1970) provided an initial scale of 92 items and completed the cluster analysis as 29 incomplete sentences. Hermans calculated the correlation coefficients of each material with the total score of the motive for progress and considered the test to be valid. Correlation coefficients ranged from 0.30 to 0.57. This scale has been used by many scholars in Iran. Hooman and Asgari (2000) obtained the alpha coefficient for about 40.8 items, equal to 0.87. Lavasani (2002) studied the students with alpha coefficient for 29 items equal to 0.71. Here, based on the results of previous studies, the 23-item scale was used to measure student's motivation for progress (RaiesSaadi, 2006). Content validity of this questionnaire has been verified by the theorists of the field of science education and some of the informed people and it is worthwhile. In this research, a questionnaire was used to measure the collected

data from the preliminary studies and SPSS software was used to analyze the data; Therefore, the reliability of the questionnaire or its reliability was calculated using Cronbach's alpha method. In other words, the Cronbach Alpha Coefficient was 0.92 and the academic achievement scale was 0.98, which shows a high reliability of two scales, is in the artistic activities.

### 3. FINDINGS

In this part of the paper, we examine the following assumptions:

1- There is a significant relationship between students' participation in artistic competitions and the motivation for their academic achievement.

**Table 1. Pearson correlation test of students' participation in artistic competitions and the motivation for their academic achievement**

Significant relationship	Significant number (sig)	Correlation Coefficient	Variable names
There is	0.000	0.577	Artistic competitions
			Motivation for academic achievement

*Source: Author*

According to the results of the table, Pearson correlation coefficient for these two variables (0.577) is significant. The observed sig value is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in artistic competitions increases the motivation for their academic achievement.

2- There is a significant relationship between students' participation in drawing competitions and increasing motivation for academic achievement.

**Table 2. Pearson correlation test of students' participation in drawing competitions and increasing motivation for academic achievement**

Significant relationship	Significant number (sig)	Correlation coefficient	Variable names
There is	0.000	0.543	Drawing competitions
			Motivation for academic achievement

*Source: Author*

According to SPSS output, Pearson correlation coefficient for these two variables is 0.543 and the observed significant sig value is less than (sig), which is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in drawing competitions increases the motivation for their academic achievement.

3- There is a significant relationship between students' participation in calligraphy competitions and increasing motivation for academic achievement.

**Table 3. Pearson correlation test of students' participation in calligraphy competitions and increasing motivation for academic achievement**

Significant relationship	Significant number (sig)	Correlation coefficient	Variable names
There is	0.000	0.504	Calligraphy competitions
			Motivation for academic achievement

*Source: Author*

According to SPSS output, Pearson correlation coefficient for these two variables is 0.504 and the observed significant sig value is less than (sig), which is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in calligraphy competitions increases the motivation for their academic achievement.

4. There is a significant relationship between the students' participation in the auditory training competitions and the motivation for academic achievement.

**Table 4. Pearson correlation test of students' participation in auditory training competitions and increasing motivation for academic achievement**

Significant relationship	Significant number (sig)	Correlation coefficient	Variable names
There is	0.000	0.649	Auditory training competitions
			Motivation for academic achievement

*Source: Author*

According to SPSS output, Pearson correlation coefficient for these two variables is 0.649 and the observed significant sig value is less than (sig), which is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in auditory training competitions increases the motivation for their academic achievement.

5. There is a significant relationship between the students' participation in the storytelling competitions and the motivation for academic achievement.

According to SPSS output, Pearson correlation coefficient for these two variables is 0.552 and the observed significant sig value is less than (sig), which is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in storytelling competitions increases the motivation for their academic achievement.

**Table 5. Pearson correlation test of students' participation in storytelling competitions and increasing motivation for academic achievement**

Significant relationship	Significant number (sig)	Correlation coefficient	Variable names
There is	0.000	0.552	Storytelling competitions
			Motivation for academic achievement

Source: Author

6. There is a significant relationship between the students' participation in the show competitions and the motivation for academic achievement.

**Table 6. Pearson correlation test of students' participation in the show competitions and increasing motivation for academic achievement**

Significant relationship	Significant number (sig)	Correlation coefficient	Variable names
There is	0.000	0.528	Show competitions
			Motivation for academic achievement

Source: Author

According to SPSS output, Pearson correlation coefficient for these two variables is 0.528 and the observed significant sig value is less than (sig), which is less than the standard level ( $\alpha = 5\%$ ). Therefore, the H0 assumption is not confirmed at 95% confidence level. There is a significant relationship between these two variables. Regarding the fact that the correlation coefficient between these two variables is positive, it can be said that the direction of change of these two variables has been positive and positive for each other. That means, the participation of students in the show competitions increases the motivation for their academic achievement.

7- The dimensions of participation in artistic competitions are a good predictor of academic achievement motivation.

We enter variables, painting, manual work, auditory education, storytelling and show as independent variables and the motivation for academic achievement as a dependent variable.

**Table 7. Summary of Regression Analysis of Artistic Competitions**

Standard deviation of estimated error	Adjusted $R^2$	$R^2$	R	Model	Pattern
0.445	0.302	305/0	0.552a	1	Step by step
0.432	0.341	346/0	0.558b	2	
0.428	0.353	360/0	0.006c	3	

Source: Author

- a. Prognostic variables: (constant value), story
- b. Prognostic variables: (constant value), story, show
- c. Prognostic variables: (constant value), story, show, calligraphy

Table (4-10) represents the amount of R,  $R^2$ , Adjusted  $R^2$  and standard deviation of estimated error. The value of  $R^2$  is the ratio of the change of motivation to academic achievement that can be predicted or attributed to the variable of the dimensions of the artistic competitions, With regard to the  $R^2$  values

contained in the table, the variables in the artistic competitions explain about 36% of the changes in the motivation of academic achievement. The significance of this prediction is shown by the following one-way variance analysis table.

**Table 8. One-way variance analysis results**

Significance level	F	Average of squares	df	Sum of squares	Model	
000/0a	112/969	22/397	1	22/397	Regression	1
		198/0	258	150/51	Error	
			259	73/547	Total	
000/0b	67/989	12/724	2	25/449	Regression	2
		187/0	257	48/098	Error	
			259	73/547	Total	
000/0c	48/077	8/835	3	26/504	Regression	3
		184/0	256	47/043	Error	
			259	73/547	Total	

Source: Author

- Prognostic variables: (constant value), story
- Prognostic variables: (constant value), story, show
- Prognostic variables: (constant value), story, show, calligraphy

As seen in the table, the obtained F for regression (model 1) is related to the story variable (112.969) degrees of freedom (1, 258) at the level (0.000) is significant. That is, the predicted ratio (regression) with the unpredicted amount (residual) or error is a significant and considerable ratio. Therefore, the results obtained show that the regression model has been able to explain the changes in the dependent variable (academic achievement motivation) by the independent variable of storytelling. Also, this table for model (2), Variants of storytelling and show, are significant simultaneously with F (67.989), degrees of freedom (2,257) at the level (0.000) and also, this table for model (3), Variants of storytelling, show and calligraphy, are significant simultaneously with F (48.77), degrees of freedom (3,256) at the level (0.000) and all of the above applies to these variables.

**Table 9. Regression coefficients of artistic competitions**

Significance level	t	Beta	Error	$\beta$	Model	
000/0	90/22	-	.099	2/27	Constant	1
000/0	62/10	552/0	032/0	337/0	Storytelling	
000/0	27/16	-	137/0	1/97	Constant	2
000/0	15/5	358/0	046/0	219/0	Storytelling	
000/0	03/4	281/0	053/0	216/0	Show	
000/0	21/13	-	137/0	1.816	Constant	3
000/0	71/3	282/0	046/0	173/0	Storytelling	
000/0	03/4	287/0	053/0	214/0	Show	
017/0	40/2	143/0	037/0	089/0	Calligraphy	

Source: Author

Regarding the values of the beta column, it can be said that the variables (factor) of storytelling and show had the highest and calligraphy had the least impact on the student's academic achievement motivation.

## 4. CONCLUSION

The purpose of this study is to investigate the relationship between student participation in artistic competitions and the motivation for academic achievement. In this chapter, we first examined the results of research hypotheses, then compare them with other researches and then we examined the limitations and recommendations of the research.

### **1. There is a significant relationship between students' participation in artistic competitions and the motivation for their academic achievement.**

The results of Table 1 show that there is a significant relationship between students' participation in artistic competitions and the motivation for academic achievement. This finding is consistent with the research findings of the following researchers: Katharine Elsen (2008), GotbiKarami (2012), Williams and Dallgard (2013), Daphne Chaplin (2003), Logal (2014), Safai (2013), Nabavi (2013) and Fallahi et al. (2011). In explaining this finding, it can be said that art in the process of artistic creativity develops personality and expresses what is not spoken, because art is the means of self-expression and is considered as the sincerest language of emotion. Art programs can be considered as the basis for creating visual literacy, simplicity, honesty and deep-seated. Teaching arts also plays an important role in discovering the individual and social abilities of students in life and education (Karimi, 2008). The use of artistic activities leads to learning comprehension, the quality of group activities and participation, and the enjoyment of learning-learning processes, and causes motivation the progress of the curriculum (Mohammadpour, 2003). Therefore, art and participation in artistic competitions can be considered as one of the most effective means and methods of human education in the present day. Its results and works in the various dimensions, especially in terms of creativity and motivation for progress, are the most important.

### **2. There is a significant relationship between students' participation in drawing competitions with increasing motivation for academic achievement.**

The results of Table 2 show that there is a significant relationship between students' participation in drawing competitions and the motivation for academic achievement.

This result is consistent with the results of the Goodarzi (1993), ZeraatiIdeloo (2009), Tamanani (2011), Safai (2013), Nabavi (2013) and Falahi et al (2011), Logal (2014) and Abdali and Isavi(2015). Various studies that have taken place in the field of children's drawing have shown that children's drawing is not meaningless or worthless. But such activities have a lot of content and can be viewed from various aspects of artistic, clinical, and educational education. All children should have the opportunity to paint in a sufficient amount of time, with their personal interest and use of appropriate tools and tools (Abdali and Isavi, 2015). So we can conclude that art is a comfortable haven that the child can expose the own and his thoughts indirectly and with personal privacy and without fear of being evaluated through painting, colors, storytelling, and etc.; As a result, art brings a beautiful way to express its feelings easily and easily in a variety of artistic ways so that the child expresses his true feelings without fear and faces them correctly. Which is critical to improving children with learning difficulties and to motivate students to improve their academic performance.

### **3. There is a significant relationship between students' participation in calligraphy competitions and increasing motivation for academic achievement.**

The results of Table 3 show that there is a significant relationship between student participation in manual work competitions and academic achievement motivation. This result is consistent with the results of Goudarzi's research (1993), ZeraatiIdeloo (2009), Tamanani (2011), Safai (2013), Nabavi (2013), Falahi et al (2011), Logal (2014), Daphne Chaplin (2003) And Mark S. Slaminc (2007).

### **4. There is a significant relationship between students' participation in auditory training and academic achievement motivation.**

The results of Table 4 show that there is a significant relationship between student participation in auditory training and academic achievement motivation. This result is consistent with the results of

Goudarzi's research (1993), ZeraatiIdeloo (2009), Tamanani (2011), Safai (2013), Nabavi (2013), Falahi et al (2011), Logal (2014), Daphne Chaplin (2003) And Mark S. Slaminck (2007).

**5. There is a significant relationship between students' participation in storytelling competitions and academic achievement motivation.**

The results of Table 5 show that there is a significant relationship between student participation in storytelling and academic achievement motivation. This result is consistent with the results of Goudarzi's research (1993), ZeraatiIdeloo (2009), Tamanani (2011), Safai (2013), Nabavi (2013), Falahi et al (2011), Logal (2014), Daphne Chaplin (2003) And Mark S. Slaminck (2007) Ganji and Amirian (2012) and Abdali and Isavi (2015). The role and effect of the story, whether it is from speaking and reading, from the text and the image, is completely self-evident. The use of this method in preschool and elementary schools is essential for teachers and mentors, and in higher education courses they are part of the tacit and innovative activities of some teachers. And it can be said that students' participation in painting competitions increases their progress and their motivation to study.

**6. There is a significant relationship between student participation in the show and the motivation for academic achievement.**

The results of Table 6 show that there is a significant relationship between student participation in the show and academic achievement motivation.

**7. The dimensions of participation in artistic competitions are a good predictor of academic achievement motivation.**

Regarding the  $R^2$  values contained in Table 7, the dimensions of the art competitions explain about 36% of the changes in the motivation of academic achievement. Regarding the values of the beta column in Table 9, it can be said that the variable (factor) of storytelling has the most effect and the employer factor has less effect on the student's academic achievement motivation.

Considering the role and importance of art in the education of schoolchildren, it is recommended by educators and teachers to use it appropriately in teaching methods. Formation of the exhibition from student artwork in schools for various occasions during the school year in order to encourage students to engage in creative and artistic activities. Considering the influence of arts on the development of the personality of children, the development of their creativity and their sense of self-confidence, alongside fine arts, such as flowering, modeling, and craftsmanship, be taught seriously at school. Teachers and parents should consider that children's drawing is based on their imagination. If the imagination and dreams of children be neglected, mocked or futile by parents and educators and they be forced to become realistic, their creativity will be dye. Artistic activities be continuously evaluated and bugs fixed and positive points be strengthened. Implementing similar studies widely across the country. A Survey of Managers, Teachers, Students and Parents on how to improve artistic activities. Examining the causes of failure or even failure to carry out artistic activities in some schools. A specialized and separate study of each art activity in students' academic performance.

One of the limitations of research was the lack of suitable physical space in schools. Due to the fact that the statistical society is limited to the city of Larestan, it is necessary to be precise in generalizing the results. The present study is conducted only in Larestan and in elementary schools, and other results may be obtained in other cities and educational levels according to different factors.

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# INVESTIGATING THE EFFECT OF ORGANIZATIONAL CITIZENSHIP BEHAVIOR ON THE EFFECTIVENESS OF HUMAN RESOURCE MANAGEMENT AND PERFORMANCE IMPROVEMENT OF THE ORGANIZATION

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## Abstract

*Organizational citizenship behavior increases organizational effectiveness and creates a good atmosphere for the organization and facilitates human resource management. Therefore, the effect of organizational citizenship behavior on the effectiveness of HRM and improving organizational performance in central departments of Bank Sepah has been studied in this research. The statistical population of this research is the employees of Sepah Bank Central Offices, which has 1015 people. Using Cochran's formula and simple random sampling method, the sample size was 278 people. From three questionnaires, the effectiveness of human resources management of Busselli and Weil, the questionnaire of the improvement of organizational performance of Hersey and Gold Smith and Organizational Citizenship Behavior Questionnaire of Pandasakov et al has been used. For reliability of research, Cronbach's alpha coefficient has been used which for all structures is higher than 0.7 which shows high convergence credibility. Statistical analysis was performed using Structural Equation Method and Lisrel's 6.5.5 software and the results of the research showed organizational citizenship behavior has effect on human resource management and organizational performance, as well as human resource management has a significant positive mediating effect on the effect of organizational citizenship behavior on organizational performance.*

**JEL classification:** G32

**Keywords:** Organizational Citizenship Behavior, Human Resources Management, Organizational Performance, Organizational Effectiveness.

## 1. INTRODUCTION

One of the reasons for the success of large organizations is that they have employees, who try beyond their formal duties, means that, they have employees who display organizational citizenship behaviors.

Organizer considers the most important advantage of organizational citizenship behavior to increase organizational effectiveness and defines organizational citizenship behavior as a set of voluntary behaviors that are not part of the formal duties of an individual, but nevertheless, he performs and effectively improves the roles of the organization. (Appelbaum et al., 2004) In general, organizational citizenship behavior increases the productivity of management and employees; the release of organizational resources that can be used for more productive purposes; Freeing organizational resources that can be used for more productive purposes; helping coordinating activities both within the organization and between working groups; enhancing the ability of organizations to attract and retain efficient employees.

## 2. THEORETICAL FOUNDATIONS

### 2.1. ORGANIZATIONAL CITIZENSHIP BEHAVIOR

This concept was first introduced to the world of science by Batman and the organ in the early 1980s.

Though before them, people such as Katz and Kahen with differentiation between the role performance and the innovative and spontaneous behaviors of the seventies and eighties, and before them, Chester Barnard, with the expression of the intention to cooperate in 1938, addressed this issue. (Podsakoff, 2000)

Organizational Citizenship Behavior (1988) suggests that organizational citizenship behavior is spontaneous and informed behavior that is not directly or explicitly foreseen by the formal remuneration system, but generally increases the performance of the organization. The purpose of the spontaneous and informed is that this Behavior is not necessarily the role or description of a job, but it is more of a personal choice and, if not done, does not follow punishment (Alicia, 2008).

Also, the individual behavior of organizational citizenship is defined as individual behavior that promotes the effectiveness of the organization's goals through helping the social and psychological environment (Retundo and Sackett, 2002).

In other words, organizational citizenship behavior refers to activities that are not called for, but generally supported by the organization and benefit from it (Eric et al., 2008).

The 2000 Pandasakov studies showed that nearly 30 different types of organizational citizenship behavior dimensions have been identified. The dimensions that attracted the greatest attention of the researchers are: conscientiousness, masculinity, dignity of citizenship, altruism, humility (Castro et al 2004).

## **2.2. ORGANIZATION PERFORMANCE**

So far, a comprehensive definition of the organization's performance has not been provided, and definitions are often used differently depending on the context in question, and it is difficult to measure and define it. A general definition of organizational performance is presented by Stanchard (2002), which states that organizational performance is the result of interactions between different departments and units of the organization. (Norashikin, 2014)

## **2.3. HUMAN RESOURCES MANAGEMENT**

HRM is, in fact, the title posed during the 1970s, although many scholars still use their earlier and old titles generally in synonyms, but many of them believe that human resource management is a concept beyond Manage personnel and includes all of these titles. Human resource management today is considered as a special expertise of management that, more than specialized, more or less around the world, people who put forward the support of employees. For example, in the 1800's, one of the factory owner's Englishman, "Robert O'ean", first examined the human resources needs and talked about improving the working environment (Abtahi, 2006). Human resource management is the identification, selection, recruitment, training and development of human resources in order to achieve different goals of the organization, and the purpose of the organization is a large or small organization that has been created for specific intent and purpose to achieve its goals are people that are working in different levels (Sadat, 2006). Human resource management is a planned and strategic approach to managing the most valuable organizational cases and labor resources. (Alžbeta Kucharčíková2015)

## **2.4. LITERATURE REVIEW AND RESEARCH HISTORY**

Erlen (2003) has studied a special measure of organizational performance and customer service quality at a specific unit level in a study. In this study, a number of chain store units have been selected as samples. The employees of these chain units has answered to the 15 The organizational citizenship behavior has been answered by 15 Organizational citizenship behavior items for assessing the three dimensions of friendship and assistance from foreign customers and customers have also ranked the various departments according to the various aspects of the quality of service provided, in total 249 units with at least 5 employees (at least Individuals required for an analysis group) have answered to the questions.

The results of the study indicate that two variables of conscientiousness and assistance from foreign customers have had a significant relationship with 4 factors of service quality (intimacy, emergency

services, knowledge, service quality and products). (Arlene, 2003)

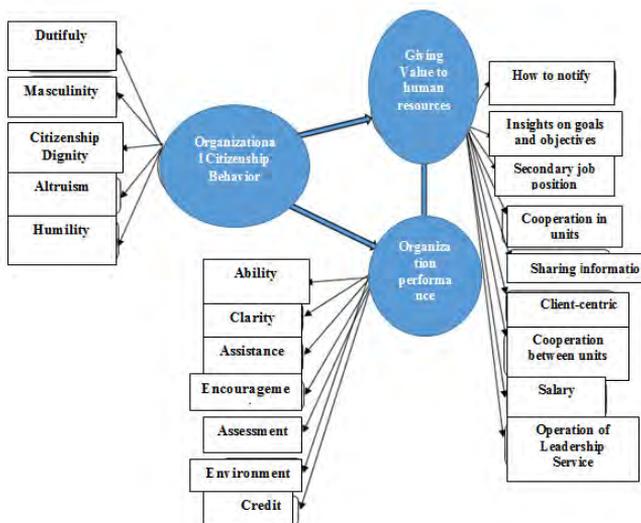
Min Hui Chin (2003) in a study the aim of his study has stated to explain how to improve organizational citizenship behavior as well as how to create a plan to achieve continuous organizational citizenship behavior through formal system and environmental non-formal settings in work place. Organizational citizenship behavior in this study has been described as actions that have the tendency of employees to go beyond their roles. Based on the results of this research, many studies suggest that there is a positive relationship between organizational citizenship behavior with individual characteristics of the relevant unit and organizational performance.

The results of this study indicate that organizational positive atmosphere of human resources of employees' personality and organizational culture is positively related to organizational citizenship behavior. Also, promotion and improvement of organizational citizenship behavior has been introduced as the minimum cost and the best method for trade and the effectiveness of organizational performance. (Min-Huei-Chien2003)

Martin Ruiz (2004) has used the Mayer Model (1997) in a study to measure citizenship behavior that has four dimensions of joyfulness, civic virtue, conscientiousness, and friendship. And to assess the quality of service, the Kuala model, which has 22 items in 5 dimensions of physical appearances (tangibles) responsiveness, reliability, assurance and empathy. To assess customer satisfaction, he has used the Maluels model (1997), which includes nine items, and ultimately the Zeitamel model has used (1996) to measure customers' behavioral intentions, that is has been developed in four dimensions of repurchasing price sensitivity and protest behavior. The results of the study indicate that organizational citizenship behavior of employees has a positive and significant relationship with customer satisfaction and customer behavior and behavioral intentions, as well as there is a positive and significant relationship between quality of services with organizational performance in this study (Martin Ruiz, 2004) Spamen and Zarat in a 2008 in a study examined 32 service institutions with the aim of examining the relationship between disruption and negative performance with organizational behavior in Washington. The results showed that job burnout, inefficiency and organizational citizenship behavior all have a significant relationship with each other, So that, there is a negative relationship between organizational behavior and inefficiency. (Schepman & Zarate, 2008)

## 2.5. CONCEPTUAL MODEL OF RESEARCH

Three questionnaires, the effectiveness of Human Resources Management (BOSE) and Weil (2002), Hersey and Gold Smith institutional Performance Improvement Questionnaire, (2009) and Organizational Citizenship Behavior Questionnaire (1990) have been used in this research.



## 2.6. RESEARCH HYPOTHESES

Organizational citizenship behavior affects human resource management.

Organizational citizenship behavior affects organizational performance.

Human resource management affects organizational performance.

Human resource management has a significant positive mediating effect on the effect of organizational citizenship behavior on organizational performance.

## 3. RESEARCH METHODOLOGY

The research is forward-looking in terms of its purpose and according to the presence of the organization; the distribution of the questionnaire is a survey type. In this research, descriptive statistics and inferential statistics have been used for analyzing the data. First, respondents' demographic status and characteristic is informed using descriptive statistics and then, structural equation modeling using Lisrel8.54 software has been used to investigate and test the hypotheses and investigate the causal relationships of the variables in the research.

### 3.1. STATISTICAL POPULATION

The statistical population of this research is the employees of Sepah Bank Central Offices, whose number is 1015 people. Using the Cochran formula and simple random sampling method, the sample size was selected as 278 people.

**Table 1. Demographic characteristics of the statistical sample**

Index	Items			
	Male	Female		
Gender	(61.2)170	(38.8)108		
Age (years)	Under 30	31 to 40	41 to 50	51 and higher
	(14.7) 41	(45.7)127	(35.6)99	(4)11
Education	Associate Degree	Bachelor	MSc	Phd
	(15.5) 43	(43.2)120	(38.8)108	(2.5)7
Work experience (years)	Less than 5	6 to 10	11 to 20	21 and higher
	(21.6) 60	(31.3)87	(936)100	(11.3)31
Index				

*Source: Author*

As shown in Table 1, most respondents were male (61.2%), aged 31 to 40 years old (45.7%), with undergraduate education (43.2%), work experience 11 to 20 years (36%).

## 4. ANALYSIS OF DATA AND RESEARCH RESULTS

### 4.1. EXAMINING NORMALITY OF THE DATA

According to Table 2, in relation to the components of organizational citizenship behavior questionnaire, the highest scores is related to masculinity with a mean of 4.22 and a standard deviation of 0.444, and the lowest score is related to altruism with 2.20 and standard deviation of 0.620, as well as in the organizational performance questionnaire, the highest score is related to the environmental component with an average of 3.13 and a standard deviation of 0.578, and the lowest score is related to the credit component with an average of 2.5 and a standard deviation of 0.698. Similarly, in HRM questionnaire, the highest score is related to the insight component in goals and purposes with a mean of 4.44 and a standard deviation of 0.412 and the lowest score is related to the component of how to informing with mean of 2.79

and standard deviation of 0.556. Also, due to the fact that in all variables, the values of Skewness and elongation are in the interval (+2, -2). It can be concluded that the distribution of all variables examined is normal.

**Table 2. The values of descriptive index and normality test for research variables**

Variable	Standard deviation ± Mean	Minimum	Maximum	Skewness	Elongation
Dutiful	3.95±0.614	2	5	-0.542	0.262
Masculinity	4.22±0.444	3	5	-0.176	-0.533
Citizenship Dignity	3.94±0.478	2.75	5	0.069	0.155
Altruism	2.20±0.620	1	4.4	1.001	1.75
Humility	3.52±0.642	1.60	5	-0.779	1.098
Ability	2.54±0.472	1.14	3.57	-0.168	-0.280
Clarity	2.63±0.650	1	4.25	-0.379	-0.141
assistance	2.77±0.724	1	5	0.064	0.018
Encouragement	2.79±0.70	1.25	4.25	0.009	-0.473
Assessment	2.57±0.625	1	4.25	-0.016	-0.351
Credit	2.50±0.698	1	4	-0.139	-0.738
Environment	3.13±0.578	1.25	4.5	-0.471	0.340
How to notify	2.79±0.569	1	4	-0.658	0.848
Insights on goals and objectives	4.44±0.412	3	5	-0.506	-0.267
Secondary job position	3.57±0.835	1	5	-0.424	-0.369
Cooperation in units	3.70±0.938	1.57	4.86	-0.664	-0.522
Information system	3.56±1.024	1	5	-0.171	-1.088
Client-centric	3.58±0.870	1.33	5	-0.511	-0.614
Cooperation between units	3.54±0.784	1.67	4.87	-0.341	0.843
Salary	3.61±0.833	1.50	5	0.024	-1.218
Operation Leadership Service	3.62±1.012	1.20	4.80	-0.400	-0.878

Source: Author

#### 4.2. RESULTS OF EXAMINING THE ADEQUACY OF DATA

The KMO index is used for the factor analysis. The value of this index for the research data has obtained as 0.878. The index range is from zero to one, and the sample size data is more suitable for factor analysis whatever this value to be closer to the one. The Bartlett test is also used to examine how the correlation matrix. Bartlett's test, as given in Table (2), is less than 0.05, and the assumption of the existence of the correlation matrix is rejected, and it is concluded that the factor analysis is suitable for identifying the structure of the variables.

**Table 3. The size of the KMO test and Bartlett test by questionnaires**

Organizational Citizenship Behavior Questionnaire	KMO test		0.704
	Bartlett Test	2734.368	368.2734
276		276	
0.001		0.001	
Organizational Performance Questionnaire	KMO		0.009
	Bartlett Test	9183.969	969.9183
		861	861
	0.001	0.001	
Organizational resource management	KMO		0.724
	Bartlett	6577.207	207.6577

Organizational Citizenship Behavior Questionnaire	KMO test		0.704
	questionnaire	Bartlett Test	2734.368
276			276
	Test	0.001	0.001
		946	946
		0.001	0.001

Source: Author

According to the data in Table 3, the KMO index for all three questionnaires is greater than 0.6. Also, the significance level of the Bartlett test is smaller than the value of 0.05 and the assumption of the integrity of the correlation matrix is rejected and it is concluded that the factor analysis is suitable for identifying the structure of the variables.

**Table 4. Acronym Symbol Table, Cronbach Alpha values, Combined Reliability and AVE for Research Components**

Index	Symbol	Cronbach's alpha	Combined reliability	AVE
Organizational Citizenship Behavior	<i>OCB</i>	---	---	---
Dutiful	<i>DUT</i>	0.901	0.894	0.678
Masculinity	<i>CHI</i>	0.894	0.861	0.727
Citizenship Dignity	<i>VOC</i>	0.865	0.861	0.610
Altruism	<i>ALT</i>	0.905	0.900	0.644
Humility	<i>HUM</i>	0.910	0.899	0.641
Organizational Performance	<i>OPE</i>	---	---	---
Ability	<i>ABI</i>	0.919	0.922	0.798
Clarity	<i>CLA</i>	0.931	0.933	0.700
Assistance	<i>HEL</i>	0.875	0.878	0.592
Encouragement	<i>ENC</i>	0.855	0.862	0.611
Assessment	<i>ASS</i>	0.908	0.917	0.787
Credit	<i>CRE</i>	0.875	0.922	0.750
Environment	<i>ENV</i>	0.895	0.936	0.745
Human resources management	<i>HRM</i>	---	---	---
How to notify	<i>HTN</i>	0.860	0.929	0.621
Insights on goals and objectives	<i>BGO</i>	0.858	0.840	0.567
Secondary job position	<i>SPO</i>	0.703	0.709	0.551
Cooperation in units	<i>CIU</i>	0.899	0.905	0.705
Information system	<i>INS</i>	0.871	0.887	0.664
Client-centric	<i>CCE</i>	0.786	0.759	0.613
Cooperation between units	<i>CBU</i>	0.770	0.740	0.588
Salary	<i>SAL</i>	0.791	0.742	0.592
Operation Leadership Service	<i>OLS</i>	0.850	0.856	0.748

Source: Author

As shown in Table (4), Cronbach's alpha for all structures is higher than 0.7, which shows the high convergence credibility. It also states that structures (hidden variables) have a high reputation for fitting the model. Also, the combined stability values for all structure have been reported higher than 0.7, indicating that the structures have good combination reliability.

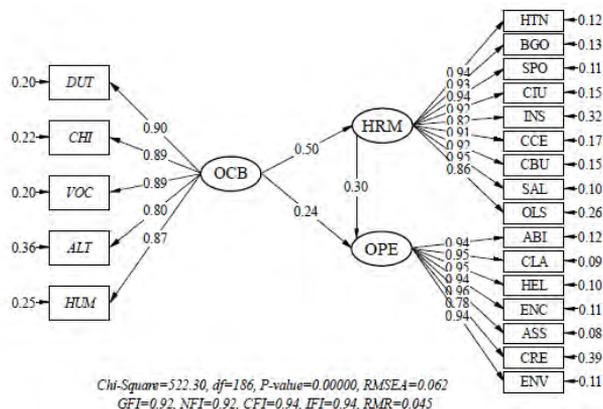
To evaluate the convergent validity, the mean value of the extracted variance (AVE) has been calculated. There is a convergent validity when the combined reliability of 0.7 and AVE are greater than 0.5. Also, the combined reliability should be greater than AVE. In this case, there will be a convergent validity proposition. According to Table (4), all three above conditions have been established, so the structures have convergent validity.

### 4.3. TEST RESULTS OF RESEARCH HYPOTHESES

At this stage, we test the relationships between the research structures. For this purpose, the research model was implemented in Laser Level software. Examining and measuring the measurement models in the early stages of the validation studies is helpful because it can help assess the research and development tools of the structures. Also, analysis of structural models can clarify theoretical weaknesses and contribute to the interpretation of research findings and has played a major role to have a major contribution to future studies; the structural equation modeling involves two major steps to develop and test the model. In developing a researcher model, using all relevant theories, research and information are available to the model design, and at this stage describes the model of causal relationships between variables. The relationship between variables can be a reflection of the hypotheses that inferred the causal relationships between the evident and the variables from the theoretical space. The next stage is the fitness test and the extent to which these theories are aligned with the experimental data collected from a given society [Kalantari, 2009].

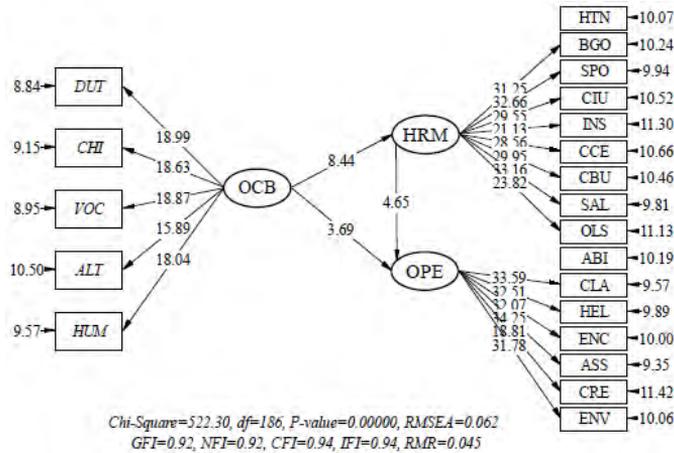
### 4.4. TESTING THE CONCEPTUAL MODEL FITTING

The purpose of evaluating the fit of the whole model is to determine how far the whole model is compatible and agrees with the experimental data. There is a wide range of Goodness of Fit and index that can be used to measure the fitness of the entire model. Unfortunately, none of these are superior to the rest in all respects. Because a particular Goodness of Fit varies depending on the sample size, the estimation method, the complexity of the model, the assumptions about normality, or the combination of the above conditions differently. Therefore, different individuals, depending on the model conditions, may use different index for fitting the model [Kalantari, 2009]. In this section, the conceptual model of research is mapped in the form of a path diagram and is measured using various methods of fitting it. A complete model of structural equations in fact represents a mixture of path diagrams and confirmatory factor analysis. In Figures 1 and 2, the coefficients of standard estimation and significant numbers of structural model of research are observed. Some fitting indices are also visible at the end of these shapes.



**Figure 1: Standardization coefficients of the structural model of the research**

Source: Author



**Figure 2. T-Value Structural Research Model**

Source: Author

Before we discuss the conclusions of the extracted model, we will evaluate the model's fit for goodness. The following table provides the most important structural fitting index:

**Table 5. Structural Model Fit indexes**

Result	Desirable value	Index name	Fit index
2.801	<3.00	Chi square test	$\chi^2/df$
0.062	<0.08	Root Mean Squares Estimated Error	RMSEA
0.045	<0.05	Residual Squares Mean Index	RMR
0.92	>0.90	Good fit index	GFI
0.92	>0.90	Smooth Index of Fitness	NFI
0.94	>0.90	Adaptive fit index	CFI
0.94	>0.90	Increasing fitness index	IFI

Source: Author

One of the best fit index of the structural equations of the root fitness index is the mean of error approximation squares (RMSEA). This value, which is in fact the same as the deviation test of any degree of freedom, should be less than 0.08 for models that have good fitness. Hence, models with a mean square error value of more than 0.08 have poor fit. Another index of fitness is the division of the chi-square by degrees of freedom. This value should be less than 3 (Hooman 2005).

With regard to the LISREL output the chi-square value equal to 522.30 and degrees of freedom has been calculated equal to 186. Therefore, the result of the chi-square division on the degree of freedom for the conceptual model of the research is equal to 2.801, which is an acceptable value. Also, the output of the model shows the value of the root fitness index of the mean square of the error approximation of 0.062. That is an acceptable value. The two above-mentioned indexes, as well as the remaining fitness index, have an acceptable value, this indicates a slight difference between the conceptual model of the research and the observed observational data of the research.

**Table 6. The results of the evaluation of the structural model**

Hypothesis number	Path		Path coefficient ( $\beta$ )	Significant number (T-value)	Test result
	From the variable	To the variable			
1	Organizational Citizenship Behavior	Human resources management	0.50	8.44	Confirmation of hypothesis

Hypothesis number	Path		Path coefficient (β)	Significant number (T-value)	Test result
	From the variable	To the variable			
2	Organizational Citizenship Behavior	Organizational Performance	0.24	3.69	Confirmation of hypothesis
3	Human resources management	Organizational Performance	0.30	465	Confirmation of hypothesis

Source: Author

**Hypothesis 1: Organizational citizenship behavior affects human resource management.**

According to Table 6, there is a significant difference between the variable of organizational citizenship behavior and human resource management (8.44) which is greater than (1.96), that indicates the relationship between organizational citizenship behavior and management of Human resources are significant at the level of confidence (95%). Also, the path coefficient between these two variables is equal to (0.50) and shows the positive effect of organizational citizenship behavior variable on human resource management. In other words, with a unit change in organizational citizenship behavior, we see an increase of 50% in HRM. This means that organizational citizenship behavior is directly related to human resource management. Therefore, the first hypothesis of the research is confirmed.

**Second hypothesis: Organizational citizenship behavior affects organizational performance.**

According to Table 6, a significant statistic between organizational citizenship behavior variable and organizational performance is equal to (3.69) which is greater than (1.96), indicating that the relationship between organizational citizenship behavior and organizational performance in The confidence level (95%) is significant. The path coefficient between these two variables is equal (0.24) and shows the positive effect of organizational citizenship behavior variable on organizational performance. In other words, with a change in organizational citizenship behavior, we see an increase of 0.24 in organizational performance. This means that organizational citizenship behavior has a direct relationship with organizational performance. Therefore, the second hypothesis of the research is confirmed.

**Hypothesis 3: Human resource management affects organizational performance.**

According to Table 6, a significant statistic difference between HRM and organizational performance is equal to (4.65), which is larger than (1.96), indicating that the relationship between HRM and organizational performance at the confidence level (95%) is significant. Also, the path coefficient between these two variables is equal to (0.20) and shows the positive effect of human resource management variable on organizational performance. In other words, with a change in human resources management, we see an increase of 30% in organizational performance. This means that HRM has a direct relationship with organizational performance. Therefore, the third hypothesis of the research is confirmed.

Hypothesis 4: Human resource management has a significant positive mediating effect on the effect of organizational citizenship behavior on organizational performance.

The output of structural equations has been used to investigate the role of mediation of human resource management variable. The table below shows the direct, indirect effects and the overall effect between organizational citizenship behavior and organizational performance.

As is clear from Table 4-22 and Figure 4-9, the direct effect of organizational citizenship behavior and organizational performance is equal to 0.24. Also, the indirect effect of variable of organizational citizenship behavior and organizational performance with the effect of the mediating variable of HRM is 0.15.

**Table 7. The direct, indirect and total effects between organizational citizenship behavior and organizational performance**

Total effect	Indirect effect	Direct effect	Path	
			To variable	From variable
0.39	0.15	0.24	Organizational Performance	Organizational Citizenship Behavior

Source: Author

How to calculate the indirect effect of the variable of organizational citizenship behavior and organizational performance with regard to the role of mediator of human resource management is as follows:

$$(OCB \xrightarrow{(0.50)} HRM \xrightarrow{(0.30)} OPE) = 0.15$$

a well-used test called Sobel test is used to investigate the role of mediating HRM in the relationship between organizational citizenship behavior and organizational performance, which is used to meaningfulness of effect of the mediator variable in the relationship between the two other variables. In the Sobel test, a Z-value is obtained by the following formula: if this value is increased from 1.96, can be confirmed the meaningfulness of the mediating effect of a variable at 95% confidence level.

$$Z - value = \frac{a \times b}{\sqrt{(b^2 \times S_a^2) + (a^2 \times S_b^2)}}$$

A: The value of the path coefficient between the independent variable and the mediator

B: The value of the path coefficient between the mediator and dependent variables

Sa: The standard error of the path between the independent variable and the mediator

Sb: Standard error of the path between the intermediate and dependent variables

So we have:

$$z - value = \frac{0.50 \times 0.30}{\sqrt{(0.30^2 \times 0.078^2) + (0.50^2 \times 0.058^2)}} = 4.025$$

As can be seen, the value of z-value obtained from the Sobel test was 4.025, which because of being greater than 1.96. It can be stated that at 95% confidence level, the effect of mediator variable of the effect of organizational citizenship behavior in effect of organizational performance is significant. Therefore, the fourth hypothesis of the research is confirmed.

In addition to Sobel's test, to determine the intensity of the indirect effect through the mediator variable, a statistic called VAF is used that takes a value between 0 and 1, and whatever this value to be closer to one indicates the being stronger of the effect of the mediator variable. In fact, this value measures the indirect effect of the total effect.

The VAF value is calculated by the following formula:

$$VAF = \frac{(a \times b)}{(a \times b) + c}$$

A: The value of the path coefficient between the independent variable and the mediator

B: The value of the path coefficient between the mediator and dependent variables

C: The value of the path coefficient between the independent and dependent variables

$$VAF = \frac{(0,50 \times 0,30)}{(0,50 \times 0,30) + 0,24} = 0,385$$

This means that 38.5% of the overall effect of organizational citizenship behavior on organizational performance is indirectly explained by the mediating variable of human resource management. Therefore, since this value is close, it indicates the strong impact of the mediating variable of HRM. Also, considering that in the model, despite the mediating variable of human resource management, direct path of organizational citizenship behavior is significant on organizational performance, it results that HRM in the relationship between organizational citizenship behavior and organizational performance has a minor mediating role.

## 5. DISCUSSION AND CONCLUSION

Indeed, the most important asset is the organization's human resources of the organization. A dynamic organization, on the other hand, closed organization is an organization that has engaged and creative workers, and decisions and duties are done jointly, and in the mind of the director and employees, the theme is that "everything is changing." And this organization has a ability to see varied of many things that many people consider them to be static. Existence of the effective employees whose activities are not limited to their job descriptions and work for the organization wholeheartedly; in these organizations, organizational citizenship behavior is tangible and affects the organization's productivity and effectiveness. As the results of the research showed the organizational citizenship behavior affects organizational performance and human resources management. This suggests that attracting and retaining employees with this feature (organizational citizenship behavior) is very important for the organization. Therefore, managers need to consider this issue. Organizational citizenship behavior; job satisfaction and maintaining the competitive position of the organization and improving performance and high productivity for the organization. Brayson says one day that people go to work to build what they want instead of working for the pleasure of the boss. Organizations whose leaders and members understand this are ready for a "common creation".

### 5.1. FUNCTIONAL SUGGESTIONS

1. Improving attitudes and adjusting the values of individuals to cooperate fully with the organization
2. Quality improvement of human resources (use of qualified people in the organization at different positions)
3. Managers' efforts to ensure job and employee safety and motivation
4. Use of view of employees in the organization's affairs and problems (establishment of the system of suggestions)
5. Assisting members of the organization to accept the values of the organization
6. Training and assisting employees to build loyalty and sense of belonging to an organization
7. Creating a common goal for a collection, a common aspiration that is not just one belief, but also a force within the heart of the employees, which, like their great force, forces them to act?
8. The most important factor for achieving organizational citizenship behavior and committing employees and moving towards it, is having an appropriate organizational structure.

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# INVESTIGATING THE RELATIONSHIP BETWEEN PARTICIPATIVE MANAGEMENT AND INCREASE FEMALE MANAGER'S CREATIVITY IN SECONDARY SCHOOLS IN SEMNAN PROVINCE

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## Abstract

*The main objective of the study is to identify the relationship between participative management and enhanced creativity female executive's secondary schools in Semnan province". This research attempts to understand and effectiveness of collaborative management in various aspects like efficiency and effectiveness of management activities, strengthen the sense of loyalty of the managers to educational units, research facilities and training of forces and strengthen cognitive skills, technical and human relationships in their school principals. Due to the nature of the survey has been used. The collected information directly from the people is raised. For this purpose, samples of 92 people, including high school female managers from different regions of Education in Semnan according to Morgan table were selected using stratified random selection. Then, to gather information, a questionnaire containing 18 closed questions provided, which was conducted among a sample of the distribution and information gathered by coding, by a computer program (software) Excel were analyzed. Statistical indicators used to examine the hypothesis, based on two methods of descriptive and inferential statistics, the frequency distribution table, chart, and measures of central tendency and dispersion of the center, Chi-square test ( $X^2$ ) for each questionnaire to determine the fit of the observed frequencies and are expected to rule whether or not t test was used to analyze. The findings suggest that managers increase efficiency and effectiveness of activities, strengthen the loyalty of managers to educational centers, research facilities, and training and strengthening of forces in perceptual skills, technical and human relations school principals, largely linked to participative management and 95% is significant. Finally, according to the findings and research results some suggestions are presented.*

**JEL classification:** G32

**Keywords:** PARTICIPATIVE MANAGEMENT, FEMALE MANAGER'S CREATIVITY, SECONDARY SCHOOLS.

## 1. INTRODUCTION

History of education for granted the fact that the educational process and transformation of educational institutions and educational practices with social change and the society is in direct relation to the reality of today's new vision is manifested, this means that educational issues in their relations with economic issues are considered and identify general economic conditions and the stage of industrial development and ways of living, so that after World War II, scientists and economics to cultural issues and that such communication issues with economic and social development are viewed with importance [1,2]. The organization and management thinkers believe that there are more than two choices: death or innovation! In fact, the lack of innovation that is moving toward destruction and to accept it is to provide a field of creative thinking among employees. In fact, all that has made life easier in today's world, the fruit of human creativity and being given the dynamics and evolution of this today, education, policy, planning, organizing, decision-making, leadership careful, deliberate and rational managers at all levels and areas of the administrator. And managers to perform this role have a lot of capabilities, creativity, and ingenuity and fitted in this way for the establishment of their partnership. Since the cooperative system as the field of human culture in the organization is considered [3,4].

Therefore, it is necessary to improve participatory management in schools and identify the problems on the way and to strengthen the administrative areas of schools, measures to be taken. The basic problem is that the researcher in this study seeks to contribute to increased creativity management relationship manager. Because administrators to use their creativity to solve problems of educational centers, it need to encourage and support the decision-making in schools, information, ideas and proposed solutions, will be enhanced and this will lead to better decisions [5,6] and through partnership opportunities that initiative and creative ability to achieve the objectives of education will flourish.

## 2. DEFINITION OF TERMS

### • Participatory Management

A participative management style and decision-making of management personnel in the field of compiled with the collaboration management [7]. Participative management methods of all employees and workers in the order specified in the system, their opinions about their work or improve their organization and its management states and rewarded for their constructive suggestions. Participatory management of the process involved in the decisions that managers make decisions at different levels of education and of different types. The managers involved in the definition, in order to solve the problems of the capabilities and talents of school administrators in school management and educational issues to be used efficiently.

### • Creativity

Creativity is a valuable talent and creative people who, thanks to advances in various Sciences for their efforts. This talented as other types of intelligence to varying degrees among all of us that there is a duty to make them flourish. Studies have been conducted with the value that highly creative people show they are able to order their thoughts through self-discipline and take a step toward fostering their creativity and innovation to achieve new things. The most common definition of creativity is the ability to create something new [8,9]. But what is the present study being to provide new ideas and new projects in the field of education and training activities in the school environment is carried out. Creativity in the research context we note the following dimensions:

- Increase the efficiency and effectiveness of management activities, intended to improve communication between management and employees and align the different activities in schools to achieve the goals of education.
- strengthen the sense of loyalty to the managers of educational units, is that the school administrators interested in implementing the tasks of the school and feel they belong.
- Research facilities and training of troops, to provide and procure equipment and raw materials (financial resources, human resources).
- Strengthen cognitive skills, technical and human relations school principals, intended to improve school principals in the areas of planning and control - knowledge and experience - the decision-making process - the relationship between manpower and equipment - relations policy is working [10-13].

## 3. RESEARCH METHODOLOGY

This study is a library - the layout survey (Survey) is. The population evaluated in this study, consisted of all female managers in the academic year 1381-1382 working in secondary schools in Semnan province were included, such a population of Semnan province have been included, such population in the province, about 120 are the number of female managers 92 high schools in the province were selected as sample group which according to Morgan and Krejcie table number of them are selected and studied. In this study was to determine the profile and the volume determined for each of the population under study stratified sampling (the proportion of each class of managers) are used. After the documents, one of the most common and the most common data collection in the field method (the method used in this study) is a questionnaire that with a number of questions, you provide the necessary information from respondents.

Based on the Likert a scale question (four options is very high, high, low and very low). To ensure the integrity of questionnaire professor view also have been qualified and tested and consideration and the necessary amendments have been approved. Thus, after the full assurance of the validity of the questions, the questionnaire is sent formulation for reliability Cronbach's alpha coefficient was used to estimate and here the answer between 0 and 1 will be eligible for testing, coefficients above 50% will be accepted and the index is calculated in a questionnaire study, the top 92%. To describe and analyze statistical data, such as Chi-square test to match the observed and expected distribution of the questionnaire, and the use of t-test to exclude or reject the hypothesis will be used.

### 3.1. HYPOTHESIS

1. The implementation of participative management can greatly contribute to increasing the efficiency and effectiveness of the management activities.
2. The implementation of participatory management can greatly strengthen the loyalty of managers towards education.
3. The implementation of participative management can greatly meet facilities and personnel departments of education.
4. The implementation of participative management can greatly strengthen cognitive skills, technical and human relations in the school principals.

## 4. RESULTS

### • test the first hypothesis

The implementation of participative management can greatly contribute to increasing the efficiency and effectiveness of the management activities.

Hypothesis of questions (1, 2, 3, 4 and 5) is composed questionnaire and any question of the four options is very high, high, low and very low-profile which is analyzed as follows.

Question 1: To what extent participative management can enhance the power of innovation in management?

Since the amount of  $X^2$  calculated (72) of  $X^2$  table with degrees of freedom  $d.f=3$  the error of five percent (7.815) is therefore more participative management can enhance the power of innovation in its managers.

Question 2: To what extent the implementation of participatory management can enhance the sense of responsibility of managers?

Since the amount calculated  $X^2$  (76.43) of the  $X^2$  table with degrees of freedom  $d.f=3$  and the level of error of five percent (7.815) is more so the participative management can enhance the sense of responsibility managers.

Question 3: How can participative management to enhance the quality and accuracy of doing things?

Since the calculated value  $X^2$  (30.26) and  $X^2$  table and the degrees of freedom  $d.f=3$  and the level of error of five percent (7.815) is more and the participative management can enhance the quality and accuracy of work.

Question 4: How participative management can encourage managers and subordinates to do things better?

Since the amount of  $X^2$  calculated (69.13)  $X^2$  table and with degrees of freedom  $d.f=3$  and the level of error is five percentage points higher and the participative management can encourage managers and subordinates to do things better.

Question 5: How participative management cans efforts in better doing than before?

Since the calculated value of  $X^2$  (70.43)  $X^2$  table with degrees of freedom  $d.f=3$  and the level of error of five percent (7.815) is more and the participative management can make better efforts, please be doing things than before. Since the calculated  $t$  (14.33) with degrees of freedom  $d.f=91$  error level of  $\alpha=0.05$  value  $t$  (1.645 =  $t$  (91 and 0.05)) is the first hypothesis. So it can be concluded that the implementation of participatory management, can greatly contribute to increasing the efficiency and effectiveness of the activities of managers and 95% is significant.

**Table 1. The first hypothesis test**

Statistics $^2X$	Question
72	First
76.43	Second
30.26	Third
69.13	Fourth
70.43	Fifth
14.33	T statistic

*Source: Author*

### The second hypothesis test

Participative management can greatly strengthen the loyalty of managers towards education. Hypothesis of questions (6, 7, 8, 9 and 10) is composed questionnaire and any question of the four options is very high, high, low and very low-profile, which is analyzed as follows fall. Question 6: How can participative management please keep steadfast in their goal?

Since the amount of  $X^2$  calculated (36.52) of  $X^2$  table with degrees of freedom  $d.f=3$  and error-five percent (7.815) is therefore more participative management can please keep steadfast in their goal.

Question 7: How to participative management can be offered constructive suggestions from senior managers?

Since the amount of  $X^2$  calculated (64.96) of  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can provide constructive suggestions by the administrators.

Question 8: To what extent can provoke a sense of participative management is working in people?

Since the amount of  $X^2$  calculated (69.04)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can provoke a sense of community people.

Question 9: To what extent can hope to participative management directors to be their future?

Since the amount of  $X^2$  calculated (61.83)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can increase managers hope to be their future.

Question 10: How can participative management to reduce the resistance against the decisions of the managers?

Since the amount of  $X^2$  calculated (44.09) of  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can decrease the resistance against the decisions of the managers. Since the calculated  $X^2$  (6.132) with degrees of freedom  $d.f=91$  and error level  $\alpha=0.05$  than the critical  $t$  (1.645 =  $t$  (91 and 0.05) is more than the second hypothesis is confirmed. So it can be concluded that the implementation of participatory management, can greatly strengthen the sense of loyalty to the managers of educational units and 95% is significant.

**Table 2. The second hypothesis test**

Statistics $^2X$	Question
36.52	Sixth
64.96	Seventh

Statistics <sup>2</sup> X	Question
69.04	Eighth
61.83	Ninth
44.09	Tenth
6.132	statistics t

Source: Author

### The third hypothesis test

Participative management can to a large extent, the researcher facilities and personnel eaprtments of education.

Hypothesis of questions (11, 12, 13 and 14) is composed questionnaire and any question of the four options is very high, high, low and very low-profile, which is analyzed as follows fall.

Question 11: To what extent participative management can be reduced school fees?

Since the amount of  $X^2$  calculated (16.9)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) greater implementation of management can be reduced school fees.

Question 12: To what extent participative management can be more efficient in school?

Since the amount of  $X^2$  calculated (34.43)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more therefore, the implementation of collaborative management can be more efficient in school.

Question 13: To what extent participative management can make better use of the existing facilities?

Since (7.815) calculated the amount of  $X^2$  (134.35)  $X^2$  table with degrees of freedom  $d.f=3$  and the level of error is five percentage points higher and the participative management can make better use of the existing facilities.

Question 14: How can participative management and maintenance of the facilities available to be compassionate?

Since the amount of  $X^2$  calculated (38.35)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can cause sympathetic maintenance of the facilities will be available.

Since the calculated t (8.39) with degrees of freedom  $d.f=91$  and error level  $a=0.05$  than the critical t (1.645 = t (91 and 0.05) is more so the third hypothesis is confirmed.

So it can be concluded that the implementation of participatory management, can greatly, led forces in educational centers and research facilities, and significant at the 95% confidence level.

**Table 3. The third hypothesis testing**

Statistics <sup>2</sup> X	Question
16.09	Eleventh
34.43	Twelfth
134.35	Thirteenth
38.35	Fourteenth
8.39	T statistic

Source: Author

### The fourth hypothesis test

Participative management can greatly boost cognitive skills, technical and human relations in the school principals.

Hypothesis of questions (15, 16, 17 and 18) questionnaire is composed of four options for each question very much, high, low and very low-profile, which is analyzed as follows fall.

Question 15: To what extent could strengthen participative management is confident managers?

Since the amount of  $X^2$  calculated (84.087  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is therefore more participative management can boost the confidence of managers.

Question 16: To what extent could lead to participative management to security and peace in the sensitive work?

Since the amount of  $X^2$  calculated (39.391)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the implementation of participatory management could lead to peace and security in the sensitive work.

Question 17: How cans participative management requires managers to learn the skills and scientific information and technical or professional?

Since the amount of  $X^2$  calculated (64.95)  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more and the participative management can require managers to learn the skills and scientific information and technical or professional.

Question 18: How can participative management director treated the staff is friendly and intimate?

Since the amount of  $X^2$  calculated (88.43) of  $X^2$  table with degrees of freedom  $d.f=3$  and level of error of five percent (7.815) is more so please behave participative management can be friendly with the staff.

Since the calculated  $t$  (16.8) with degrees of freedom  $d.f=91$  and error level  $\alpha= 0.05$  than the critical  $t$  ( $1.645= t(91 \text{ and } 0.05)$ )  $t$  is more so fourth hypothesis is confirmed. So it can be concluded that the implementation of participatory management, can greatly, strengthen cognitive skills, technical and human relations school principals and 95% is significant.

**Table 4. The fourth hypothesis test**

statistics $^2X$	Question
84.087	fifteenth
39.391	Sixteenth
64.95	seventeenth
88.43	Eighteenth
16.8	statistics <sup>1</sup>

*Source: Author*

## 5. DISCUSSION AND CONCLUSION

Today, in the field of management, human resources organizations and institutions and ways of improving the efficiency and effectiveness of the resources, is an important issue. One method is still valid and innovative in the field of participatory management, participative management, the manner in which employees entered in the field of governance and decision-making and their partnership with management thereby increasing the efficiency and productivity of human resources, development of creativity and innovation, improve quality and quantity of activities is sent, increase creativity and innovation in order to reveal the role of participatory management in Semnan province, according to school administrators and culture in different areas of education, research is needed to explore these important research in the province's high school female managers The findings of this study suggest that: First hypothesis was confirmed with 95% confidence. In other words, the implementation of participatory management, because of the participation of teachers in decision-making, a strong focus on teamwork, please attitude favorable to teachers, their confidence and motivate them could greatly led to an increase in business and the effectiveness of management activities. The second hypothesis was confirmed with 95% confidence. In other words, participative management because getting suggestions from directors, provoked a sense of

cooperation among people, raising hope for their future managers and executives to reduce resistance against decisions made, strengthen the sense of loyalty to the managers of the units. The third hypothesis was confirmed with 95% confidence. In other words, the implementation of participatory management is the reduction of school fees, economic savings and better utilization of facilities and equipment available at the school, thereby achieving the objects and forces in training units. Fourth hypothesis was confirmed with 95% confidence, in other words, the implementation of collaborative management due to strengthening confidence in the managers feel secure and calm the group (teachers and administrators) in their work and that managers are required to acquire skills and scientific information and technical or professional track on the other hand lead to friendly behavior with staff, teachers, school director, strengthen cognitive skills, technical and human relations in the school principals. The researcher also conducted research on the subject of research and interviews with managers of other schools achieved among the participative management system is a simple technique that is used to easily and quickly provide IP revenues. But also a sophisticated management method for implementing and applying it effectively to support senior managers need a lot of education and they also have the perfection of the providence faced with slow system performance, find all norms of development opportunities provided because of participation in a cultural and educational organization, flow and everyone, including officials and school administrators, as well as the rules and methods to transform slowly. Now that the role of manager and management practices, either directly or through creativity can be effective in paving the way for the emergence and growth; it is also necessary to explain that we profess, create a favorable environment for creative students in school education and training depends undeniable fundamental factors such as the type of insight movers and planners country's education, popular culture, governance of education content, teaching methods, funding and the facilities ... if the schools are based on creative management and this is true even if there are appropriate facilities for the provision of attitude and a creative collection and high school efforts to achieve such a low-impact or no impact will be decisive.

### **5.1. PRACTICAL SUGGESTIONS BASED ON RESEARCH FINDINGS**

- Create the right conditions to meet education officials and education planners and managers, particularly training centers of the principles and methods of participatory management and different issues in different ways, but unfortunately it's important in different areas of education, especially in schools, is less done.
- Coordinate policy and long-term plans with the wishes and needs of education and training areas.
- Acceptance of the decision by managers of educational training related to education officials.
- The importance of the role of education and skills training in educational centers fortunately, this matter has been considered in recent years.
- The importance of effectively putting the school in creative management, including:
  1. Management style, the manager adopts
  2. A communication system, the Manager undertakes it
  3. Curriculum and good teaching
  4. Organize
  5. Monitoring and Control
  6. Targeting and management by objectives M.B.O
  7. Job motivation
  8. The administrator of personal qualities (creativity, discipline, perseverance)
  9. Space (spirit and vitality, study and library resources, appropriate technology ...)

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## DEVELOPMENT OF A MODEL FOR MEASURING THE FIRMS' ETHICAL CAPITAL

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### Abstract

*Ethical capital is considered as one of the important aspects of intellectual capital and focuses on spiritual principles, professional ethical codes and accumulation of values and its measurement and evaluation of is very important for company's survival. The research aimed to develop a model in order to measure ethical capital of companies in Iran. The statistical population of this research consisted of experts including university professors in accounting and certified public accountants. Research method was fundamental in terms of aim and questionnaire method was used for data collection. Firstly, basic concepts were obtained using theoretical principles and then data related to factors that were specified at first step were analyzed by confirmatory factor analysis when they were collected using 244 questionnaires during first six months of 2016. The findings show that ethical leadership, ethical culture of organizations, ethical climate and corporate reputation factors are suitable and significant in measuring ethical capital of companies. A model was offered using these factors in order to measure ethical capital of companies whereby ethical capital of company would be divided into five levels of very weak, weak, medium, strong and very strong; measuring ethical capital of companies helps greatly to whole community and specially stakeholders, can prevent serious problems and financial scandals of companies and increases ethical capital of companies.*

**JEL classification:** G32

**Keyword:** Ethical capital, Ethical leadership, Ethical culture of organizations, Ethical climate and corporate reputation

### 1. INTRODUCTION

Observance of spiritual principles, ethical codes and values is a necessity for managers and employees of business sectors and ethical capital represents creation and accumulation of these values (Mohseni et al: 2012).

Ethical leadership is a variable that can affect business ethics. Management ethic is a behavior that is not only based on law but is suitable due to ethical standards of whole community. Most governments have implemented implicitly different rules in order to limit organizational behavior of corporate governance at global level. Many regulations have so far failed to be included in implementation of corporate governance by company. Employees, customers and shareholders expect that ethical values are focused by business decisions. The fact is that many leaders and organizations do not understand that there is reason for serious concern. Nowadays, ethical leadership has become a hot topic of leadership (Beravan and Trevnio, 2003).

Ethical culture of organizations is one of the variables that can affect business ethics as Hill et al (2000) believe that organizational culture is a model which is learnt from values, beliefs and behaviors of past along with an experience that is developed in organization charts and becomes apparent in members' behavior.

Need for establishing a culture and ethical code is to the extent that many large organizations react against legal and environmental pressures through establishing ethical culture in organizations (Weaver et al., 1999).

According to inevitable pressures on profitability and personal advancement in accounting profession, it can be predicted that ethical climate of organization including benevolence, principal and instrumental climate will have important role in ethical capital of companies and coexistence of public interest, law and regulations and ethical climate in accounting fields will reflect different pressures (William, 2013).

Corporate reputation is another variable that can affect business ethics. Corporate reputation is a vital part of company value and a key measure of its performance; it serves as a mechanism that can reduce customer uncertainty and increase effectiveness, marketing, customer satisfaction and customer support. Reputable companies which seek a better reputation through production, brand and environmental measures have an advantage. Although the traditional standards are important for success but non-financial factors such as difference in quality of products and services, images and branding, social responsibility and leadership have appeared as vital part of model (Lai et al., 2010).

Ethics is one of the key aspects of business. Former business giants fall such as Enron and WorldCom proved consequences that threatened organizers. Ethical Charter (principle) is essential in order to take away business from conflicting laws and fraudulent maneuvers (Biling and Baker, 2006).

Despite the importance of ethical capital in companies and incidence of financial scandals due to ignorance, there are uncertainties regarding the definition of ethical capital, factors affecting it, the way of measuring ethical capital and evaluating companies in terms of ethical capital status in literature. Therefore, it is necessity and important to develop and offer a model for measuring and evaluating ethical capital of company whereby ethical capital of companies measured and evaluated and a great help is provided to whole community, especially stakeholders before incidence of serious problems for and loss of resources and interests related to investors and stakeholders. No research has been carried out that can measure directly ethical capital of companies in Iran. Therefore, variables of ethical leadership, ethical culture, ethical climate and corporate reputation have been studied in this study in order to determine their importance in ethical capital formation of Iranian companies. So, the main issue of this study is that "how companies' ethical capital is measured?"

## **2. THEORETICAL FOUNDATIONS AND LITERATURE REVIEW**

### **2.1. ETHICAL CAPITAL**

ethics and ethical values guide people to right direction in critical conditions and when they must decide to choose a way. These values are spiritual principles that people use them for behavior management; they are standards that people use in order to distinguish right from wrong. Observance of these spiritual principles, behaviors and values is a necessity for managers and employees of business sectors and ethical capital represents creation and accumulation of these values. (Mohseni et al '2012).

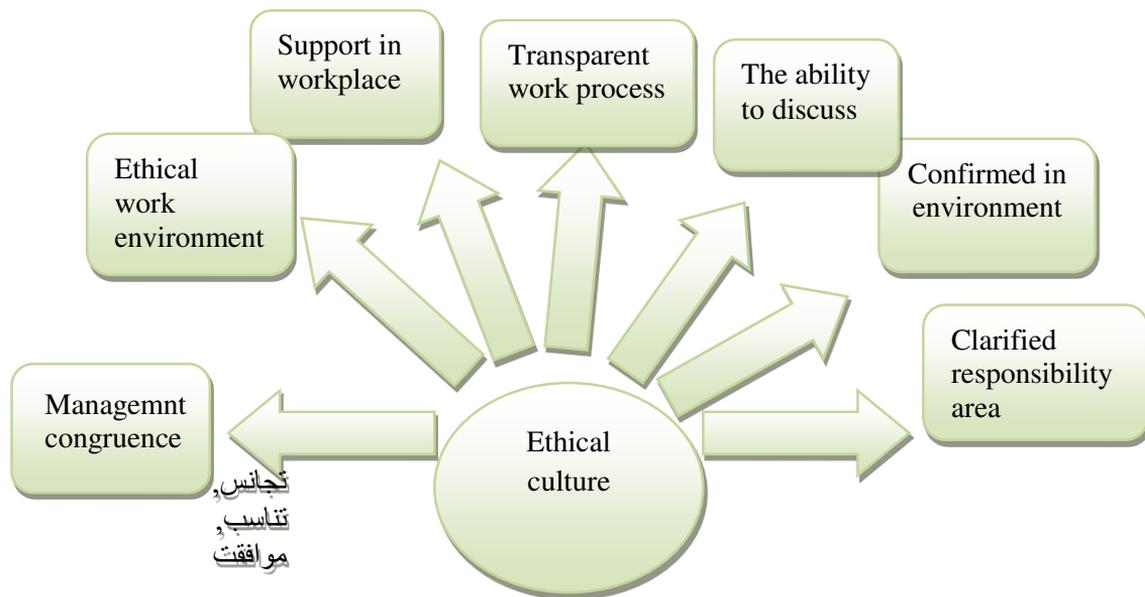
### **2.2. DIMENSIONS OF ETHICAL CAPITALS**

#### **2.2.1. Ethical Leadership**

Management ethic is a behavior that is not only based on law but is suitable due to ethical standards of whole community. How managers can create an ethical environment in their organization? Some solutions still exist (like speaking) but more conditions are needed in order to create and maintain ethical organization. At least, managers must find a way in order to convey ethical vision in organization and relations of organization with other public and private organizations. Steps must be taken along with other cases during which a series of ethical codes must be used, ethical training must be done, an ethical justice system must be provided or ethical elements must be added to annual performance evaluation criteria (Zajak, 1997).

#### **2.2.2. Ethical culture of organization**

Organizational culture describes part of Organization internal environment which is a combination of commitments, beliefs and values shared by organizational members and is used in order to guide staff in performing their duties. Hill et al (2000) believe that organizational culture is a model which is learnt from values, beliefs and behaviors of past along with an experience that is developed in organization charts and becomes apparent in members' behavior. Need for establishing a culture and ethical behavior is to the extent that many large organizations react against legal and environmental pressures through establishing ethical culture in organizations. If an ethical culture was created and auditors behaved as a responsible one, non-ethical codes of US companies would not lead to failures and scandals of early 21st century (Jankinz et al., 2008).



**Chart 1. Factors affecting ethical culture of organizations (Kaptein, 1998)**

**2.2.3. Ethical climate**

Ethical climate is coordinated with corporate responsibility and ethical principles. Belief in importance of ethical principles and social responsibility is associated with ethical judgment of accountants. When employees understand organization head person's vision and climate as non-ethical, it is likely that they minimize importance of corporate ethics and social responsibility in order to justify aggressive decisions of earnings management. In contrary, if employees understand that ethical climate of organization is moderately positive, they will give more importance to ethical principles.

**Types of ethical climate from Viktor and Cullen point of view**

**Table1. Ethical climate from Viktor and Cullen point of view**

	Individual	Local	Global	Ethical standard
Arrogance	Self- interested	Company benefits	Effectiveness and efficiency	
Benevolence	Friendship	Signs of all team members	Emphasis on social responsibility	
Ethical principle	Compliance with ethical principles	Compliance with laws and regulations within a company	Leadership laws	

Source: Author

In fact, one hopes to find benevolence and principal climate in companies due to highlighted emphasis on observing rules of professional behavior and protecting public interests in accounting profession (William, 2013).

Viktor and Cullen (1988) described ethical climate by a two- dimensional matrix. One dimension of matrix contains ethical standards including arrogance, benevolence and ethical principles and other dimension of matrix is analysis location including individual, local, and global levels. Cross section of ethical standard and analysis location includes nine dimensions of ethical climate that are shown in above matrix. (Viktor and Cullen, 1988)

#### **2.2.4. Corporate reputation**

Corporate reputation appears as an intangible asset and distinguishes a company from other companies and attracts customers to buy again and pay higher prices for their products. Non-financial factors constitute significant percentage of company value and are always as way of superiority in business climate. Also, reputation plays a major role in development and assessment of organization popularity. A good reputation encourages shareholders to invest in a company, attracts good employees, maintains customers and is associated with higher overall profits. Generally, corporate reputation is a cumulative construction that describes collective perception of multiple stakeholders on performance of a company (Chun, 2005).

Khalifeh Soltani and khajavi (2016) studied the effects of ethical hazards on company's capital structure. For this purpose, they selected a sample of 132 companies listed on Tehran Stock Exchange and study results showed that ethical hazards have significant and negative effects on capital structure.

Silk et al (2015) examined the relationship between ethical leadership and organizational performance. In this study, they sought to find when and how ethical leadership and organizational performance can reach a good coordination. They showed that CEO ethical management and organizational performance can have positive and interactional interaction.

Lang Zheng et al (2015) examined the relationship between ethical leadership and social responsibility of 242 Chinese companies. They found that ethical leadership focuses on ethical culture of organization and affects positively and significantly the corporate social responsibility. In addition, they indirectly analyzed that as company size is small, ethical leadership has direct effects on organization's ethical culture and has indirect effects on corporate social responsibility.

William (2013) studied the ethical climate, social responsibility and earning management. He found that perception of organization ethical climate was coordinated with social responsibility and ethical principles of company. Functional findings suggest that organizational measures reinforce ethical climate and emphasize the importance of corporate ethics.

Krunav Chyokap (2000) developed 12 items for corporate reputation scale based on brand equity in order to test the reputation of drink companies in Malta. 12 items included: product quality, levels of advertising, sponsorship activities, conduct touring factory, fully considered hiring, trained staff, popular products, strong management of advertising costs, company health and profitability; they concluded that corporate reputation is significantly associated with brand equity.

### **3. RESEARCH QUESTIONS**

1. How is the importance of ethical leadership on corporate ethical capital?
2. How is the importance of ethical culture on corporate ethical capital?
3. How is the importance of ethical climate on corporate ethical capital?
4. How is the importance of corporate reputation on corporate ethical capital?
5. How is determining corporate ethical capital level based on factors affecting corporate ethical capital?

#### 4. RESEARCH METHODOLOGY

This study is fundamental research in terms of aim, descriptive and quasi-experimental research in terms of data type, cross-sectional research in terms of implementation time and inductive research in terms of implementation logic. It is qualitative research in terms of process and it is survey in terms of implementation method. Firstly, it designs basic model of corporate ethical capital and then develops evaluation model of corporate ethical capital using observations. The statistical population of this research are experts on issues related to ethical capital variables including professors of accounting and certified public accountants of Iran. The sample size adequacy for questionnaire completeness was determined by Kaiser-Meyer-Olkin Measure (KMO). Data collection tools included taking notes from archival documents such as books, articles, theses and questionnaire.

#### 5. DATA ANALYSIS METHODS AND TOOLS

Confirmatory load factor analysis and SPSS and Lisrel software were used in order to analyze the data obtained from questionnaires and other resources. In this study, four variables of ethical leadership, ethical culture, corporate reputation and ethical climate were considered as latent variable and their sub-factors were considered as observed variables. Latent variables were measured using observed variables and required pattern of measuring corporate ethical capital were specified. Sampling quality must be tested in order to confirm that research data collection is suitable for factor analysis. KMO index must be more than 0.6 or Bartlett's test must be significant in order to verify the adequacy of sample. According to overall view, if RMSEA index value is less than /1, model fit will be excellent. Normal Chi-squared index is one of the general indices in order to consider free parameters in calculating fit indices that is calculated through simple division of Chi-squared by degrees of freedom; if this index is between 1 and 5, it will be desirable. Critical value of T-statistic is 1.96, if coefficients of load factor is greater than critical value, it will show significance of load factors. Reliability and validity of research were ensured based on researcher and research team records in fields of education and research and seeking help from experts in accounting field and using Cronbach's alpha test. Cronbach's alpha coefficient was used in order to adapt the internal structures of ethical leadership, ethical culture, ethical climate and corporate reputation. Cronbach's alpha coefficient greater than 0.7 indicated the reliability of questionnaire. Measurement models and structural types of variables would be analyzed. In this study, structural equation modeling approach based on causal relationships between variables was used in order to achieve the research model. Firstly, essential variables of model would be determined in order to use structural equation modeling method.

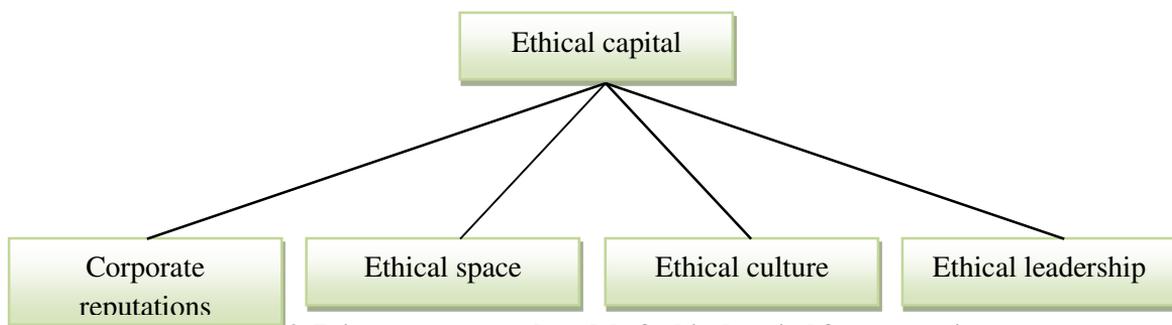


Chart 2. Primary conceptual model of ethical capital for companies

Source: Author

Studied variables in conceptual model form and description of how to check and measure variables ethical capital is observance of spiritual principles, ethical codes and values for managers and employees of business sectors and ethical capital represents creation and accumulation of these values. In this study, there were four structures that were measured in order to determine the significance of them for ethical capital of companies. The first variable was ethical leadership. Management ethic was behavior that not only was based on law but also was in accordance with common ethical standards and whole community. Factors of honesty and integrity, reliability, service, humility and adjust activities within ethical framework were used

in order to measure ethical leadership. A questionnaire was developed for subgroup factors of ethical leadership and score of zero to twenty was given to each of questions by participants in order to determine quantitatively the importance of ethical leadership on ethical capital of companies. The second variable of this research was ethical culture of organization that described part of organization's internal environment and included a combination of commitments and common values among members of organization. Support, verifiability and express dissent in workplace factors were used in order to measure the organization's ethical culture and score of zero to twenty was given to each of questions by participants in order to determine quantitatively the importance of ethical culture on ethical capital of companies. The third variable was ethical climate of organization; study considered perceived climate as reflection of management views with respect to ethical principles; instrumental, benevolence and principal climate factors were used in order to measure it. Score of zero to twenty was given to each of questions by participants in order to determine quantitatively the importance of ethical climate on ethical capital of companies. Fourth variable was corporate reputation that was vital part of company value and a key measure of its performance; it served as a mechanism which can reduce customer uncertainty and increase efficacy, marketing, customer satisfaction and customer support. Quality factors of product and services, social responsibility and financial performance were used in order to measure it. Score of zero to twenty was given to each of questions by participants in order to determine quantitatively the importance of corporate reputation on ethical capital of company's research findings

## 6. SAMPLING ADEQUACY TEST

Sampling adequacy was tested in order to determine suitability of research data collection for factor analysis. To do so, Kaiser-Meyer-Olkin (KMO) index or Bartlett's test were used. KMO index must be more than 0.6 or Bartlett's test must be significant in order to verify the adequacy of sample. The results of KMO-Bartlett test for ethical leadership, ethical culture, ethical climate and corporate reputation structures were 0.671, 0.657, 0.680 and 0.726, respectively. According to the results, confirmatory factor analysis can be conducted on data. KMO index confirmed sampling adequacy and confidence level of zero for Bartlett test indicated sample suitability.

- Examine confirmatory factor analysis of study variables and offer model

This section examines confirmatory factor analysis of each research variables

1. The signs and Description of how to measure variables of ethical capital structures are considered as following table.

**Table 2. Description of how to measure variables**

	Variable	How to measure
1	Ethical capital	Ethical Leadership+Ethical culture+Ethical space+corporate reputations (X) (Y) (Z) (U)
2	Ethical Leadership	Honesty and integrity+reliability+service (X <sub>1</sub> ) (X <sub>2</sub> ) (X <sub>3</sub> ) +humility and adjust + activities within ethical framework (X <sub>4</sub> ) (X <sub>5</sub> )
3	Ethical Culture	Support in workplace+ Verifiability in workeplace (y <sub>1</sub> ) (y <sub>2</sub> ) + express dissent in worke place (y <sub>3</sub> )
4	Ethical Climate	Instrument space+ benevolence space+ principal space (Z <sub>1</sub> ) (Z <sub>2</sub> ) (Z <sub>3</sub> )

	Variable	How to measure
5	Corporate reputations	Product and service quality+ social responsibility (U <sub>1</sub> ) (U <sub>2</sub> ) + Financial Performance (U <sub>3</sub> )

Source: Author

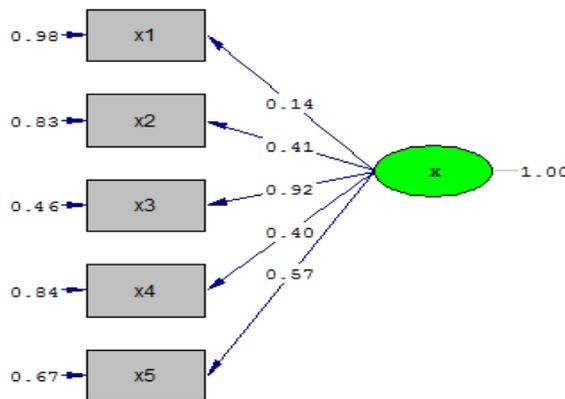
2. Examine standard ethical capital structures

Cronbach's alpha coefficient was used in order to adapt structures of ethical capital internally. Cronbach's alpha coefficient greater than 0.7 indicated the reliability of questionnaire.

According to obtained values, Cronbach's alpha coefficient of ethical leadership, ethical culture, ethical climate and corporate reputation structures were 0.871, 0.862, 0.854 and 0.822, respectively. It can be said that obtained values were higher than 0.7 and it indicated favorable reliability of structures for corporate ethical capital.

3. Factor confirmation of ethical leadership variable

Firstly, factor confirmation of ethical leadership variable and its dimensions were discussed. Chart 3 shows standardized coefficients of ethical leadership factor analysis. RMSEA index value of 0.075 that was less than 0.1 and desired Chi-squared index of 3.274 indicated the suitability of fitted model in order to measure ethical leadership variable.



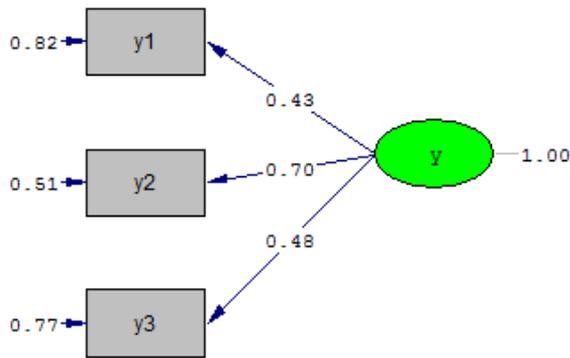
Chi-Square=16.37, df=5, P-value=0.00000, RMSEA=0.075

**Chart 3. Standardized coefficients of ethical leadership**

Source: Author

4. Factor confirmation of ethical culture variable

In this section, factor confirmation of ethical culture variable and its dimensions were discussed. Chart 4 shows standardized coefficients of ethical culture factor analysis. RMSEA index value of 0.075 that was less than 0.1 and desired Chi-squared index of 4.456 indicated the suitability of fitted model in order to measure ethical culture variable.



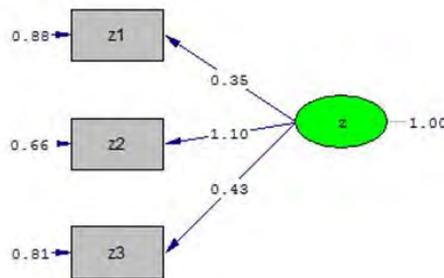
Chi-Square=13.37, df=3, P-value=0.00000, RMSEA=0.075

**Chart 4. Standardized coefficients of ethical culture of organizations**

Source: Author

5. Factor confirmation of ethical climate variable

In this section, factor confirmation of ethical climate variable and its dimensions were discussed. Chart 5 shows standardized coefficients of ethical climate factor analysis. RMSEA index value of 0.064 that was less than 0.1 and desired Chi-squared index of 2.963 indicated the suitability of fitted model in order to measure ethical climate variable.



Chi-Square=8.89, df=3, P-value=0.00000, RMSEA=0.064

**Chart 5. Standardized coefficients of ethical climate**

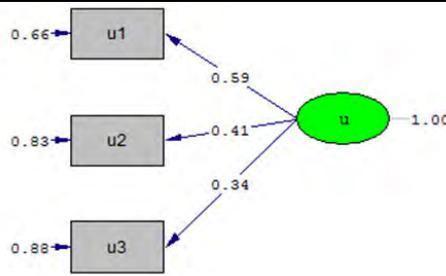
Source: Author

6. Factor confirmation of corporate reputation variable

In this section, factor confirmation of corporate reputation variable and its dimensions were discussed. Chart 6 shows standardized coefficients of corporate reputation factor analysis. RMSEA index value of 0.063 that was less than 0.1 and desired Chi-squared index of 0.046 indicated the suitability of fitted model in order to measure corporate reputation variable.

7. Factor confirmation of ethical capital variable

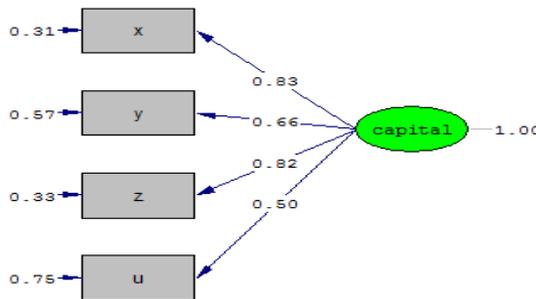
Chart 7 shows standardized coefficients of ethical capital factor analysis. RMSEA index value of 0.086 that was less than 0.1 and desired Chi-squared index of 2.81 indicated the suitability of fitted model in order to measure ethical capital variable.



Chi-Square=9.14, df=3, P-value=0.00000, RMSEA=0.063

**Chart 6. Standardized coefficients of corporate reputation**

Source: Author



Chi-Square=5.62, df=2, P-value=0.00015, RMSEA=0.086

**Chart 7. Standardized coefficients of ethical capital**

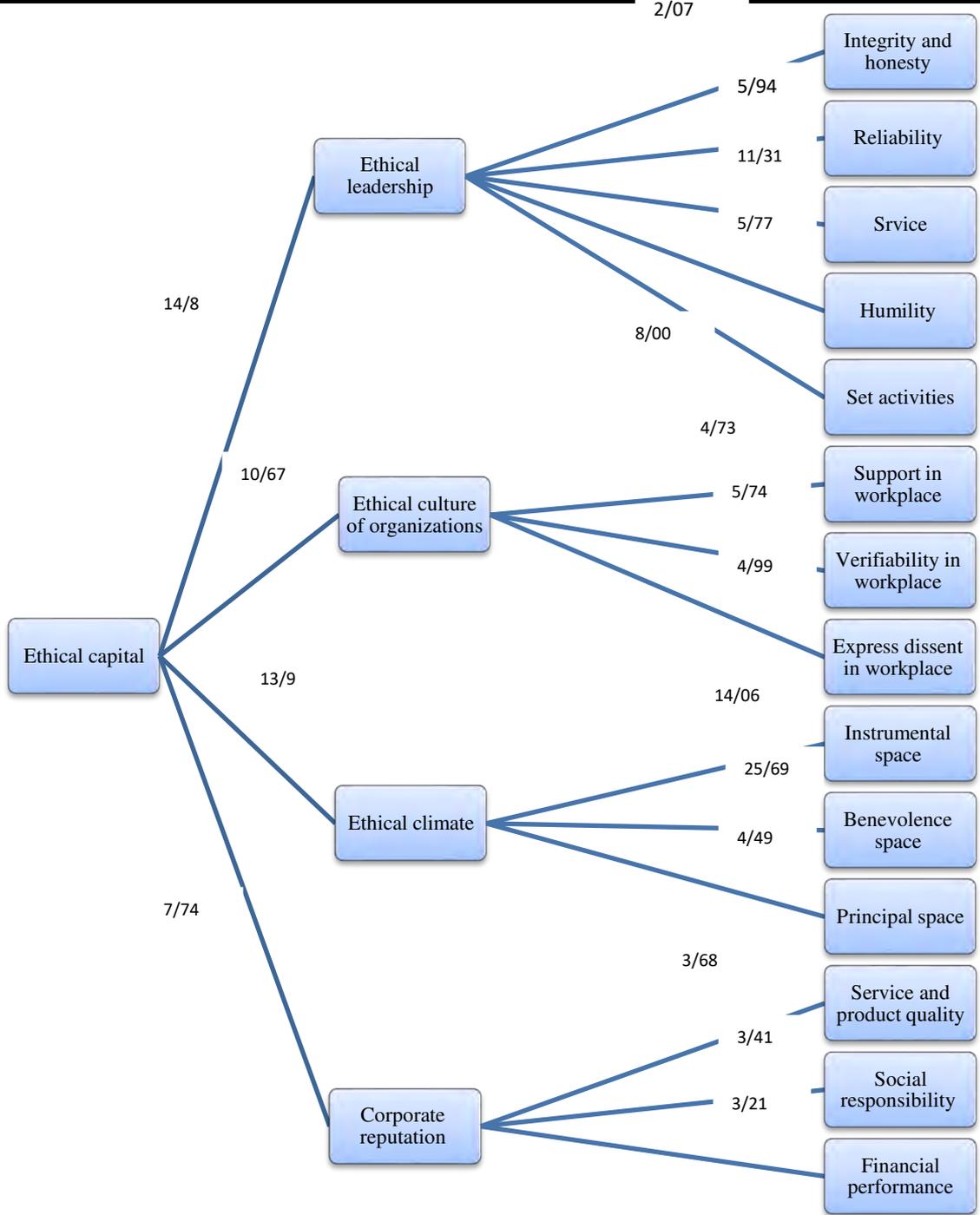
Source: Author

8. Table 3 shows t-test results for standardized coefficients significance of ethical capital structures and their factors and research questions of one to four responses. Critical value of t-statistic was 1.96. T test results determined that t statistic value of all ethical capital structures and their factors was greater than critical value. As a result, ethical leadership, ethical culture, ethical climate and corporate reputation factors were suitable and significant in order to measure ethical capital of companies.

**Table 3- T test results of model variables**

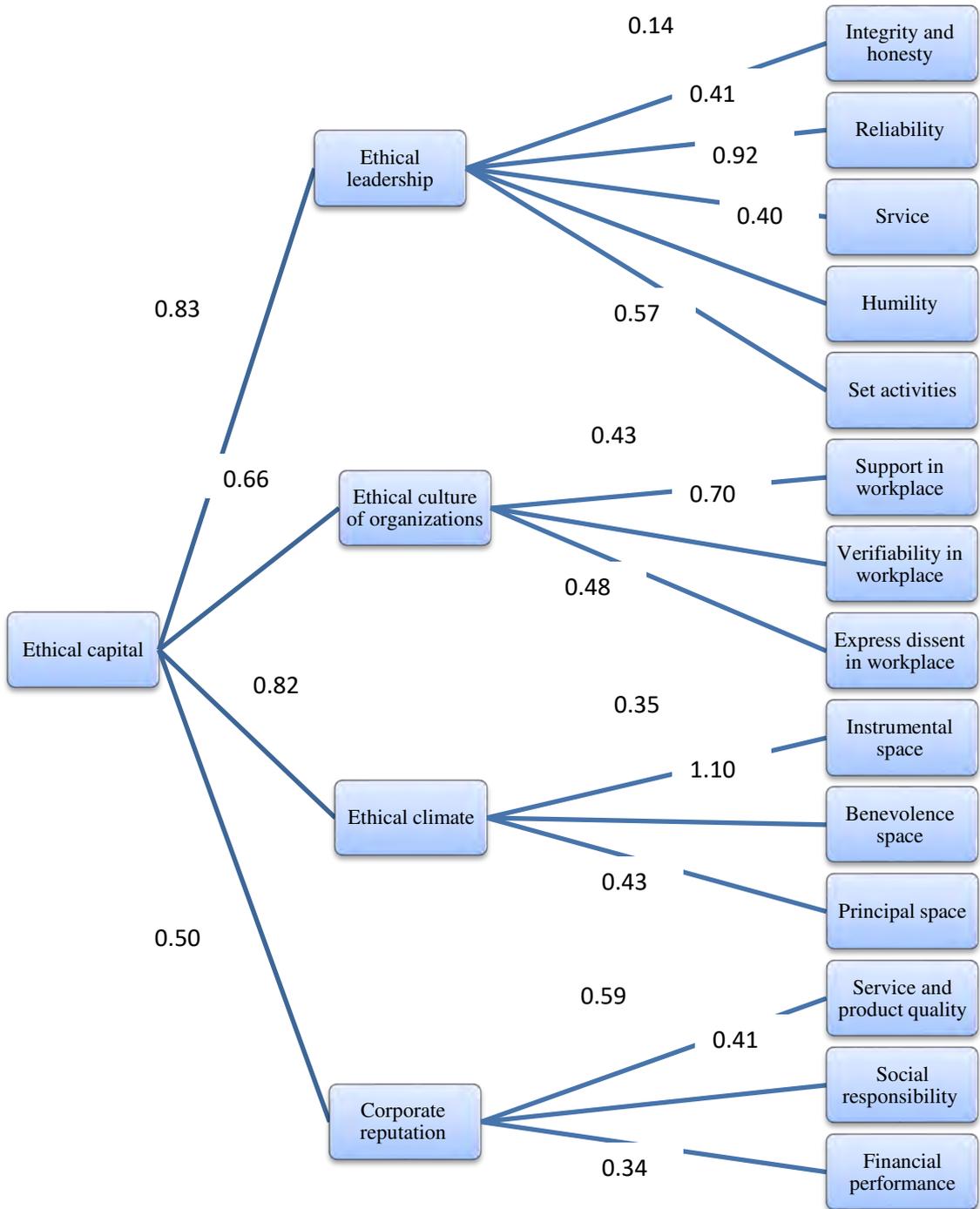
Variable	t- value	Variable	t value	Variable	t- value	Variable	t- value
Ethical leadership	14.8	Ethical culture	10.67	Ethical climate	13.9	Corporate reputation	7.74
Integrity and honesty	2.07	Support in workplace	4.73	Instrumental space	2 5.69	Product and service quality	3.68
Reliability	5.94	Verifiability in workplace	5.74	Benevolence space	4.49	Social responsibility	3.41
Service Humility	11.31	Express dissent in workplace	4.99	Principal space		Financial performance	3.21
Set activities within ethical frame	8.00						

Source: Author



**Chart 8. The significant model for ethical capital of companies**  
 Source: Author

9. Finally, final model of measuring corporate ethical capital is suggested as Chart 9



**Chart 8. The proposed model for measuring ethical capital of companies**

*Source: Author*

10. According to Chart 8, measurement equation of corporate ethical capital can be formulated as below.

$$CAP.E_i = 0/83Leader.E_i + 0/66Culture.E_i + 0/82Climate.E_i + 0/5reputate.E_i$$

Cap.Ei = ethical capital of  $i^{\text{th}}$  company

climate.Ei = ethical climate of  $i^{\text{th}}$  company

Leader.Ei = ethical leadership of  $i^{\text{th}}$  company

reputate.Ei = corporate reputation of  $i^{\text{th}}$  company

Culture.Ei = ethical culture of  $i^{\text{th}}$  company

11. Table 4 shows how ethical capital of companies is identified and responds fifth question.

**Table 4. Calculation of companies' ethical capital based on Ghasemi et al. model**

Row	Variable	Value	Value multiply with score				
			Value multiply with score 20	Value multiply with score 16	Value multiply with score 1	Value multiply with score 8	Value multiply with score 4
1	Ethical leadership	0.83	16.6	13.28	9.96	6.64	3.23
2	Ethical culture	0.66	13.2	10.56	7.92	5.28	5.28
3	Ethical climate	0.82	16.6	13.12	9.84	6.56	6.56
4	Corporate reputation	0.5	10	8	6	4	2.00
5	Ethical capital	2.81	56.2	44.96	33.72	22.48	11.24

*Source: Author*

According to Table 4, if ethical capital of company is equal to or less than 11.24, it is concluded that ethical capital level of company will be too weak. If ethical capital of company is more than 11.24 and equal to or less than 22.48, it is concluded that ethical capital level of company will be weak. If ethical capital of company is more than 22.48 and equal to or less than 33.72, it is concluded that ethical capital level of company will be medium. if ethical capital of company is more than 33.72 and equal to or less than 44.96, it is concluded that ethical capital level of company will be strong. If ethical capital of company is more than 44.96 and equal to or less than 56.2, it becomes clear that ethical capital of company will be very strong; so, the ethical capital level of companies is divided into five levels (very weak, weak, medium, strong and very strong).

## 7. DISCUSSION AND CONCLUSION

In past, company's competitive advantage was its physical capital. But gradually, the importance of physical capital was reduced and ethical capital replaced it, so that ethical capital plays a significant role in survival of companies. Greater recognition of ethical capital in a model or pattern form has a great importance that has been investigated in this study and the aim of this study is to examine the role of ethical capital in success or failure of company; it can have important role in predicting collapse or non-collapse of company through providing a model in order to measure ethical capital of companies.

In this study, structures such as ethical leadership, ethical culture, ethical climate and corporate reputation were evaluated and it was found that they are significantly important in order to measure the ethical capital of companies. According to structure and pattern of this study that are acquired by factor analysis in order to measure ethical capital of companies, ethical capital of companies can be measured. Company managers can use presented model and framework of this study in order to assess the ethical capital of company, identify ethical capital of company and identify factors that decrease the ethical capital of companies and resolve them and play important role in raising the ethical capital of company and its survival and non-collapse.

If ethical capital of companies is ignored it can lead to huge financial scandals, as a result, ethical capital of company must be measured by represented model of this study in order to prevent serious problems and maintain resources and interests of investors and stakeholders and help greatly to whole community and specially stakeholders. Of course, there are obstacles and problems in each study. Some of the limitations that researchers faced in this study include: time-consuming task of data collection, difficult access to sample and get their satisfaction for cooperation and questionnaire completion and non- control of all involved variables.

Given the importance of ethical leadership on assessment of corporate ethical capital, it is proposed to increase each dimension of ethical leadership including ethical integrity and honesty, reliability, service, humility and adjust activities within ethical framework in order to increase ethical capital of companies. For example, increasing the warm and friendly relationships by administrator, justice and fairness in dealing with others and manager adherence to ethical standards and codes, ethical leadership levels will be increased and ethical capital of companies will be improved.

Given the importance of ethical culture on ethical capital of companies, it is proposed to enhance each dimension of organization's ethical culture including support, verifiability and express dissent in workplace in order to increase ethical capital of companies. For example, increasing criticism, respect for ethical behavior in workplace, establishment of rewarding system for ethical behavior and remove narrowness and ignorant prejudice in workplace lead to increased ethical culture of organization and improved ethical capital of companies.

Given the importance of ethical climate on ethical capital of companies, it is proposed to enhance each of ethical climate dimensions including instrumental climate, principal climate and benevolence climate in order to increase ethical capital of companies. For example, increasing the support of employees interests, strengthening their sense of responsibility, compliance with professional law and standards by employees and adhere to ethical standards in company lead to increased ethical climate and improved ethical capital of companies.

Given the importance of corporate reputation on ethical capital of companies, it is proposed to enhance each dimension of corporate reputation including product and service quality, social responsibility and financial performance in order to increase ethical capital of companies. For example, developing innovative products and services, supporting environmental responsibility, increasing tendency to outperform competitors and providing valuable products and services to customers lead to increased corporate reputation and improved ethical capital of companies. It is suggested to corporate researchers and executives to use proposed model of this study in order to measure ethical capital of companies; according to standard questionnaire of this study, ethical capital of companies level is determined.

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# IDENTIFICATION AND PRIORITIZE OF EFFECTIVE FACTORS ON SOCIAL RESPONSIBILITY BY USING DELPHI TECHNIQUE

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## Abstract

*The present research has been conducted with the aim of identification and prioritizing effective factors on responsibility of professors of Qazvin Islamic Azad University. The research method is mixed method (quantitative, qualitative) which according to the nature of descriptive research from survey type and in terms of target is developmental. Professors of Qazvin Islamic Azad University constitute the statistical population, that to the end of June 2015 the total of 394 people that by Using Kokeran formula the number of 195 of professors of university were selected as sample by method of random sampling. Thus, by applying the experts' views and by using the Delphi Technique, 10 effective components on social responsibility of professors were identified and were classified in three groups. These factors were ranked with the use of statistical methods and Friedman test. The results show that among Triple factors of structural, behavioral and Background effective on social responsibility, structural factors is most effective on responsibility of Qazvin Islamic Azad University Professors. In the structural dimension that was number one in the three following dimensions, five effective factors in this dimension respectively, there are providing welfare and economic situation of professors from universities, promotion and gradation system based on merit origin, lake of political and partisan positioning in connection with the professors, existing freedom of speech in professors at the universities, and free expression of opinions in the field of scientific research, existing order and symmetry on campus.*

**JEL classification:** G32

**Keywords:** Social responsibility, Structural factors, Behavioral factors, Background factors

## 1. INTRODUCTION

The concept of social responsibility of organizations has been presented by Western countries and for the first time has been modeled by Carroll, He has expressed four components to the social responsibility of organizations that including moral, humanitarian, economic and legal responsibility. (CaroleArchie, 1991)

But also it is used and has many fans in Eastern countries that in some of these countries according to religious rules and existing Social responsibility concepts in religions, especially Islam religion and attention to the principles and human behavior in organizations and society and also emphasis on human social responsibility in the community is needed to study in this area.

(Fadilah et al, 2015) Since the advent of social responsibility is not response to changes and challenges such as globalization, (Carroll et al., 2006) according to the environmental challenges that our country, Iran is facing it in recent decades, Crises such as the water crisis, deforestation and other natural resources and extinction of native animals and environmental pollution, etc. what is needed in our management principles, attention of organizations and companies to training social responsibility to employees. And up to companies and organizations, and also whole available resources in the country can continue to live in a

safe environment in the present and in the future. With regard to long-term economic society, we witness the sustainability development of the society (Morsali et al., 2010); meanwhile the role of universities and educational organizations is very important. Since the related to the issue of social responsibility has been studied less in services organizations and especially training organizations (Ashtryan, 2012) and since the one of the most effective organizations in the public culture of society is universities that educate human resources of organizations and companies. And in our country the Islamic Azad University of Qazvin is responsible for a large part of this training the Islamic Azad University was selected for study of this research. And university professors have been chosen among its employees, because the impact of this part of the employees (professors) is tangible on the current society and future of the country. since the mission of the Prophet and Quran is ministering and scaring human from effects of their actions, now professors of universities have this serious responsibility for creating future society, by acceptance and being commitment to this responsibility and passing it to future generations, and they will be active slangy as human country sources in positions such as: executives, managers, researchers, teachers, can be responsible for society effectiveness mostly. Since the responsibility of professors, can be carried out n from two points of view the necessary evaluations, this means that a sense of responsibility of professors are students against the direct beneficiaries. And it is education of students as committed, resourceful and responsible and other terms of professor's responsibility against secondary stakeholders that are families, future audiences, organizations and society in general.

According to this basis, the main question this study raises is: What are the effective factors on the social responsibility of university professors? What are the priority effective factors on social responsibility of University professors?

## 2. RESEARCH BACKGROUND

Carol (1991) in his study, responsibility of organizations analyzed with four components: of economic, ethical, legal and humanitarian and the result was that the organization has greater social responsibility whatever to be successful in four fields expressed.

The results of White House (2003) showed that can be offered the two approaches to the problems related to changes in the world: the first is to do force the doing responsibility and the second is optionally. In the first case may be faced with an infestation of global protests, so about the second case must be anticipated measures by international organizations to help for solving the problems of globalization.

Ryong et al (2010) in a study entitled "Social responsibility and identify employee participation" showed that employees are pioneer for accepting social responsibility, so factors and strategies offered inside the organization to accept this responsibility.

Primary and secondary conditions were among those. The results of Fadyla and et al (2015) also showed, Implementation of social responsibility has been confronted welcoming and maximum agreement among the employees especially from women and is positively established between employee behavior and performance and their behavior.

The Yin and colleagues (2015) in their study showed that there is a significant relationship between the quality of reporting employees of company and board features on big companies reputation,

The existence of transparency and honesty indicates desired effect in the activities of Board of Directors and the high quality of large companies stakeholders in the theory of legitimacy confirms it and research findings of Morris and et al (2015) showed, transparency in company social responsibility, is not dependent to being small or large size of companies and companies should clear their humanitarian intentions because the lack of transparency and social responsibility of humanitarian will create various doubts and lack of transparency the employees also should be trained and justified to accept their responsibilities.

Yeganeh Hasas & Barzegar (2012) in their study achieved the positive correlation between social responsibility efforts and financial performance of the company's employees as a new paradigm in studies of social responsibility in companies and economic agencies.

Amiry - Moghaddam and et al (2013) in their study, five factors of organizational, interpersonal, managerial, communication and structure have divided on responsibility in clubs of researchers that structural factors have the greatest impact on social responsibility.

Abbasi & Feizi (2013) performed a study in 2013 entitled "The moral organization and its impact on company Social Responsibility". Its result was that the moral organization has impact on responsibility for economic, legal, ethical and philanthropic organizations

### **3.REVIEW THE BASIC CONCEPTS OF RESEARCH**

#### **3.1. SOCIAL RESPONSIBILITY**

Social responsibility is a set of commitments and tasks that organizations need to do to maintain and contribute to society in which they operate and also organizations responsible to avoid the contamination of the environment, discrimination, affairs of employment, neglect to needs of your employees, produce harmful products and so which harm to public health. They need to allocate financial resources to improve social welfare that is accepted by the majority of society. Finally, the purpose of social responsibility is that whereas organizations have a major impact on the social system they are supposed to act in way that does not harm to the society (Alvani, 1998)

#### **3.2. THREE RAMIFICATIONS MODEL**

Based on the three-ramifications model all concepts, corporate events and organizational phenomena according to the theoretical three ramification model with branches of structure, behavior and areas are evaluable and analyzable. The reason for naming this model into three ramifications is that the relationship between structural factors, behavioral and areas should be in way that no phenomenon or corporate event can take place outside of the interaction of these three branches.

Other words, the relationships among these three branches are a close relationship and are inseparable in practice. In fact, the sort of relations among these three branches is correlational, like three branches which has grown out of a tree. (Mirzaee Ahrnjany, 1998) In such relationship, structural factors, areas and behavior in the shape of systematic relationships are constantly interacting.

In such relationship, the structural, behavioral and Background factors are constantly interacting in a systematic way. So, the distinction and distinguish of these three aspects of organizational life is purely theoretical, just for the analysis to recognize concepts and organizational phenomena (Mirzaee Ahrnjany, 1998). In this study, social responsibility of Qazvin Islamic Azad University Professors has been analyzed based on the three-branch of structure, behavior, and the area.

##### **3.2.1. Structural dimension**

The purpose of structural dimension is all elements, factors and physical and non-human conditions of the organization that are joined together with a certain order and regularity and they form the framework, form, crust, body or physical and corporeal physique of the organization. Therefore when all financial and informational resources become ongoing with certain combination in pungent body of the organization, they are considered as the structural branch of the organization and in fact they are abiotic factors of the organization.

##### **3.2.2. Behavioral dimension**

Based on thee-ramifications model the purpose of the behavior branch is human and human relationships that are joined together with behavioral norms, non-informal communications and certain patterns and they form the main content of the organization which are considered as biotic factors of the organization.

##### **3.2.3. Area dimension**

Based on thee-ramifications model the purpose of the area branch is all environmental and out-organizational conditions and factors that have surround on the organization and they form main systems or

super systems of the organizations such as customers, clients, government, market and other environmental systems of the organizations.

#### 4. METHODOLOGY OF THE RESEARCH

In the present research the effective factors on the under study variable in the research are identified by Delphi method and it is tried to design a suitable tool for data collection in addition to specify stages of conducting the research and to collect the needed objective data among the statistical population of the research by choosing the statistical sample. Then Cronbach's alpha and SPSS software have been used to analyze data to test reliability and confirmatory factor analysis has been used to evaluate convergent validity by using Lisrel Software. The purpose of this research is presenting a general model. In other words, it should be expressed in this way that the purpose of the research is developmental and according to the nature of the research it can be said that layers of the present research have been summarized in table 1.

**Table 1. Layers of this research**

Research layers	Details of this study
Research method	Mixed method (qualitative-quantitative)
Research Philosophy	Pragmatism
Approach	Inductive
Purpose of research	Developmental
Strategy of Research	Descriptive - survey - Delphi
Time horizon	One cross-sectional
Data collection method	Delphi method - examine the documents and questionnaire-questionnaire

*Source: Author*

##### 4.1. FORMATION AND COMBINATION OF PANEL

As it was mentioned, Delphi method is conducted by participation of people who have knowledge and expertise and expert comment. These people are identified with topic of Delphi panel.

##### 4.2. SOLIDARITY SCALE

In this research Kendall's Coefficient of Concordance (W) was used to determine solidarity among members of panel. In fact, the first criterion is a strong solidarity among members of panel which is determined based on Kendall's coefficient of concordance. In this research Delphi method is done three times totally that it has been mentioned in findings part.

##### 4.3. STATISTICAL POPULATION AND SAMPLE AND MEASUREMENT TOOL

The statistical population of this research in qualitative part included 5 people of great masters of management field. The sampling method for qualitative part (interview) and Delphi technique (quantitative) is the type of purposeful and snowball. The tool of information collection is questionnaire. The Cronbach's alpha method was used in order to validity or reliability of its measurement tool, a primary sample including 30 questionnaires was pretested and then by using the obtained data from these questionnaires and by statistical software of SPSS the value of reliance coefficient was calculated by Cronbach's alpha method for this tool that the results showed Cronbach's alpha coefficient is higher than 0.7. Also validity of rating (converged) in this research has been evaluated by Confirmatory factor analysis (Lisrel software).

## 5. FINDINGS OF THE RESEARCH

### 5.1. IDENTIFYING THE EFFECTIVE DIMENSIONS ON SOCIAL RESPONSIBILITY

In this research Kendall's Coefficient of Concordance (W) has been used to determine solidarity amount among members of panel. Delphi method in this research was done three times totally that has been mentioned in the findings part. Questionnaire of this research has been expressed in three categories of question in separation of three ramifications, so that prior 23 questions are related to behavioral dimension, 26 questions are in the field of structural dimension and other 14 questions are about area dimension that totally 63 questions have been expressed.

#### Second part of first round of Delphi technique

In this part no dimension and component have been mentioned by elites for under evaluate variable. So the second part of round one remains empty.

**Table 2. Kendall's coefficients of each dimension of under evaluation variable to stop sequence of rounds of Delphi technique**

Round number	C	B	A
1	0.6	0.8	0.949
2	0.658	0.8	0.825
3	0.642	0.761	0.75
The difference between the two rounds of two and three	0.016	0.039	0.035

Source: Author

According to findings of table 4 because difference of dimensions of two rounds is less than 0.1 we stop the process in third round of Delphi technique and we have reached to solidarity of experts.

**Table 3. Ten factors with the most rank**

Related Branch	Related factor	Row
Behavioral dimension	Database (background) economic	1
Behavioral dimension	Consideration of justice in perform tasks	2
Behavioral dimension	Adherence to moral principles	3
Behavioral dimension	Field of Study	4
Structural dimension	not to politicize the some professors activities at the country level	5
Behavioral dimension	Personality characteristics	6
Structural dimension	Existing Associations and NGOs for humanitarian activities, environment	7
Structural dimension	Existing freedom of expression of professors at the University and freely expression of opinions in the field of scientific, research	8
Structural dimension	Organizational materials University	9
Behavioral dimension	Individual goals	10

Source: Author

What is evident is ten important factors in opinion of professors of Islamic Azad University of Qazvin university in acceptance of social responsibility of professors according to that has been mentioned table 6 and they have resulted from Friedman test respectively; economic base (areas), consideration of justice in carrying out the duties, adhere to the principles, education field, not giving political aspect to some activities of professors in the country, personality characteristics, existing NGO centers and formations for philanthropist activities, environment, existing freedom of expression for professors in university and freely expression of comments in scientific- research fields. By evaluation of these then factors that have first to tenth ranks it can be understood that the structural dimension has the most average rating and the area dimension has the least and the behavioral dimension has the medium level of scores.

## 5.2. RANKING THE IDENTIFIED FACTORS

Friedman test has been used in order to evaluate ranking of the identified factors in this research. Results of this test have been shown in table 4.

**Table 4. Friedman test results in three-ramifications dimensions**

Dimensions	Average ratings	Rating of each factor
Behavioral factors	7.2	2
Structural factors	93.2	1
Background factors	0.1	3
Social Responsibility	0.4	

*Source: Author*

Results of table 4 of ranks show average of ranks of each one of factors which the structural factors with 2.93 score are in first rank and the behavioral factors with 2.07 score are in second rank and Background factors with 1 are in third rank.

**Table 5. Friedman test**

Number	195
Chi square	201.572
Degrees of freedom	3
Asymp. Sig.	0

*Source: Author*

Results of table 5, results of Friedman test which contains the main result of the test and value of chi square statistic with 3 positive degrees of freedom and also the significant level of P-Value test with zero value (less than 0.001) can be observed which show the effectiveness of structural factors, behavioral factors and background factors on social responsibility of professors.

## 6. DISCUSSION AND CONCLUSION

The present research with the purpose of identification and priority of effective factors on social responsibility were conducted by evaluation of three ramifications and Delphi technique. The results showed that structural factors, behavioral factors and background factors were identified and the structural factors have the most importance in social responsibility of professors. In continue the obtained results are analyzed in three dimensions; In general evaluations from opinion of faculty members of Qazvin University in structural dimension we concluded that structural dimension has the most effect on social responsibility among behavioral, structural, background dimensions. In the structural dimension which allocated the rank one to self among the three dimensions, five effective factors on this dimension include respectively provision of welfare and economic status of professors by university, promotion system based on meritocracy principle, lack of political and partisan posturing in relationship to professors, existing freedom of expression of professors in university and freely expression of comments in scientific-research fields, existing order and symmetry in environment of university. The important point is in that provision of welfare and economic status of professors by university has allocated the first rank to self which this rank is order to confirm Karol's social responsibility pyramid that the economic dimension has allocated the one

rank to self and emphasizes this point that in each organization if its economy be not provided social responsibility can be not expected from personnel. Finally, if we want to express structural priorities with words instead of phrases; priorities should be expressed in form of economy, meritocracy and impartiality. In other words, according to the priorities it can be said in this way that a suitable background can be provided to accept social responsibility of professors by worthy selection and welfare provision of professors to educate students and finally to improve responsibility level in the society. The obtained results in the present research are consistent with results of Yeganeh Hassas and Barzegar (2014), Salarzahi and Astansty (2011), white house (2003), Stone and Jane (2007), Ryong et al. (2010) and Fadyla et al (2015). In evaluation of behavioral dimension 23 factors were identified as following: after statistical analyses the priorities of behavioral factors were identified. Based on the five factors that had the highest priority in behavioral dimension for social responsibility of professors respectively these factors were obtained: honesty and integrity in behavior, conscientiousness, wakefulness of human nature, commitment to ethical principles, discipline. With more accurate look, whatever is understood is prioritizing to ethical principles is raised and priorities are low for the factors such as education level, personal interests, social class, education field, gender roles and this result expresses this issue that education level and the field that is studied, personal interests, social class and gender can't have much role in social responsibility of professors, in a form that the gender role was identified the latest factor in all factors in all dimensions. In results from the research we concluded that in social responsibility of professors the role of ethical factors is higher than legal priorities and this is different to results of Karol's research because in Karol's researches the legal bases have higher priority than ethics. In other words, priorities of responsibility in universities are different with other organizations; if we want to evaluate the results of our work with Karol's model we conclude that unlike Karol's responsibility model in our research the ethical responsibility allocates the first priority to itself to accept social responsibility, the ethical responsibility and philanthropy responsibility are situated in next priorities. In analysis of the obtained results in background dimension which 14 factors were identified what is evident are the five actors that have high priority as following: values and ethical Policies in first rank existing technological infrastructures for philanthropist avidities in the national and global level in second rank, economic system of society in third rank, existing supporting infrastructures in the country by scientific experts in the field of social responsibility in fourth rank and not giving political aspect to some activities of professors in the country in the fifth rank. In this evaluation it is obvious that current ethical policies of the society have higher priority than the other factors, maybe universities can't interfere in this field directly but by presenting solutions to policy makers of the society through asking University Elite Company in related meetings to Council of Public Culture and High Council of Public Culture of the country. Result of the obtained research is consistent with results of researches of Qalavandi et al (2014) and Caroline and Symonsen (2015). Also results of the present research and previous research show that determining and prioritizing effective factors on social responsibility and in training environments and Knowledge Based Companies and research centers cause to professors and personnel be committed in order to maintain and care and help to the society that they are act in it and also be responsible to avoid to pollute the environment, applying discrimination, inattention to provision of needs of its beneficiaries, help to produce training harmful products and such that, which hurts to health of the society and they should try to improve the social welfare which is accepted by most of the society.

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# SURVEY OF THE HEALTH SERVICES CLIENTS' VIEWPOINTS ON THE IMPORTANCE OF PRODUCTS (HEALTH CARE SERVICES) IN SOCIAL MARKETING OF HEALTH SERVICES

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## Abstract

*Widespread application of marketing in economic firms had led its extension in both public and private domains. There are controllable scales in social marketing that combination of them makes it possible to meet the target market and clients which is called marketing mix (4P). In Social marketing of health services, the aim is producing and offering acceptable services to the people. Therefore, the study of the viewpoints of health service clients of the social marketing of the presented services are an appropriate solution for health professionals, policy makers and managers that try to meet the peoples' needs to receive the services. This descriptive study carried out on a sample of 339 patients referred to the 9 health centers or hospitals. The data were collected by a validated questionnaires included 3 parts that were filled in person by the participants. There were 17 questions to identify the Service importance that were evaluated by a five point likert scale and then standardized. There were 3 answers for each question including 1: Less important 2: fairly important 3: very important. The results showed that 87% of research participants see the service importance in health service social marketing as fairly important and highly important. The results also demonstrated that in the mean scores of health services social marketing in divided service questions, the highest scores go to respectful behavior (4.18), staff skills (4.12) and desired services (4), and the lowest score goes to existence of enough staff numbers. It is Concluded that in Social marketing of health Services, the services, the service itself is highly important, but the Clients of health services have other expectations such as Staff respectful behavior, observing the turns in service presentation, necessary training while presenting services, observing patient's privacy while offering services and staff responsibility to patients. These factors directly effect on the identity and origin of the services, So the health policy makers and managers should take steps to meet these expectations.*

**JEL classification:** G32

**Keywords:** Health Care, Social Marketing, Health Services

## 1. INTRODUCTION

Marketing includes human activities in order to meet the needs and demands through exchange process. e Exchange includes an activity that you get something else desired in return for offering something (1).

Extensive use of marketing knowledge in economic fairs has led to its wide extension in public and private domains (3). It is called social marketing if business marketing principles are used to sell the thoughts, attitudes and behaviors, (6). Social marketing was born as a field of study in 1970, and health activists came into this domain seriously in 1980s. In 1980, Richard man off mentioned social marketing as an organized approach to promote public health and communication with the details of using social marketing views in health sector. (1) A set of convenient marketing scale that combining of them meets target is called marketing mix market and respondent. These scales in scientific books are expressed as 4 p that include product (service), price, place and promotion (6).

Product (Service):

Products or services are things that are marketed to meet the customer's needs and demands. A product or service can be something physical and touchable or an untouchable and abstract idea (4). The investigation of the viewpoints of health service users is significant as the product or service presented by health service

providing centers and the rate of using the products. Consequently, continuous use of them is very important in a social marketing of health serviced and it can detect the program defects to some extent (1).

Then, the current study aimed to explore the importance of service (product) as one the significant scales in social marketing of health sector.

**The main text:** Health is a human right and everybody can ask for it. Health is a source that enables people to have a productive life personally, socially and economically. Generally, health determiners could be categorized into three groups:

1. Environmental, social and economic conditions and factors including poverty, employment, housing and etc.
2. Health services, education and how to provide it (vaccination, health care, screening and etc.)
3. Lifestyle and health behaviors of people (culture, beliefs and norms and etc.)

Health promotion means to enable people in order to recognize the factors affecting personal and social health and appropriate decision making in choosing health behaviors as well as considering healthy lifestyles (8). With social marketing instead of concentrating on transmission of information from top to bottom, health professionals devote their efforts to learn how to listen and pay attention to the needs, wishes and demands of target groups (10). An effective health system can perform its mission of people's health just through offering desired services (7).

In social marketing, there is a set of controllable scales that combination of them meets the target market and groups of respond and target groups. In the other words, marketing mix consists of all actions that service providers and producers perform to effect on market demand of products or services systematically (5). Here, the components of marketing are stated. Marketing mix is also called 4p that stands for the acronyms of p as products, price, place and promotion.

1: product:

Product is defined at this point as goods (physical and touchable things) and services (untouchable activities or ideas) that are offered to markets to meet customers' needs and demands.

In fact, goods are sets of benefits and facilities that are offered to customers. First, target groups should be informed that there is a problem and goods or services are proper solutions to solve this problem. Then they can take steps to correct their behavior in order to use them. In theory, a product social marketing includes three levels:

1. Main products
2. Real products
3. Extra products

Main products refer to the advantages of customers receive with new behavior. The real product is a special behavior that is promoted and encouraged. Product refers to additional services and products that will be provided at later stages (13).

Philip Kotler wrote in his book, up and out poverty, that a product is anything offered to markets to meet a need. Products are not just visible and touchable items like soap, tires and hamburgers, but they can be as a service, experience, an event, a person, a place, a quality, an organization, data and an idea (12). In social marketing of health services, professional policy makers are needed who can cause appropriate fields of producing products and services that people accept. Providing the equipment's and facilities for health services and many other factors are classified as health services and products.

2. Price: what customers pay for a product or services?

3. Place: Where products and services are offered to customers.

1. Promotion: Sets of advertisements, public relationships, personal relationships and similar activities in order to persuade customers to use the products and services (13).

So far, social marketing has had remarkable achievements in designing and performing intervention plans to solve a lot of social health problems at the international level. Prevention and control of AIDS and other sexually transmitted diseases through the use of condoms, prevention and fight against Malaria, drinking less alcohol in young people, reduced smoking, promotion of breast feeding, weight loss and accidents are some examples of the effective uses of social marketing views in public health (11).

No study has been done yet in Iran and even in the world like the present study on the factors affecting the offer of health services, but some studies have been done on the satisfaction with services that will be explained in the following to some extent.

In a study in the united states, the results showed that gaining the trust of people and speed in providing services are of the very important factors is nursing services (17). In a similar study in Canada, the results suggest that the quality of health care is an important factor for people who receive health services (9). A study in Iran shows that service quality and ways of service offer effect on the rate of people's satisfaction considerably as well (9).

The results of another study in Iran explained that Capability of proper service offer and service offer in specific time (on time services) are the most important and tangible and physical components of the services are the least important in health services (6).

Social showcasing is ordinarily utilized as an intercession technique in worldwide wellbeing. Social advertising utilizes showcasing ideas—item configuration, suitable estimating, deals and appropriation, and interchanges—to impact practices that advantage people and groups (3). Social advertising mediations for the most part plan to guarantee that the intended interest group receives the conduct being advanced (4). Social advertising underpins markets to make wellbeing items and administrations engaging and moderate for both human services suppliers and shoppers (5). Social showcasing programs offer practices. This frequently incorporates items that help practices by sponsoring them and making them accessible at plugs outlets, however the motivation behind making an item or administration accessible is to help the act of the conduct being focused on (6). In low-and center pay nations, these projects may offer financed items through business division outlets, for example, drug stores, disperse suitably evaluated items to the poorest populaces, convey wellbeing administrations through social establishments or advance practices not needy upon an item or administration. Social promoting may likewise work in an all the more upstream way to address approach or social standards change (7). Social showcasing is usually utilized as an approach in worldwide wellbeing to achieve helpless populaces with wellbeing items and administrations (8).

Albeit social advertising has been incorporated into ventures made inside the setting of advancement help for wellbeing, the adequacy of social showcasing for accomplishing upgrades in major worldwide wellbeing pointers has been addressed (9). Promoters and spoilers of social advertising may both concur on a definitive objective of accomplishing conduct change in target populaces; however faultfinders of social showcasing have contended that conduct change is hard to accomplish exclusively through the instruments embraced by social promoting (10). Regardless of the possibility that social showcasing may urge individuals to attempt promoted items and administrations, it isn't evident that this conduct change can be managed. Meanings of social showcasing have extended because of evaluates that social advertising can be viable just if the approach works inside an empowering arrangement and social condition (11). Social advertising definitions now incorporate more express say of the linkage to strategy and support (12). Others scrutinize social showcasing from a perspective of educated assent, asking in the case of having a socially gainful true objective dependably legitimizes prodding gatherings of people, particularly helpless populaces, toward practices they generally would not embrace (13).

A key issue in evaluating the viability of social promoting is whether social showcasing programs really accomplish conduct change consistently. Projects utilizing broad communications or relational correspondence channels may raise the intended interest group's mindfulness and expectations to utilize items and administrations. These behavioral elements—enhanced mentalities, learning or saw self-adequacy—may encourage the true objective of social advertising, yet don't give adequate proof that social promoting mediations have accomplished their expressed reason. Or maybe, these elements may intervene the procedure of conduct change or can be sorted as middle results (10). Shown confirmation of changes in

conduct or enhancements in wellbeing status could address these worries and give a more solid appraisal of viability and effect (9).

### **Existing systematic reviews of social marketing**

We recognized six methodical audits that touch on the viability of social showcasing for worldwide wellbeing interests in low-and center wage nations (4). A typical element of these and different audits of social advertising, including of concentrates occurring in high-pay nations, is the test of distinguishing social showcasing mediations and the danger of mis-ordering social promoting as wellbeing advancement or social and conduct change correspondence (6). The six surveys we discovered concentrating on low-and center wage nations utilized fluctuated meanings of social promoting. A few considered social showcasing as installed inside broad communications intercessions and characterized the points of these mediations as being to bring issues to light or change practices among a wide crowd (8). Others contended that social promoting includes a more extensive arrangement of mediation segments, recognizing that social advertising may work through a showcasing blend, i.e. figuring in estimating and deals procedures (9). Numerous specialists recognized that it hard to decide if intercessions that distinguish as 'social promoting' are really established on a fundamental level (3). Because of the fluctuated meanings of social promoting, it is conceivable that these surveys unintentionally included conduct change and wellbeing correspondences battles close by more entirely characterized social advertising programs. Free utilizations of the standards of social showcasing as an intercession technique make it hard to follow the hypothetical pathways by which social advertising accomplishes conduct change and enhanced wellbeing results, especially for those wellbeing results of most prominent enthusiasm to the worldwide wellbeing approach group.

These audits discovered confirmation of beneficial outcomes of social advertising efforts on the objective populace's practices, expectations to embrace solid practices and factors interceding the procedure of conduct change, for example, mindfulness, information and mentalities. Be that as it may, ponders tended to report all the more frequently on these intervening components, or moderate results, than on practices. Concentrates that deliberate the two sorts of results regularly found that introduction to the intercession delivered more grounded relationship with enhancements in these interceding factors than in practices (12). Of three HIV-centered surveys, two could make determinations about the impacts of social showcasing on evolving conduct, finding that social promoting was related with increments in condom utilize (11). An audit of social diversifying, a sub-set of social promoting, found that diversified conceptive wellbeing centers were connected to enhancements in benefit usage and take-up of family arranging among customers (14). A current audit of social promoting of water and sanitation discovered blended proof of conduct change identified with water treatment (3). Two surveys that concentrated on social promoting as one of a scope of conveyance techniques evaluating the viability of conduct change intercessions identified with regenerative or maternal and kid human services results did not present information particularly on the capacity of social showcasing to accomplish behavioral results (10). Creators have for the most part portrayed the proof evaluated as being conflicting and of powerless quality.

None of these audits have tended to the full scope of items and administrations for which social promoting might be assembled in low-and center salary nations. Accordingly, it is troublesome from these surveys to evaluate the capacity of social promoting as a procedure to add to meeting the wellbeing Thousand years Advancement Objectives (MDGs), which have set the course for worldwide wellbeing speculations, especially improvement help, since 2000, are as yet applicable as the worldwide wellbeing field moves into focusing on the post-2015 Manageable Improvement Objectives (5). Fundamentally, none of these surveys has evaluated whether social advertising projects can accomplish enhancements in wellbeing status while likewise tending to whether social promoting can reliably change conduct.

We planned to audit accessible proof on the viability of social showcasing to accomplish upgrades in wellbeing results, wellbeing conduct change and interceding behavioral factors in low-and center pay nations, concentrating on significant ranges of interest in worldwide wellbeing by multilateral and respective benefactors, as confirm by the nearness by multilateral speculation structures and vast scale venture by two-sided offices and additionally private establishments concentrated on accomplishing the wellbeing MDGs (13). We utilized a rationale model to conceptualize a summed up pathway for the normal adequacy of social promoting. This model sets that a social advertising program, which may incorporate numerous segments

of the showcasing blend—item, value, advancement, put—and may include both free market activity side techniques—should prompt individual-level program presentation by the intended interest group. Singular level introduction should impact a change in interceding behavioral elements—access and accessibility to wellbeing items and administrations, learning, mentalities, social standards, aims and so forth.— that will at last prompt selection of a wellbeing advancing conduct. Sound conduct change (i.e. taking precaution or potentially treatment activity), should then prompt enhancements in wellbeing status, as evaluated through measures of grimmess, mortality, or ripeness status (4).

## 2. MATERIALS AND METHODS

The present study is a descriptive study conducted on a sample fo 339 patients referred to 9 health care centers and hospitals. The data collecting scale was a validated questionnaire that was contained three parts and filled in by the participants in person. To determine the questionnaire validity, the content validity was used. Cronbach Alfa was used to determine the questionnaire reliability as well. The questionnaire was approved by some experts: There are 17 questions in order to investigate the importance of service, product, in health services that were evaluated by the 5 stage Likert scale. The answers were classified from the level of importance as very much, much, medium, little and very little and then standardized. They were evaluated by three answers: Less important, important and very important.

**Table 1. Frequency of the service importance from viewpoints of health service customers.**

Precent	Frequency	Importance level	No
13%	44	low	1
72%	244	medium	2
15%	51	high	3

*Source: Author*

Result showed that %72 of participants believe that services (products) in health care marketing are important, %15 think they are very important and %13 think they are less important.

**Table 2. Mean and standard deviation of the questions about services (products).**

Standard deviation	Mean	Questions	No
.981	3/79	Specific time for health service	1
.846	4/18	Staff respectful behavior	2
1,112	3/46	Staff kindly behavior	3
.974	3/77	Service speed	4
1,112	3/46	Healthy equipment	5
1,003	3/79	Considering the turns	6
1,000	3/75	Necessary training about services	7
.795	4/12	Staff skills and mastery to offer services	8
.808	4,00	Desired and effective health services	9
.804	3,89	Continue services	10
.840	3,86	Regular services	11
.988	3,36	Enough staff to speed up the services	12
.885	3,97	Considering patients ‘privacy	13
.885	3,97	Responsibility of staff for patients	14
.849	3,94	Staff cooperation and coordination	15
.895	3,95	Staff motivation for service	16
.897	4,11	Cover of different types of health insurance	17

*Source: Author*

Additionally, the results showed that mean scores of health service social marketing in the separated questions about product (service) include as follow:

The highest scores go to staff respectful behavior (4.18), Staff skills (4.12) and effective, desired services (4) and the lowest scores belonged to availability of enough workers to speed up service offer (3.36).

Moreover, the results explained that there is no significant statistical relationship between service relationship and the variables of job, education and age.

### **3. DISCUSSION AND CONCLUSION**

The findings of the present study demonstrated that %87 of the participants believed that the service or product origin has medium or high level of importance in social marketing of health services. It means that amongst scales of health service marketing including product (service), place, time and promotion, the factor of product or service is the most important of all.

In presentation of health services, the factors such as staff respectful behavior, the skills and mastery of staff, and desired services are the most important of all. The results of the present study showed that from the participant's viewpoints, the highest mean score from the aspect of service in health service marketing belongs to staff's respectful behavior. As it was stated in product (service) division, staff behavior is an extra service not the main product or service. In the other words, staff disrespectful behavior will affect on the main services offered to health service clients.

Staff skills and mastery, effective and desired health service and accepted types of insurance are the factors of main products (services) that have the highest mean scores respectively after staff respectful behavior.

Health clients express their health and treatment expectations at the health centers and hospitals. Accordingly, the staff should be able to meet their needs and demands. The results of this study are in line with the results of the studies conducted by Stephanie on patients' and staff's perception of the quality of nuclear medicine services (14), yourself and etc. on health service quality from the view of patients in England national medicine hospitals (15) It is also similar to a study conducted by Lee on the comparative study of patients, nurse's perceptions of the quality of nursing services in Korean hospitals (16). To sum up, it is concluded that in health service social marketing, the services are very important and in addition to health expectations the health clients have such non-medical expectations from the health centers and hospitals as staff respectful behavior, considering patient's turns in receiving the services, necessary training with the services, considering patient's privacy while offering the services, responsibility of staff for patients and health service managers and providers must take steps to meet these demands and expectations.

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# THE ROLE OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL ENTREPRENEURSHIP AMONG PERSONNEL OF MARKETING COMPANIES IN KERMANSHAH TOWNSHIP

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## Abstract

*The main purpose of this study was to investigate the role of knowledge management on organizational entrepreneurship among personnel of marketing companies in Kermanshah Township. Statistical population consisted of all personnel of marketing companies in Kermanshah Township (N=122). Using Kerjeki and Morgan (1970) sampling table, 100 of them were selected as the sample using the proportionate stratified sampling method (n=100). Data was analyzed by SPSS<sub>win23</sub> software in two parts of descriptive (frequency, percent, mean, min, max and standard deviation) and inferential (mean comparisons, correlation analysis and multiple regression) statistics. Findings revealed that the present status of knowledge management and organizational entrepreneurship among personnel of marketing companies in Kermanshah Township was at the moderate level. Based on the results of stepwise multiple regression knowledge management components (knowledge creation, knowledge acquisition, knowledge saving, knowledge organizing, knowledge disseminating, knowledge application) were the main predictors of organizational entrepreneurship among personnel of marketing companies in Kermanshah Township. Results of this study have applications for Managers of marketing companies in Kermanshah Township in order to enhance of organizational entrepreneurship among personnel of marketing companies in Kermanshah Township.*

*JEL classification: E32, H26*

*Keywords: Entrepreneurship, Organizational Entrepreneurship, Knowledge Management, marketing companies.*

## 1. INTRODUCTION

Since one of the most important methods of competition among different organizations and businesses, is knowledge (Balogun et al., 2004), the current age is known as age of rapid changes of innovation and the knowledge. In support of this claim, surveys and various studies have shown that knowledge size doubles every five and half years and while the average age of that is less than four years. Under the circumstances, knowledge can be a strategic valuable source and property that this knowledge will require management. If the above conditions append, intense competition in the world market importance of knowledge management in the organization double as a competitive advantage in today's knowledge-based economy (Jalali et al., 2007). Knowledge management is the process of creating, organizing, and disseminating and ensure of understanding required information to perform a task (King, 1999). Therefore, it can be said that knowledge management refers to a set of processes in which knowledge flows is guided continuous and growing in a community (Santos et al., 2004). Therefore, customs, culture, technology, operations, systems and procedures, all based on knowledge and expertise. Organizations to enhance their ability to improve goods and services and thus consumers benefit need to knowledge. Therefore, improved goods and services should be bundled by changes in systems, structures and ways of solving the problem (Davenport and Prusak, 1998). The use of technology of organizations to manage knowledge has appeared as quickly as the most important distinction between success and failure in the global economy full of competition. That's why that Nonaka & Takeuchi (1995) claim that the

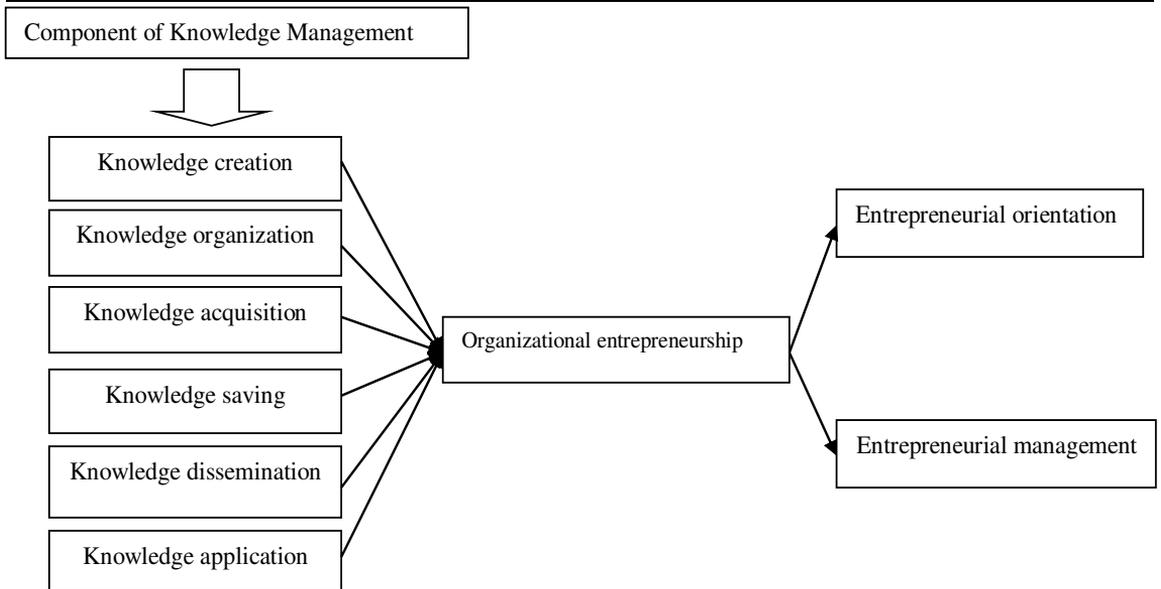
organization's ability to create, store and distribute knowledge will suffice alone for competitive advantage in areas of quality, speed, innovation and price. Unremarkable that lies in all definitions of knowledge management, is that on the eve of the third millennium, knowledge management is as a strategic need for different institutions and organizations. In fact, what guarantees long-term advantages for organizations and communities, their use of human, intellectual and informational capital. In this regard, Peter Drucker also announced that they are creating new types of organizations-rather than arm strength power of the mind is the rule. According to this theory, the societies can expect developments in future that have more knowledge. The natural resources cannot as much as knowledge is important. It is important because our said knowledge-based organization earn capabilities that is capable of low force; build great strength (Alvani, 2007). According to what said, this result can be achieved that the current pace of change is such that predict change from the homogenous out and experiences and past achievements, ensuring future success is not mandatory. In other words, current age is the age of discontinuity and lack of foresight and subjection. The dominance of the idea on the basis of changes in modern societies, organizations will increasingly shift towards creativity and innovation and acceptance of differences Which can found that in the level of entrepreneurship; as a result, any organization that have Capacity to establish reasonable relationship between mentioned cases and take steps to the world changes, it can claim that in the raging sea stepped to survival and progress beach (Nahid, 2009). In fact, organizations operate in an environment that its main Characteristic is complex and rapid changes. Whatever the issues are more complex, more time is needed to solve them, and whatever the rate of change is faster, issues more change and innovative solutions life to solve them reduced. Therefore, the traditional organizations that were formed with the assumption of stability, are not responsive to the the current structure needs of the business world. The future belongs to organizations that have high speed in response to changes, have the necessary flexibility to implement changes, have Innovation and continuous improvement and organizational learning capability is inseparable part of them. The formation of this change in organization is possible in the concept of entrepreneurship. People who are trying in entrepreneurial organizations with the support of senior management and the use of organization resources are shifted toward innovation in new products, development organization and improvement process. Innovation is the key output of the entrepreneurship seeking organizations and success factor in the competition. Entrepreneurial organizations have their own characteristics and moves towards the formation of such an organization require changes in various aspects of organization such as culture, structure and its systems. So, if you want to progress, we have to admit that age dependence on parts and labor is over (Civi, 2000). So today we should invest in men and provides situation that creative, innovative and entrepreneurship energy use their brains more effectively and knowledge product that is vital component of development in the age of information and communication, (Bollinger and smith, 2001). Entrepreneurship is an important and nonrenewable resource which dates back to the power of human creativity. There are different classifications in the field of entrepreneurship in one of the most important classifications Poordaryani and Moghimi (2006) classified it into two categories: individual and corporate entrepreneurship. Individual entrepreneurs, is that a case create an independent business by identifying opportunities, mobilize the necessary resources and focus on innovation, process development, creating new products or services. But entrepreneurship is a process or processes that create innovative products and services by creating an entrepreneurial culture within an organization (Fry, 1993). The hypothesis that forms the basis for entrepreneurial idea is that entrepreneurship is a behavioral issue (Barringer and Bluedorn, 1999). All organizations are on a continuum that at one side of that very conservative concept and the other side very entrepreneurial located entrepreneurial organizations are risk- taking, innovative and pioneering (Antoncic and Hisrich, 2004). Therefore, the sum of what was said can be achieved in that knowledge and entrepreneurship organizations in the accelerated world of contemporary, provide a good opportunity for organizations that have found that and use that. Perhaps that is why discussed of knowledge management and organizational entrepreneurship has many fans. And helps organizations to important information and expertise that are a part of organizational memory and there is usually an unstructured mode, identify, select, organize, distribute and transmit (Khan Babaei and Lajvardi, 2007). In this regard, the rapid changes that occur in the field of social, not only led to the introduction of new technologies and consequently increased competition, but also the mission and vision of marketing companies have facing the key challenges (King et al., 2000). Therefore, in these conditions only marketing company that continuously have ability to determine new opportunities beyond the existing competition, have been able to maintain their survival

(Hamel et al., 1989). This requires creative and innovative environment while provide encouraging innovative activities, principles and strategies that lead to entrepreneurship within the organization (Buchanan, 1993). Since the organizational entrepreneurship considered as an important approach to human resource development and important technique in order to deal with agencies governmental and non-governmental organizations changes; Today, the success and effectiveness of professionals marketing required organization with entrepreneurial capabilities. So, the main question of this research, according to the literature and that few studies have studied the role of knowledge management in organizational entrepreneurship marketing companies, therefore, this issue is still in doubt, is that what is the role of knowledge management and its components in organizational entrepreneurship in marketing companies of Kermanshah township? Answering this question requires answering the following questions:

- How is the Knowledge management status among marketing companies of Kermanshah Township?
- What is the status of organizational entrepreneurship among marketing companies of Kermanshah Township?
- What is the role of knowledge management in entrepreneurship among marketing companies of Kermanshah Township?

## 2. LITERATURE REVIEW

In order to clarify the relationship between knowledge management and its components with entrepreneurship and finally develop conceptual framework in the following provide the results of experimental studies in this area. Madhoshi and Sadat (2011) in their study examined the impact of knowledge management process on the organizational entrepreneurship in small and medium businesses of Mazandaran. For this purpose, researchers, were analyzed three theories: existence of significant relationship between independent variables (knowledge acquisition, knowledge sharing and knowledge application) and dependent variable (organizational entrepreneurship). Their result shows that knowledge sharing and knowledge application has positive and significant effect on organizational entrepreneurship. Taleghani (2011) in a study entitled "Knowledge management and organizational entrepreneurship in educational institutions of Gilan province" show that knowledge management components include: Business knowledge, knowledge sharing and knowledge application, have a significant positive relationship with organizational entrepreneurship in the studied institutions. Ansari and Tabrizi (2012) in a study entitled "The impact of knowledge management on organizational entrepreneurship in Malaysia," showed that the utilization of knowledge has significantly positive effect on organizational entrepreneurship and innovation in the studied organizations. (Amirkhani et al., 1390) in a study entitled "The effect of knowledge management on organizational entrepreneurship from the employees perspective of the Ministry of Industry" showed that the three dimensions of knowledge management; Knowledge creation, knowledge utilization and knowledge sharing are associated with organizational entrepreneurship; the results of previous study show that organizational knowledge management have provided field for organizational entrepreneurship and can be effective in creating organizational entrepreneurship. Hadi Zadeh (2013) also in a study entitled "The relationship between knowledge management and organizational entrepreneurship" It concluded that components of knowledge management have positive and significant effect on organizational entrepreneurship in studied organizations. Naderi et al (2016) in a study entitled "extension of organizational entrepreneurship in Iran: evidence from agricultural extension agents" indicated that components of knowledge management include: Creation, capture, store, organize, use and dissemination of knowledge have positive and significant effect on organizational entrepreneurship among agricultural extension agents. Finally, in order to achieve the main purpose of the study that is analyze the impact of components of knowledge management on organizational entrepreneurship in marketing companies of Kermanshah township use the , model's Lawson knowledge management (2003) and model's July organizational entrepreneurship (2005). Hence, the conceptual framework according to purpose and literature is formed as follows (Figure 1):



**Figure 1. Conceptual framework of the research**

*Source: Author*

### 3. MATERIALS AND METHODS

This phase was conducted within the framework of an applied approach using a descriptive, correlational methodology. A survey technique was used for gathering the required data. The study population in this study population consisted of all personals of marketing companies in Kermanshah township Mihaan: marketing company (40 people), Panda marketing company (38 people), Chitoz marketing company (25 people) and May marketing company (19 people) (N= 122). Sample size was determined 100 persons of marketing companies of Kermanshah Township, by using Morgan table (1970) that the samples study was selected stratified random sampling for study. Data were collected using a structured questionnaire. Its "face validity" was confirmed by a group of professionals in entrepreneurship, industrial management and knowledge management department, Razi University. A pilot study was conducted and Cronbach's alpha test was calculated to determinate the data collection instrument reliability. Cronbach's alpha values of all structures study in the pilot study was higher than 70/0, it can be concluded that research instrument has high reliability. Questionnaire consists of three parts: personal and professional characteristics, knowledge management and entrepreneurship. knowledge management was measured use of Lawson models (2003) that measures by using the six components of knowledge creation (4 items), Knowledge acquisition (4 items), knowledge organization (4 items), Knowledge saving (4 items), knowledge application (4 items) and Knowledge dissemination (4 items). The data obtained through questionnaire, were analyzed using SPSS23. In order to analyze data in two parts: descriptive statistics (frequency, percentage, cumulative frequency, mode, minimum, maximum, mean, standard deviation and coefficient of variation) and inferential statistics (correlation analysis, multiple regression analysis with combination method was used.

### 4. CONCLUSION

#### 4.1. PERSONAL AND PROFESSIONAL CHARACTERISTICS OF RESPONDENTS

The personal and professional characteristics of the respondents are shown the age of respondents ranged from 23 to 39 years old with a mean of 30.53 years with a standard deviation of 3.82. Also, 67.3% of personals of marketing companies were married and only 32.7 % of them were single. Based on the findings the majority of respondents held Bachelor (9.42 percent) and 39 % were diploma and lower and

about 17 % of respondents had M.Sc. degree. The results of the study show that the average of work experience of personals of marketing companies was 5.27 years with a standard deviation of 2.34 years and service experience ranged from 1 to 10 years.

#### 4.2. CHECK THE STATUS OF KNOWLEDGE MANAGEMENT AMONG OF PERSONNEL OF MARKETING COMPANIES IN KERMANSHAH TOWNSHIP

In order to evaluate the current status of knowledge management and its components among of personnel of marketing companies in Kermanshah Township, average was used.

**Table 1. The current status of knowledge management among of personnel of marketing companies**

Variable	Mean*	SD	Minimum	Maximum	Priority
Knowledge creation	2.74	1.04	1.00	5.00	6
Knowledge acquisition	3.00	0.87	1.00	4.5	3
Knowledge organization	3.01	0.94	1.00	4.75	2
Knowledge saving	3.06	0.93	1.00	4.5	1
Knowledge dissemination	2.98	0.83	1.25	4.25	4
Knowledge application	2.89	0.89	1.25	4.75	5
Knowledge management	2.95	0.78	1.25	4.42	-

*\*Score from 1 to 5 (1 is the first rank and 5 is the last).*

According to the results presented in Table 1, it is clear that the value of knowledge management among personnel of marketing companies in Kermanshah Township is close to the average (2.95). The results presented in the above table, shows that components of knowledge management of low to moderate amounts are among personals of marketing companies in Kermanshah Township. So that knowledge saving with the average of 3.06 has the highest value and knowledge creation with the average of 2.74 have the lowest value among personnel of marketing companies in Kermanshah Township.

#### 4.3. CHECK THE STATUS OF ENTREPRENEURSHIP AMONG OF PERSONNEL OF MARKETING COMPANIES IN KERMANSHAH TOWNSHIP

In order to check the current status of entrepreneurship and its dimensions among of personnel of marketing companies in Kermanshah Township, the average was used(table2). Based on the results presented in table 2 it is determined that the value of entrepreneurship among of personnel of marketing companies in Kermanshah Township is Upper middle (3.16). Results also presented in the table above indicate that in the total dimensions of entrepreneurship have average value of personnel of marketing companies in Kermanshah Township so that dimensions of entrepreneurial orientation with the average of 3.20, has the highest value and entrepreneurial management with the average of 3.11, has the lowest value of personnel of marketing companies in Kermanshah Township.

**Table 2. The current status of entrepreneurship among of personnel of marketing companies in Kermanshah Township**

Dimensions	Mean	SD	Minimum	Maximum	Priority
Entrepreneurial orientation	3.20	0.87	1.71	4.71	1
Entrepreneurial management	3.11	0.74	1.67	4.28	2
Organizational Entrepreneurship	3.16	0.78	1.75	4.50	-

*Source: Author*

#### 4.4. INVESTIGATE THE RELATIONSHIP BETWEEN THE COMPONENTS OF KNOWLEDGE MANAGEMENT WITH ORGANIZATIONAL ENTREPRENEURSHIP

To investigate the relationship between the components of knowledge management with organizational entrepreneurship among of personals of marketing companies in Kermanshah Township according to the type of measurement scale of knowledge management components and organizational entrepreneurship that is interval, Pearson correlation coefficients were used (table 3).

**Table 3. The relationship between the components of knowledge management with organizational entrepreneurship**

The components of knowledge management	Correlations coefficient	R	P(Sig)
Knowledge creation	pearson	0.727**	0.000
Knowledge acquisition	pearson	0.724**	0.000
Knowledge organization	pearson	0.793**	0.000
Knowledge saving	pearson	0.775**	0.000
Knowledge dissemination	pearson	0.617**	0.000
Knowledge application	pearson	0.810**	0.000
knowledge management	pearson	0.867**	0.000

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

The results presented in table 3, show that there is a significant positive relationship between the components of knowledge management: knowledge creation, knowledge acquisition, knowledge organization, Knowledge saving with organizational entrepreneurship among of personals of marketing companies in Kermanshah Township. In other words, it can be stated that when components of knowledge management among of personnel of marketing companies in Kermanshah township decreases as the other variable decreases, or when components of knowledge management among of personnel of marketing companies in Kermanshah township increases while the other increases. Also, Table 3 illustrates the correlation of knowledge management with organizational entrepreneurship. A Pearson correlation test was used to investigate the relationship between knowledge management and selected variables. The findings revealed the value of correlation coefficient between is 0.867, which indicates a very high positive and significant relationship between knowledge with organizational entrepreneurship among them. Therefore, it can be stated with 99% confidence that by increasing or decreasing the value of knowledge management among, the value of organizational entrepreneurship increased or decreased among them.

#### **4.5. ANALYZING THE IMPACT OF COMPONENTS OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL ENTREPRENEURSHIP**

Multiple linear regressions, is a good way for linear relationships between an independent variable with number of dependent variables (Dong et al., 2008). Multiple regressions are one way of multiple linear regression that at the same time all independent variables entered into the analysis and the effects of all variables on the dependent variable study. In other words, in this analysis by using linear combination of independent variables can predict dependent variable (Kalantari, 2010). In this section, after examining relationships between variables in the form of Pearson correlation analysis, in order to investigate the impact of components of knowledge management on organizational entrepreneurship among of personals of marketing companies in Kermanshah Township, combining multiple regressions model has been used. The ideal mode for regression analysis should not be co-linearity between the independent variables or in other words, independent variables should not be very correlative. To overcome this problem, we have calculated Variance Inflation Factor (VIF) statistics and tolerance index to examine the co-linear relationship between independent variables. If the variance inflation factor higher than 10 and tolerance index be close to zero, indicating that co-linearity exists between our independent variables and our regression model does not have value. But whatever the two statistics is close to one indicates lack of co-linearity between independent variables and the regression model fit (Belsley et al., 1980). Moreover, statistics analysis of variance (F) is used to check the fitness or fitting of the regression equation. If statistics analysis of variance be meaningful, we can assert that the regression equation has a good fitting. Based on the results presented in Table 4; see that the value of statistics variance inflation factor and tolerance index have a good value and also the value of statistics analysis of variance is significant at the 1% level of significance. Therefore, there is no co-linear relationship between the independent variables and regression model of study have a good fitting. In addition, the results presented in Table 4, show that the value for overall regression coefficients are significant at the 1% level of significance. This illustrate that the component of knowledge management have a strong and significant impact in predicting

organizational entrepreneurship among of personals of marketing companies in Kermanshah township. Thus, the linear equation of the regression is the following:

$$Y = 0.439 + 0.0109x_1 + 0.108x_2 + 0.135x_3 + 0.208x_4 + 0.201x_5 + 0.155x_6$$

The results presented in Table 4, show that the multiple correlation coefficient (R) between the component of knowledge management and organizational entrepreneurship is 958.0 and the coefficient of determination, (R<sup>2</sup>) is 918.0. This means that 91/8 % of the dependent variable (organizational entrepreneurship) is predictable by the change of independent variables, include component of knowledge management (knowledge creation, knowledge acquisition, knowledge organization, knowledge saving, Knowledge dissemination and Knowledge application) that is a significant and high value and the other changes (the remaining 8.2%) related to other factors and variables that have not been entered into the analysis.

**Table 4. The results of multiple regression analysis**

Variables	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	0.439	0.116	-	0.789**	0.000	-	-
Knowledge creation (x1)	0.109	0.037	0.132	2.92**	0.004	0.33	3.01
Knowledge acquisition(x2)	0.108	0.030	0.159	3.57**	0.001	0.33	2.94
Knowledge organization(x3)	0.135	0.029	0.176	4.67**	0.000	0.47	2.10
Knowledge saving(x4)	0.208	0.027	0.303	7.78**	0.000	0.44	2.26
Knowledge dissemination(x5)	0.201	0.034	0.265	5.83**	0.000	0.32	3.06
Knowledge application(x6)	0.155	0.025	0.191	6.21**	0.000	0.71	1.40

R=0.958 R<sup>2</sup>=0.918 F=21.32 P=0.000

\*\* : significant at the 0.01 level

Significant t and F test s indicate that regression equation is significant but the regression equation does not say anything about the relative importance of independent variables. In order to determine the relative importance of independent variables should be considered beta. This statistic indicates the effect of each independent variable on the dependant variable apart from the effect of other independent variables. So it can be said that the knowledge saving with beta of 0.303 has a greater share in comparison other variables in predicting the dependant variable (organizational entrepreneurship). A one standard deviation increase makes that the standard deviation of dependant variable is changing 0.303 units. Accordingly, other components in order of importance of affecting on dependant variable (organizational entrepreneurship) include: knowledge dissemination (β= 0.265), knowledge application (β= 0.191), knowledge organization (β= 0.176), knowledge acquisition (β= 0.139).

## 5. DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

The results show that the value of knowledge management among personnel of marketing companies was close to average. In addition, the results show that the components of knowledge management have mean value among personnel of marketing companies in Kermanshah Township. So that the Knowledge saving has assigned the highest value and knowledge creation the lowest value. So we can say that managers and directors of marketing companies in Kermanshah Township have highest attention for the development of maintenance and storage systems and for knowledge production have the least attention. So according to fixed value of knowledge management and its components, it's necessary that marketing managers and officials of Kermanshah Township to take action and plan in order to develop and improve the process of knowledge management in companies. The results also show that the value of organizational entrepreneurship among marketing companies of Kermanshah Township was close to average. In addition, the findings indicate that the total dimensions of organizational entrepreneurship have the mean value among personals of marketing companies in Kermanshah Township. Considering the importance of creation and development organizational entrepreneurship, managers and directors of marketing companies of Kermanshah township in order to improve and develop organizational entrepreneurship and

its components should take action in marketing companies. Based on the correlation analysis of findings were identified that there is significant and positive relationship among all components of knowledge management (knowledge creation, Knowledge acquisition, knowledge organization, Knowledge saving, knowledge dissemination and knowledge application) with organizational entrepreneurship. So that knowledge application had the highest correlation coefficient and knowledge dissemination had the lowest correlations coefficient with organizational entrepreneurship among personals of marketing companies in Kermanshah Township. The results also indicate that knowledge management among marketing companies in Kermanshah Township has a very strong positive relationship with organizational entrepreneurship among them. The relationship between knowledge management and organizational entrepreneurship among personnel of marketing organizations as suggested by Naderi et al. (2016), Liebowitz (1999) and Nazem and Karimzadeh (2010). So it can be said that knowledge management and its components have positive relationship with organizational entrepreneurship among them, as with increasing or decreasing the knowledge management and its components among personnel of marketing companies in Kermanshah Township, organizational entrepreneurship also increase or decrease. According to results of multiple regression, component of knowledge management has very high significant and positive impact on organizational entrepreneurship among personnel of marketing companies in Kermanshah Township. So that the coefficient of determination of organizational entrepreneurship was 0.912 ( $R^2 = 0.912$ ). This means that 82.91% of the variance organizational entrepreneurship personnel of marketing companies in Kermanshah Township can be explained and predicted by knowledge management components. In addition, based on the results of the regression analysis, it was determined that knowledge management components in order of importance influence on organizational entrepreneurship among personnel of marketing companies in Kermanshah Township include: Knowledge saving, knowledge dissemination, knowledge acquisition, knowledge application, knowledge organization and knowledge creation. This finding is consistent with other researchers: Naderi et al. (2010), Smith (2006), Jang and Hartog (2007), Madhooshi and Sadati, (2011), Ghorbani et al. (2012). It can be said that knowledge management and its components among personnel of marketing companies in Kermanshah Township have an important role in the improvement and development among them. Therefore, this capital can be used to improve and promote organizational entrepreneurship personnel of marketing companies and other organizations. According to the research results, there is positive and relationship between knowledge management and its components with organizational entrepreneurship among personnel of marketing companies in Kermanshah township. Therefore, policy makers, managers and planners of marketing companies are proposed in order to develop organizational entrepreneurship among its personnel to improve and promote knowledge management among them. In this regard, the following recommendations are suggested to help to policy makers, managers and planners of organizations and marketing companies are:

- Using appropriate methods, such as building trust among marketing companies employees, encouraging them to create associations, organizations and groups working in organizations and participate in the forums, groups and organizations in order to promote a sense of cooperation and knowledge sharing among marketing company's employees apply.
- In order to develop knowledge management through training effective communication, improving communication processes and knowledge interactions among personnel of marketing companies inside and outside the organization Creating culture of cooperation, mutual trust and teamwork among personnel of marketing companies.
- Valuation of staff based on knowledge, experience and their efforts to share knowledge with others, and material and non-material distribution rewards accordingly principals should be considered.
- Current processes, procedures and guidelines directly (periodic) are reviewed and improved, so that personnel of marketing companies have access to the knowledge needed to do their jobs.
- Providing atmosphere of mutual trust, communication, exchange and interaction personnel of marketing companies in a manner that facilitates to share experiences, ideas and thoughts personnel of marketing companies and encouraging them to creating innovation in organization.

- Creating Centers of knowledge, the purpose of crating these centers is preparation, maintenance and updating of knowledge. These centers are knowledge flows and all knowledge flows passing of them. The advantage of these centers, in addition to integration of content knowledge, is block of much duplication, especially in knowledge acquisition. Centers of knowledge include this issue that needed knowledge where and how can be found.
- They act in order to create an appropriate field to develop activities of informal networks and strengthen informal norms in marketing companies, because in informal network and associations, personnel of marketing companies communicate easier and faster with each other and trust to each other and exchange information and knowledge with each other.
- In order to create and develop the technological infrastructure and the use of information technology equipments to achieve personnel of marketing companies. in the shortest possible time to information and statics related to their duties and exchange information with other.
- By providing the necessary cultural field, the foundations of a knowledge system that includes creating a common purpose for continuous learning, encourage people at all levels to learn from their work regularly, pay attention to the capabilities of personals, moves to change the mental patterns of personnel, a team learning and systems thinking be prepared.

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# EVALUATING THE GAP BETWEEN MARKETING COMPONENTS AND GREEN CONSUMERISM AND THEIR RANKING

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## Abstract

*In recent years, concern about environmental pollution has become a major concern for people that finding a way to control and prevent over-destruction is part of the plans of organizations and people. In the meantime, companies by utilizing a science called green marketing are trying to maintain the environmental and human health and economic growth of their company. The purpose of this study is to assess the existing gap between marketing components and green consumerism and their ranking. The present study is an applied research objectively and based on method is a descriptive-survey research. Library method is used to collect information and the field method is used to collect data. Also, the questionnaire is used to collect data needed to test the hypotheses. Reliability of questionnaire is confirmed by Cronbach's alpha and validity of the questionnaire is verified by a number of professors in the field of management. The statistical population is the total staff of Urmia Pegah dairy company and the consumer of dairy products in Urmia. (In this study, there are two statistical populations and two samples), of which 31 samples were selected through random sampling from the first population and 345 people selected from the second population. To analyze the data, SPSS software is used and Wilcoxon nonparametric tests are used to determine the gap, Friedman test is used for ranking components and Kruskal-Wallis test is used to investigate the effect of demographic characteristics on respondents' comments. Based on the data analysis, ten hypotheses, seven hypotheses and three hypotheses have been rejected, i.e. there is a significant difference between the seven marketing components in the present and desired position and there isn't observed between the three components of green consumerism in the present and desired position.*

*JEL classification: G32*

*Keywords: Green Marketing, Classification of Components, Green Consumerism*

## 1. INTRODUCTION

Human has limited resources on earth that must try to meet his unlimited needs, the goal of marketing system is not to maximize consumption, more right of selection for consumer or provide customer satisfaction, but the goal is to improve the quality of life to the highest possible level, and the quality of life not only means the quantity and quality of goods and services, but also the quality of environment. This issue is entered into all aspects of the organizations and affected marketing and led to the emergence of the concept of "green marketing". The need to produce ecological products and green business activities has forced companies to integrate environmental issues with marketing efforts and strategies. (Mousavi Naeini, Winter 2012) It is important for marketers to efficiently consume resources without defect in achieving organization's goals. Green Marketing is a marketing strategy that helps marketers in achieving this goal. (Zolfi Masoumeh, Khordad, 2015)

As the awareness of environmental degradation has been taken into consideration, this issue has also affected consumers. Therefore, in the present study, the gap between the components of marketing and

green consumerism as well as their ranking at the West Azarbaijan Pegah Pasteurized Milk Company (Public Joint Stock Company) has been evaluated in 2017.

## 2. PROBLEM STATEMENT

Now, we face with serious environmental problems and protecting them is important (Chan, 2013). Environmental protection has become a vital issue and a serious concern for people, which, of course, this concern is not only an important issue for the public, but it is also considered an important issue in academic research (Zolfi, 2015). The emergence of these problems and its increasing growth over the recent years has forced authorities and institutions to think and confront it, and recently we are witnessing some useful work in this field. These are governmental projects and along with the emergence of social responsibility and green marketing, private sector and NGOs are entered the issue and helped the government officials, in order to not to be dropped behind the rapid progress of this science as well as do some of its responsibility to nature and environment. However, only the public sector and a small sector of the private sector have entered due to government laws and sometimes commercial competitions, but the public has not been involved in these activities (Ghaharzadeh, 2015).

The activities of environmental protection organizations and NGOs led the organization pays more attention to the environment and the need to preserve it. Following the rise of environmental concerns and the establishment of state laws and regulations, as well as the emergence of green consumers, the use of green marketing approach is vital (Massoumeh Zolfi, 2015).

An increasing desire is created among consumers around the world to protect the environment. Consumer behavior is moving towards a green or environmental friendly product. The community's concern about the environment led to the emergence of a new type of consumers, which shows these concerns in their purchasing decisions and the role of social marketing is manifested for removing or reducing concerns. The basis of the concept of social marketing is that each organization must first determine the needs, demands and interests of target markets in such a way that the survival and improvement of welfare of customer and society (both) to be provided. Social marketing is the social change of marketing and behavioral modification in order to promote health, social and environmental development, and consequently the use of commercial marketing methods for analyzing, planning, implementing and evaluating projects designed to influence the behavior of target audiences, and the marketing goal is to improve personal and social well-being. Green marketing is a movement that is within the social marketing approach and entered the marketing world in recent years and can be an effective step in sustainable development, and sustainable development is a path that does not destroy the natural resources of a country and minimizes environmental pollutions. (Farrokhi, 2015).

Green marketing is to cover all marketing areas as an inclusive subject; green consumerism strategies are placed under the green marketing. Since government plans are preparing a suitable social environment for marketing effort, industrial and consumer organizations both play an important role in supply and demand (Zhun, 2016).

Studies show that consumers reflect their environmental concerns in a variety of ways in their current purchasing behavior, and select some by criterion of commodities effects and natural environment and avoid the selection of some. In response to the environmental behaviors and needs of these consumers, the importance of marketing strategic and the role of innovation and sustainable initiatives are specified. Various studies have shown that green marketing can affect consumer intent to purchase. Green marketing is a major trend in today's competitive business. The green marketing action is growing due to the values that consumers consider it and regardless of the size of companies, they have gained the benefits of greening (Zolfi, 2015).

Environmental impacts, due to resource constraints in the world and the lack of renewal of many of them, are no longer limited to the borders of country, and governments cannot decide on the past and independent freedom to use resources within their borders, since the effects and consequences of the decisions will also be returned to other people in the world (Farokhi, 2015).

Global organizations are always seeking to gain competitive advantage through the creation of innovation and new methods. Some of these organizations gain competitive advantage by improving environmental performance by considering environmental laws and standards, increasing customer knowledge in this regard, and reducing the negative environmental impacts in their products and services. Considering the necessities such as joining the World Trade Organization, increasing international environmental laws and emphasizing the use of environmentally friendly green products, it is necessary and inevitable to create green management in providing products and services in the country's industries. (Olfat, 2011).

Unfortunately, most people believe that green marketing refers exclusively to promotion and advertising products with environmental characteristics, while green marketing is a much broader concept that can be applied in consumer goods, industry, or even services (Zarrin Joy Alvar, 2011).

Green consumers are consumers who want to use products that do not endanger human health and environment. Many green movements are conducted by green consumers, someone who according to the supply chain knows his needs and contributes to the market and green supply chain (Chan, 2013).

The variable affecting the purchase of green products is the level of customer knowledge from environment. Knowledge roles in green marketing are to create concern about environmental issues. People who are more knowledgeable in this field are more concerned about environmental issues and they can also better process information related to eco-friendly products. As a result, such people will step in line with their concerns and will buy products that are more compatible with environment and in the next steps, informing and sensitizing others in the community to environmental issues and making interested in participating related social plans (Zolfi, 2015).

The fundamental problems of environment and converting to a comprehensive issue require the government, organization, and consumers to consider and think about it, hence the state and competitive pressures and changing the attitude of the consumers has led organizations towards production and green consumerism. Paying attention to the needs and demands of consumer is not the only benefit of green marketing, but in addition to consumerism, environmental issues and problems and effort to remove them are also considered. As a result, green marketing is as a total global sustainable benefit.

Considering the aforementioned issues, the purpose of this study is to evaluate the gap between the components of green marketing. The evaluation of components in the present and desired situation contributes significantly to understand the need of market and consumer, and organizations with identification and interest of this gap can provide strategic plans to reach the desired level, plans that are developed with full knowledge from the conditions of external environment and support of government to take a step to maintain competitive position and growth while helping to protect the environment and change people's attitude towards the use of green products.

The research topic is based on the following conceptual model, in which the marketing strategies are influenced by 4p marketing components and interact with green consumerism. And international culture, demographic and psychological segmentation are components of green consumerism, and government policies, competitive pressures and market opportunities are factors whose influence on marketing strategies and green consumerism is evaluated.



### **Internal background**

1. Valizadeh and Memarian (2016) studied and analyzed the role of green marketing in attracting customers of Darupakhsh Factory. In this study, it has been argued that the green marketing approach does not focus solely on satisfying customer needs. But according to this approach, customer needs must be met in a way that to be beneficial for community as a whole. There are many different ways to create a competitive advantage and to go towards greening, which includes the following opportunities. Firstly: Greening of the production process often leads to the improvement of resource efficiency, thus it reduces cost in the company's structure and improves the competitive position of company than competitors. Secondly, greening of marketing activities enables the company to manifest themselves more prominent by offering new products in new markets or offering additional benefits to current products. The result of this study indicates that green marketing agents (Green product, green price, green distribution, green promotion, green physical facilities, and green financial resources) has a significant, direct and positive relationship with customer attraction and has been effective in attracting customers of Darupakhsh Factory.

2. Saghafi (2015) in a study on the impact of green marketing on economic development has concluded that today, green marketing is facing a dangerous situation, because everyone agrees that it is very good but they do not exactly know how to do it. It may have been a problem in the way of implementation, but it must be admitted that it is considered a symbolic act. If there isn't a tip and map, people will try green marketing just because it's modern and if it is not a basic strategy, many efforts will be wasted. Considering the above mentioned issues, it has provided strategies to expand the use of green marketing.

3. Ranaiy and Yari (2012) conducted a research titled investigating the effect of marketing mix on green purchasing decision of consumers. The results showed that consumers' attitude towards green promotion among all aspects of the green marketing mix have a greater effect on their purchasing; So it is recommended to other companies to pay special attention to the importance and necessity of environmental issues in their advertisements and to inform consumers about actions and activities done in line with protect the environment and reduce negative impacts. Also, the results indicated that after green promotion, green price and distribution has a greater effect on consumers' purchase, respectively; therefore, fair pricing in such a way that consumer price sensitivity is included and the use of modern and environmentally friendly transportation fleet in the distribution of products can be effective on consumers' green purchase and as a result increasing sales of companies.

### **Foreign background**

1. Guyader, Ottosson and Witell (2016) in a study entitled "You cannot buy what you did not see: Retail repetition to raise green award," have stated that retailers are gatekeepers between consumer and environmentally-friendly products. In this way, they can influence the behavior of green purchase. The results of an eye-tracking experiment show that retailers can attract consumers' visual attention and increase green reward in different ways, such as providing relevant information, positioning consumers at the store, and providing an environmentally friendly product as a range for implementation.

2. Zon & Sarkis (2015), in the study of Green Marketing and Consumer Protection as a social change in China by summarizing and analyzing present research and identifying and grouping topics, sought to provide a conceptual framework for developing present theories. The total finding consists of 52 journals and magazines focusing on Chinese green marketing and green consumption practices. The findings suggest that there is a significant need for research and approval of marketing and green practices in China. Given the overall growth of sustainability and the green business, few studies have focused on marketing and green consumption. As a result, these findings suggest that Chinese green marketing and environmental change are still in the early stages.

3. Tiarniyu (2016): The purpose of study "value of green consumption and Indian consumer response to marketing communications" is to assess the response of Indian consumers to green marketing communications and consumer inclination to express environmental concerns through their consuming behaviors. The results indicate that marketers should focus on the development of communication strategies of green marketing instead of focusing on promotion strategies of green marketing.

### **Hypotheses:**

- There is a significant difference between the present and the desired position in producing a green product in marketing strategies.
- There is a significant difference between the present and desired position in the price of green product in marketing strategies.
- There is a significant difference between the present and desired position in the place of distribution of green product in marketing strategies.
- There is a significant difference between the present and the desired position in the promotion of green product in marketing strategies.
- There is a significant difference between the present and desirable position in the international culture of green consumerism.
- There is a significant difference between the present and desired position in the demographic segmentation of green consumerism.
- There is a significant difference between the present and desired position in the psychological segmentation of green consumerism.
- There is a significant difference between the present and desired position in government policy in green marketing.
- There is a significant difference between the present and desired position in competitive pressures in green marketing.
- There is a significant difference between the present and desired position in the market opportunity in green marketing.

## **3. METHODOLOGY**

### **Classification based on method**

The research is a descriptive survey. This research is descriptive because it collects information to test the hypothesis or answer questions related to the current state of the subject under study.

This is survey research because it studies about what do people know and think and what they are doing.

### **Classification based on objective**

The research is done in two different ways. First, solving problems that are existed currently, and second, adding to a set of human knowledge in a particular area which is interested in the researcher.

Considering that the results of this study can help to assess the gap between the marketing components and green consumerism in Urmia Pegah Pasteurized Dairy Company, it is descriptive survey in terms of nature and because in descriptive survey research, the purpose is to analyze the distribution of features of a population that the researcher by selecting a sample that represents the population will examine the variables. This study is applied objectively.

### **Statistical population and sample**

The statistical population of this research is all employees of West Azarbaijan Pegah Pasteurized Milk Company, as well as consumers of dairy products in Urmia. The sample of the first population is 31 employees. And to select the sample of consumers with an unlimited population, a simple random sampling has been used in which each member of the population for being selected as a subject has equal and certain chance so that the selection of any member is not effective in the selection of the next member. To determine the number of samples, the Krejci and Morgan table has been used and the number is equal to 345 people.

### Research tool

The present study has two researcher-made questionnaires. The first questionnaire is answered by the staff of Pegah Dairy Company and the second questionnaire by consumers. Both questionnaires have two parts. The first part consists of demographic questions (personal characteristics) of the respondents and the second part consist the main questions of the questionnaire. The main questions of the questionnaire are designed so that the respondent simultaneously expresses his view to the present position of the variable as well as to the desired position by choosing an option among the five options.

**Table 1. Combining questionnaire questions (special for staff)**

Variables	Questions in questionnaire	Number of questions
Green marketing mix	Questions 1 to 15	15
Affecting external factors	Questions 16 to 24	9

*Source: Author*

**Table 2. Combining questionnaire questions (special for consumers)**

Variables	Questions in questionnaire	Number of questions
Green consumerism	Questions 1 to 15	10

*Source: Author*

## 4. DATA ANALYSIS

Nonparametric test method is used in several Friedman groups in order to determine the priority of green marketing components and consumerism in each sector (present position and desired position), non-parametric statistical method (Wilcoxon) is used to compare these components between two present and desired positions and non-parametric statistics (Kruskal-H.wallis) is used to compare the views of people with different demographic properties.

Cronbach's alpha is one of the methods for calculating the reliability of the questionnaire. This method is used to calculate the internal coordination of measuring instrument, such as questionnaires or tests that measure different attributes. In these tools, the answer can include different numerical values.

The Cronbach alpha calculation formula is as follows.

$$\alpha = \left( \frac{n}{n-1} \right) \times \left( 1 - \frac{\sum s_i^2}{s_t^2} \right)$$

i: The subset of questions of the questionnaire

Si2: The variance of scores for each subset

S2: Total variance

Usually alpha less than 0.6 is weak, 0.6 to 0.8 is acceptable and higher than 0.8 indicates high reliability. Obviously, the more this number is closer to one, it is better. In this research, after collecting data from the original sample, the data were entered into SPSS software and the Cronbach's alpha coefficient was calculated.

**Table 3. Cronbach's Alpha**

Variable	Cronbach's Alpha (questionnaire of desired position)	Cronbach's Alpha (questionnaire of present position)
Three external factors	0.772	0.878

Variable	Cronbach's Alpha (questionnaire of desired position)	Cronbach's Alpha (questionnaire of present position)
Components of green marketing	0.737	0.82
Green consumerism	0.803	0.764

Source: Author

## 5. RESULTS AND FINDINGS

**Table 4. Wilcoxon test results of research data**

Variables Compare present and desired position)	Sig	Rejecting hypothesis	Conclusion
Green product	0.568	H <sub>0</sub>	Significant
Price of green product	0.228	H <sub>0</sub>	Significant
Location of green product	0.545	H <sub>0</sub>	Significant
Promotion of green product	0.405	H <sub>0</sub>	Significant
Psychological segmentation	0.000	-	Non-Significant
Demographic segmentation	0.000	-	Non-Significant
International culture	0.000	-	Non-Significant
Government policy	0.116	H <sub>0</sub>	Significant
Competitive pressure	0.818	H <sub>0</sub>	Significant
Market opportunity	0.090	H <sub>0</sub>	Significant

Source: Author

According to the results of the above table, all variables except for psychological segmentation, demographic segmentation, and international culture of green consumerism are significant at a significant level of 0.05.

**Table 5. Summary of hypotheses test**

Variables	Reject or confirm hypothesis
Green product	Confirmed
Price of green product	Confirmed
Location of green product	Confirmed
Promotion of green product	Confirmed
Psychological segmentation	Rejected
Demographic segmentation	Rejected
International culture	Rejected
Government policy	Confirmed

Variables	Reject or confirm hypothesis
Competitive pressure	Confirmed
Market opportunity	Confirmed

*Source: Author*

### Results of Friedman test

According to Tables 6 and 7, 8 and 9, the test in desired position is rejected and the difference between the variables is concluded while there is not a significant difference between the variables in terms of ranking of marketing components.

**Table 6. Average data in desired position**

Variables	Average
Green product	12.41
Price of green product	12.48
Location of green product	10.41
Promotion of green product	14.12
Government policy	13.19
Competitive pressure	12.36
Market opportunity	13.01

*Source: Author*

**Table 7. Chi-square**

Chi-square	47.024
df	23
sig	0.02

*Source: Author*

**Table 8. Average data in present position**

Variables	Average
Green product	11.61
Price of green product	13.83
Location of green product	10.98
Promotion of green product	13.46
Government policy	12.40
Competitive pressure	13.67
Market opportunity	12.43

*Source: Author*

Ranking of marketing components in the desired position is from the lowest point to the highest point is as follows, respectively:

**Table 9. Chi-square**

<b>Chi-square</b>	25.991
<b>df</b>	23
<b>sig</b>	0.301

*Source: Author*

1. Location of green product (Average 10.41)
2. Competitive pressure (average 12.36)
3. Green product (average 12.41)
4. Green product price (average 12.48)
5. Market opportunity (average 13.01)
6. Government policy (average 13.19)
7. Promotion of green product (Average 14.12)

Referring to the results of Tables (4-12), (4-13) and (4-14), (4-15), we find that the components of green consumerism in the desired and present position in terms of ranking point have a meaning difference. In both positions, the demographic segment has allocated the lowest point and international culture allocated the highest point in ranking.

**Table 10. Average components of green consumerism in desirable position**

<b>Variables</b>	<b>Average</b>
Psychological segmentation	5.51
Demographic segmentation	4.59
International culture	5.94

*Source: Author*

**Table 11. Chi-square**

<b>Chi-square</b>	258.031
<b>df</b>	9
<b>sig</b>	0.00

*Source: Author*

**Table 12. Average green consumerism in present position**

<b>Variables</b>	<b>Average</b>
Psychological segmentation	5.44
Demographic segmentation	4.79
International culture	5.91

*Source: Author*

**Table 13. Chi-square**

<b>Chi-square</b>	299.634
<b>df</b>	9
<b>sig</b>	0.00

*Source: Author*

Ranking based on the average components in the desired position

1. Demographic segmentation (average 4.59)
2. Psychological segmentation (average 5.51)
3. International culture (average 5.94)

Ranking based on the average components in the present position

1. Demographic segmentation (average 4.79)
2. Psychological segregation (mean 5.44)
3. International culture (average 5.91)

### **Impact of marriage on respondents' comments**

According to Tables 14 and 15 in the desired position, the relationship between marriage and international culture is significant. In the present position, the relationship between marriage and demographic segmentation is significant. In other words, there is no significant relationship between marriage and the rest of the variables.

### **Impact of education on respondents' comments**

According to Table 14 and Table 15, in both present and desired position, the Sig value of green consumerism components is less than 0.05, which indicates the significance of the level of education on consumers' comments. There is no significant relationship between education and other variables.

### **Impact of gender on respondents' comments**

The results of tables 14 and 15 show that gender has a significant effect on consumers' comments in international culture with significant level 0.000 in the desired position and demographic segmentation with a significant level of 0.028 in the present position. There is no significant relationship between gender and other variables.

### **The impact of age on respondents' comments**

The results of tables 14 and 15 show that there is a significant relationship between age and components of green consumerism (demographic segmentation, psychological segregation, and international culture) in the desired position. In other words, age affects the comments of green consumers in the desired position. If in the present position, only the relationship between age and demographic segmentation is significant and other variables are not affected by age.

**Table 14. Impact of demographic characteristics on respondents' views in the desired position**

Variables	Marriage	Education	Gender	Age
	sig	sig	sig	sig
Green product	0.496	0.265	0.573	0.248
Price of green product	0.205	0.307	0.467	0.420
Location of green product	0.839	0.434	0.693	0.372
Promotion of green product	0.512	0.473	0.488	0.478
Government policy	0.467	0.383	0.395	0.717
Competitive pressure	0.533	0.484	0.531	0.474
Market opportunity	0.591	0.574	0.222	0.497
Psychological segmentation	0.272	0.000	0.198	0.011
Demographic segmentation	0.169	0.000	0.345	0.001

Variables	Marriage	Education	Gender	Age
	sig	sig	sig	sig
International culture	0.028	0.000	0.000	0.00

Source: Author

**Table 15. Impact of demographic characteristics on respondents' views in present position**

Variables	Marriage	Education	Gender	Age
	sig	sig	sig	sig
Green product	0.447	0.421	0.231	0.607
Price of green product	0.199	0.210	0.738	0.761
Location of green product	0.672	0.598	0.234	0.575
Promotion of green product	0.668	0.652	0.275	0.818
Government policy	0.497	0.292	0.679	0.829
Competitive pressure	0.384	0.217	0.410	0.684
Market opportunity	0.716	0.756	0.518	0.439
Psychological segmentation	0.364	0.003	0.156	0.263
Demographic segmentation	0.005	0.000	0.028	0.000
International culture	0.225	0.016	0.246	0.077

Source: Author

## 6. GENERAL DISCUSSION AND CONCLUSION

In this study, we sought to assess the gap between the marketing components and green consumerism and their ranking in Urmia Pegah dairy company. Initially, two questions were raised which were collected by distributing questionnaires among the staff of Urmia Pegah dairy company and data consumers and then, they were tested using SPSS software, 7 hypotheses were approved and 3 hypotheses were rejected related to green consumption. It was found that there is a significant difference between the components of green marketing (green marketing mix and external factors) in the present and desired position and there is no significant difference between the components of green consumerism (international culture, demographic segmentation and psychological segregation) in present and desired position. There is a gap between the desired and present position in the marketing components that managers and employees of the company should do their activity in this direction and by considering the external factors affecting the green marketing mix follow marketing planning based on it to resolve this gap. Subsequently, Friedman test ranked the components and specified that the marketing components have significant difference only in the desired position that the location of green product has the lowest point in ranking and promotion of the green product has the highest point in the ranking. And there was not observed a difference between the variables for ranking. The component of green consumerism has a significant difference in both present and desired positions which in both segmentation, demographic has the lowest point for ranking and international culture has the highest point for ranking. With the help of these results, marketing plans can be determined based on the rank of components, so that a component that has the highest point in ranking is initially considered and then a component that has the lowest point. Then, by the Kruskal-Wallis test, we examined the impact of demographic characteristics on respondents' comments. The results indicate that gender and marriage affect the views of consumers in the field of international culture in the desired position. Education and age also affect the views of green consumers on the components of consumerism. In the present position, the respondents' view about demographic segmentation has a significant relationship with age and gender. And education affects the view of respondents about three components

of green consumerism. By examining the results of Kruskal-Wallis test in this section, it can be concluded that the demographic characteristics only affect the comments of respondents to customer questions and do not affect the green components in any way, i.e. the choice and consumption of the product by the consumer has been affected by demographic features.

### **Suggestions for Future Research**

1. Investigating the relationship between green consumerism and green marketing mix
2. Investigating the relationship between external factors (competitive pressure, market opportunity, government policy), marketing component with green consumerism
3. Examining the social responsibility between green consumers
4. Do research conducted in other companies and compare results with this research

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# INVESTIGATING THE RELATIONSHIP BETWEEN SOCIAL RESPONSIBILITY AND INNOVATION OF AN ORGANIZATION AND CUSTOMER LOYALTY (CASE STUDY: PARSIAN BANK BRANCHES OF GUILAN PROVINCE)

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## Abstract

*The present paper aims at investigating the relationship between social responsibility and innovation of an organization and customer loyalty among branches of Parsian Bank in Guilan province. To this end, various aspects asset management are used including relation value, customer support and relation quality. This is an applied, survey research required data of which was collected through Yah's standard questionnaire (2014) with reliability of 0.87. Questionnaire validity was confirmed by content validity tests. Research population is composed of all customer having current account in branches of Parsian Bank in Guilan province (a total of 480 individuals). The sample was determined using Cochran's formula through stratified random sampling (n = 214). Collected data was analyzed using SPSS1 for descriptive analysis, normality test and correlation test. Moreover, LISREL 8.54 was used to model structural equations. Results indicated a significant, positive relationship between innovation and customer support; social responsibility and customer support, customer support and relation value and quality. However, no relationship was observed between relation value and quality and customer loyalty. According to results, no significant, positive relationship exists between social responsibility and innovation of an organization and customer loyalty.*

*JEL classification: E32, H26*

*Keywords: Social responsibility of an organization; innovation; customer loyalty; customer support; Parsian Bank*

## 1. INTRODUCTION

Service section is a main part of every country's economy and banks, as service-delivering organizations, play a significant role in economic development. Banking industry of Iran, with a history of more than 80 years, faced huge alterations during the past three decades and witnessed private banking activities since 2002, having experienced state banking during the first two decades after Islamic Revolution of 1978.

Formation of private banking in Iran led to disappearance of banking dictatorship and customers faced more choices for their banking affairs. Customers are the key factors in reinforcing and enhancing every organization and all goals, strategies and resources are oriented around customer attraction and maintenance. Customer maintenance is a strategic challenge for those companies who concern protecting and developing their competitive status (Asgarpoor, 2008). Since obvious changes in the population composition of societies from various aspects, gradual economic development and growth of developed countries, behavioral complexity of competitors and excessive capacities of many industries cause many firms fail in attracting new customers. Meanwhile, even customers are insufficiently satisfied and, hence, organizations, including banks, have to be pleasant with satisfying their customers. They must ensure that their satisfied customers are also loyal. The goal is to establish long-term relationships with customers in order to gain long-term benefits for the bank (Abdoli & Freydoonfar, 2009).

Therefore, bankers should see themselves in the mirror of customers and try to understand customers in such increasingly difficult and complex conditions and make them be fully loyal. In this sense, correct decisions are made based on a correct understanding of bank's status. Creating loyalty in customers, especially those of banks, is a concept being increasingly considered in today's businesses since loyal customers are the main components of banks' success. No business, except exclusive state organizations, may survive without loyal customers. Moreover, banks require to move beyond satisfying customers' initial needs, to supply their demands and focus on creating loyalty and trust through long-term, mutual and profitable relationships rather than focusing on sole satisfaction of customer needs. This is because of the fact that customers' expectations are constantly changing (Shahr Aray et al, 1996).

Achieving this goal is feasible through a variety of ways on which innovation has a significant influence respecting banks' actions the type services they deliver. Banks may be identified as innovative organizations through delivering modern services based on novel global standards (Nasrollahi, 2009).

Indeed, as the last remaining strategy of today's business world, innovation help companies reduce costs, improve performance and present novel products and services (Yah, 2015).

Obtaining competitive advantage through innovation is a complex process since it involves a huge volume of technical complexities, intermodal interdependencies, uncertainty and complex integrations. On the other hand, the serious competition in today's markets emphasizes the fact that innovation in delivering products and services must be considered as an important strategy in the curriculum of every organization (Zarepoor et al, 2010).

Moreover, social services every organization presents to the society (based on its activity area) is another significant point for customers besides presenting main services. In recent years, social responsibility of agencies is the main concern for governments and agency managers (Nemec, 2010).

Several factor influence gaining competitive advantage in service section including human labor and organizational social responsibility. Importance of the latter is rapidly increasing. Social responsibility involves strategic consequences for the organization. Therefore, recognizing related resources is not considered as cost but an investment leading to competitive advantage. Nowadays, society expects organizations to be responsible of their stakeholders and the society (Yah et al, 2015).

Indeed, organizational responsibility not only involve commercial issues, business and economic aspects but also social and environmental issues in order to minimize or remove any side effects on the society and to maximize profitability of people and different groups, and totally, the whole society (Abir et al, 2010).

In banking section, of course, banks usually employ asset management service as a constant profitable resource to enhance customers' satisfaction and welfare. This service is a subset of investment consultancy composed of a combination of diversified, but interrelated, activities such as financial planning, management of investment stock basket, and legal, investment, etc., consultancy services (Yah et al, 2015).

Considering environmental changes and necessity of flexibility and responsibility of banks to their customers, the present paper examines loyalty of customers of Parsian bank based on organizational social responsibility and innovation in order to determine the effect of each factor on customers' loyalty. Moreover, private banks and financial institutions may employ findings of this paper to solve current problems, enhance the number of their loyal customers, and gain more considerable share of the market.

Therefore, the main question of this research is:

“Is there any significant, positive relationship between intermediate role of asset management services concerning organizational social responsibility innovation and loyalty of customers of Parsian Bank of Guilan province?”

## **2. THEORETICAL FRAMEWORK**

### **2.1. CUSTOMER'S LOYALTY DEFINITION**

Respecting increased importance of relational marketing in recent years, especially in service industry and manufacturing factories, more attention is being paid to concepts concerning loyalty. A number of authors emphasize the significant, positive relationship between customer's loyalty and commercial performance. Barosu, Castro and Armario (1999) believe that loyal customers not only enhance the value of a certain business, but also enable that business to minimize its costs of attracting new customers.

In general, loyalty is most often defined as a sales frequency or relative volume of purchase from a certain branch (Nanda et al, 2012).

Olivier (1999) states that many definitions available in the literature are being harmed by the problem of reporting what a consumer does and none of them consider the philosophy and meaning of loyalty. According to the theory of Yakob and Kamiz (1973), loyalty tag is created based on behavioral reactions and is not random indeed, and is employed by decision-making units, whether as a part of a person, family or organization, through the time (Mohammadi, 2003).

Olivier (1999) defines loyalty as:

“A strong commitment to repurchase a preferred product or service in the future, so that the same brand or product is purchased despite potential effects and marketing efforts of competitors.”

Larson and Sosana (2004) believe that loyalty is the creation of a commitment in customer to transact a certain organization or frequent purchase of products and services.

Asael (1992) defines loyalty as a behavior about a certain brand so that it leads to frequent purchase of that brand (Wang et al, 2007).

Bloomer et al (1998) define loyalty to a bank as follows:

Behavioral response associated with (nonrandom) prejudice toward or a revisit a bank, out of other banks' environments, through some decision-making units, which is a function of psychological processes (decisive and evaluative) and leads to commitment to the brand (Asgarpoor, 2010).

### **2.2. SOCIAL RESPONSIBILITY OF THE ORGANIZATION**

Social responsibility is a set of duties and commitments of an organization toward maintaining, preserving and assisting the society in which it is working (Pederson and Visions, 2001).

Social responsibility of organizations is a sensitive and increasingly focused issue of recent years so that international organizations such as the UN and the EU presented specific standards for it. Furthermore, it is obvious that organizations and industries have considerably grown and increasingly influence social well-being (Nemec, 2010).

Since business is growing in a social environment, organizations must maintain the social well-being likely to deteriorate through business process. Hence, social responsibility of organizations is considered as a strategic plan concerning sustainable social profit and advantage. In fact, social responsibility of an organization is a set of actions in which companies consider their involvement in social activities and minimize destructive effects of business on the society and natural environment (Andrea et al, 2015).

Social responsibility of an organization involves being constrained to meet expectations of external stakeholder groups including customers, suppliers, distributors, environment patrols and people living in the environment adjacent to the producing/servicing unit, through protecting and maintaining interests of internal stakeholder groups including owners, shareholders or employees (Andrea et al, 2015).

### **2.3. DIMENSIONS OF SOCIAL RESPONSIBILITY**

The most important dimension of social responsibility is its economic aspect in which its activities are considered. In this respect, specific attention is paid to gaining profit, protecting interest of the

organization and its owners, presenting high quality and low cost products and services, and creating jobs for human resources of the society.

The second aspect is moral responsibility. Organizations are expected to respect values, norms and beliefs of other people and consider morality in their activities.

The third dimension of social responsibility includes organizational commitment to the law and following current rules (Ghazizadeh et al, 2011).

## **2.4. INNOVATION**

Innovation means a new or creative product present by an organization.

Innovation include transforming thoughts toward new ideas and implementing those ideas to realize goals and, hence, improve the current business or create a new one (Zhu and Tan, 2008).

Moreover, innovation may be defined as expressed and practical creativity. In other words, innovation means realized creative thinking. In addition, some define innovation as providing the market with a new product, process or service. Innovation is, also, the ability to employ intellectual capabilities to create a new thought or concept.

In another definition, innovation is a process through which a creative thought is gained and converted to a useful product, service or operational method (Shemisa, 2010).

## **2.5. LITERATURE REVIEW**

Ghazizadeh et al (2013) examined the relationship between social responsibility of an organization and customer loyalty in Mellat Bank branches. The research aimed at measuring the relationship between bank's social responsibility and customer loyalty. The population of this descriptive – correlation applied research was composed of customers of Mellat Bank branches in Tehran. A total number of 384 individuals were selected as sample through cluster sampling method. They analyzed collected data using stepwise regression and Pearson's Correlation test. Findings indicated a significant relationship between bank's social responsibility and customer loyalty.

Mojoudy et al (2013) studied the effect of social responsibility of an organization on customer loyalty in Pasargad Bank branches in Ahwaz. The research aimed at evaluating the effect of bank's social responsibilities on its customers' loyalty. The measure of this applied, descriptive research was a questionnaire. A total number of 380 questionnaires were distributed among customers of Pasargad Bank. Hypotheses testing performed in LISERL. Results demonstrated that social responsibility of an organization has a direct, positive effect on satisfaction and the perceived service quality. Moreover, findings supported a positive relationship between satisfaction and behavioral and approach loyalty of customers.

Tavakoli et al (2014) designed a model for measuring and improving customer satisfaction for organizations having complicated products with advanced technologies. In this paper, they reviewed literature and then employed Delphi method and experts' opinions. In the quantitative section, methods such as survey were used. Results showed that as to complicated products with advanced technology, conventional method of survey (questionnaire) is not useful for customer satisfaction management. The paper proposed a model with a three-step approach: the initial step (questionnaire), the middle step (specialist panels) and the final step (field visits) complementing one another. Main areas of measuring customer satisfaction included 6 aspects: quality and innovation, services and support, delivery timing, price and desirability, user's loyalty and user's imagination. The research suggested that providing required mechanisms for active participation of customers in enhancing the quality of products and services is more useful than excess focus on indicator / number of customer satisfaction.

Zarepoor et al (2010) developed a model of value and customer loyalty, and studied the effect of product and service innovation on value and loyalty of customers of audiovisual home appliances. The research aimed at evaluating the effect of innovation on customers' loyalty and value that helps companies and organizations in stabilizing their place and obtaining competitive advantage in the face of other

competitors. The paper focused on two regions of Tehran city (regions 6 and 19) as research population. The researchers selected 755 customers of 4 brands (Sony, Panasonic, Pars and Shahab) through random cluster sampling. Then customers' ideas were collected using questionnaire and simultaneous interviews. Findings indicated that innovation had a significant, positive effect on perceived quality and customer value. Thus, it is concluded that companies and organizations have to invest more on presenting diversified products capable of meeting latent and obvious needs of customers. Moreover, they must focus on presenting high quality products and services and develop new ones.

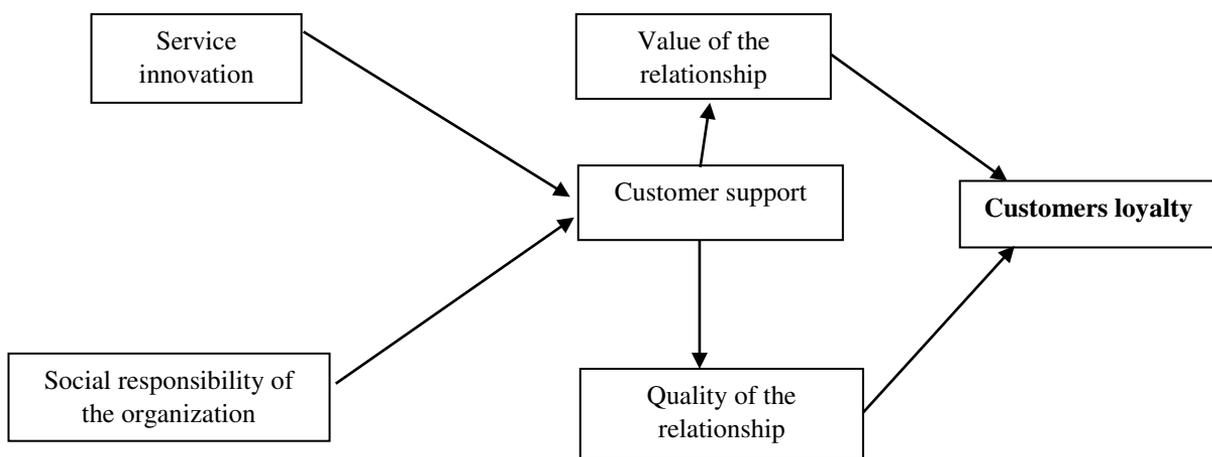
Nazemi and Saadat Yar (2013) studied the effect of reputation and innovation on loyalty of restaurant customers considering the intermediate role of perceived value and satisfaction. The main purpose of this research was to examine the relationship of variables such as reputation and innovation, perceived value and customer satisfaction with loyalty and its different aspects in various restaurants. Research sample included 202 customers of Padideh Shandiz restaurant. Required data was gathered through a questionnaire composed of two sections: general questions and specific questions (involving studied variables). Reliability and validity of this questionnaire were confirmed by Cronbach's alpha and content validity (experts' opinions and factor analysis). Collected data was analyzed using SEM (Structural Equation Model). Data analysis results indicate that reputation and innovation may influence loyalty and behavioral intentions of customers of a prominent restaurant through variables such as perceived value and customer satisfaction.

Nanda et al (2013) investigated the effect of innovation on customer loyalty and satisfaction (case study: organized retailing in India). Having reviewed the literature, they proposed a model to study the effect of innovation on retailing services and customers. Collected data was analyzed using SPSS17 and different statistical tools such as correlation, ANOVA and multivariate analysis. Results showed that customer visit those stores that meet service expectations. Moreover, they found that innovation plays an important role in commitment and customer maintenance.

Yah et al (2015) studied the effect of social responsibility of organizations and innovation on customer loyalty in banks of Taiwan. Research population composed of all customers of financial institutions of Taiwan from which 527 individuals were selected as the sample through cluster sampling. Data analysis using variance analysis and SEM methods revealed that there is a significant, positive relationship between organizational social responsibility and innovation, and loyalty of bank customers.

Liana et al (2005) investigated the relationship between innovation and customer loyalty in hospitals of Belgium. Results showed that there is no significant, positive relationship between delivering innovative and rapid medical services in health care centers and frequent visit of customers.

**2.6. RESEARCH CONCEPTUAL MODEL**



**Figure 1. Research conceptual model**

*Source: Author*

## 2.7. HYPOTHESES

**Main hypothesis:** There is a significant, positive relationship between organization's social responsibility and innovation and loyalty of customers of ParsianBank in Guilan province.

### Side hypotheses

1. There is a significant, positive relationship between organization's social responsibility and customer support in branches of Parsian Bank in Guilan province.
2. There is a significant, positive relationship between innovation and customer support in branches of Parsian Bank in Guilan province.
3. There is a significant, positive relationship between value of relationship and customer loyalty in branches of Parsian Bank in Guilan province.
4. There is a significant, positive relationship between quality of relationship and customer loyalty in branches of Parsian Bank in Guilan province.
5. There is a significant, positive relationship between customer support and value of relationship in branches of Parsian Bank in Guilan province.
6. There is a significant, positive relationship between customer support and quality of relationship in branches of Parsian Bank in Guilan province.

## 3. METHODOLOGY

This is an applied research in terms of objectives and required data are gathered through descriptive – survey method. The research was performed from June to November 2016 in Guilan province. The studied population was composed of all customers of Parsian Bank branches having current accounts from May to October 2016 (480 individuals). According to investigations, ParsianBank has 6 branches in Guilan province: 3 branches in Rasht, 1 Branch in Lahidjan, 1 branch in Anzali and 1 branch in Astara. Random stratified sampling method was employed in this paper because of different population distribution in various groups and classes. Then, systematic sampling method was used to estimate sample volume in very unit. A sample of 214 individuals was determined through Cochran's test. The questionnaire of Yah et al (2015) was used as data collection tool. The questionnaire contained 25 questions on six aspects: service innovation, organization's social responsibility, customer loyalty, value of relationships, customer support and quality of relationships. The questionnaire was designed based on Likert's scale (with the overall scoring form of very low, low, somehow, high, very high).

We used experts' opinions considering research nature and to ensure content validity. With this respect, the preliminary questionnaire was first distributed among a number of experts, specialists, consultant and supervisor professors of university and required modifications were exerted while asking their opinions. In addition, Cronbach's Alpha coefficient was used to measure questionnaire reliability. Results are presented in Table 1.

**Table 1. Cronbach's Alpha for questionnaire items**

Variable	Number of questions	Cronbach's alpha for every aspect	Cronbach's alpha for total aspects
Loyalty	3	0.89	0.87
Social responsibility	3	0.93	
Innovation	3	0.87	
Relationship value	3	0.90	
Relationship quality	6	0.81	
Customer support	7	0.84	

*Source: Author*

## 4. FINDINGS

In this section, descriptive statistics and statistical inference are presented in two separate parts, respectively.

### 4.1. KOLMOGOROV – SMIRNOV TEST

Kolmogorov – Smirnov test was performed to determine normal data distribution.

Statistical hypothesis of this test is:

H0: The considered variable is normally distributed.

H1: The considered variable is not normally distributed.

If the significance level of this test is lower than 0.05, H0 is rejected and it can be said, with 95% of confidence, that variables are not normally distributed. If the significance level of the test is larger than 0.05, H0 is accepted and it can be said, with 95% of confidence, that variables are normally distributed.

**Table 2. Data distribution**

Variable	z statistic	Sig *	Result
Loyalty	1.178	0.125	Normal
Social responsibility	1.284	0.074	Normal
Innovation	1.243	0.091	Normal
Relationship value	1.322	0.061	Normal
Relationship quality	1.001	0.269	Normal
Customer support	1.053	0.217	Normal

*Significance level smaller than 0.05 (P < 0.05)*

*Source: Author*

### 4.2. HYPOTHESES TESTING

**Table 3. Results of Pearson correlation test, mean and standard deviation of variables**

Variables	Mean	S.D		Social responsibility	Relation value	Relation quality	Innovation	Customer support	Loyalty
Social responsibility	3.64	0.614	Pearson Correlation	1	0.333	0.235	0.455	0.663	0.387
			Sig.(2-tailed)	0.000	0.034	0.000	0.050	0.000	0.075
Relation value	2.45	1.089	Pearson Correlation	0.333	1	0.112	0.231	0.894	0
			Sig.(2-tailed)	0.034	0.000	0.003	0.006	0.000	0.100
Relation quality	3.32	0.582	Pearson Correlation	0.235	0.112	1	0.176	0.500	0.387
			Sig.(2-tailed)	0.000	0.003	0.000	0.037	0.041	0.097
Innovation	3.34	0.63	Pearson	0.455	0.231	0.176	1	0.479	0.360

Variables	Mean	S.D		Social responsibility	Relation value	Relation quality	Innovation	Customer support	Loyalty
		6	Correlation						
			Sig.(2-tailed)	0.050	0.006	0.037	0.000	0.007	0.078
Customer support	3.34	0.593	Pearson Correlation	0.663	0.894	0.500	0.479	1	0.212
			Sig.(2-tailed)	0.000	0.000	0.041	0.007	0.000	0.000
Loyalty	3.50	0.89	Pearson Correlation	0.387	0	0.387	0.360	0.212	1
			Sig.(2-tailed)	0.075	0.100	0.097	0.078	0.000	0.000

*Source: Author*

Because of normal distribution of research data, parametric statistical methods were used to measure correlations. Here, Pearson's Correlation test is employed.

Based on Table 3, the numerical value of significance observed in the relationship between organization's social responsibility and customer support is 0.000. Since the figure is smaller than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>0</sub> is rejected. That is, there is a significant, positive relationship between organization's social responsibility and customer support. Moreover, because of positive correlation (63.3%) it is concluded that a direct relationship exists between organization's social responsibility and customer support.

The numerical value of significance observed in the relationship between innovation and customer support is 0.007. Since the figure is smaller than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>0</sub> is rejected. That is, there is a significant, positive relationship between innovation and customer support. Moreover, because of positive correlation (47.9%) it is concluded that a direct relationship exists between innovation and customer support.

According to Table 3, the numerical value of significance observed in the relationship between relationship value and customer support is 0.000. Since the figure is smaller than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>0</sub> is rejected. That is, there is a significant, positive relationship between relationship value and customer support. Moreover, because of positive correlation (89.4%) it is concluded that a direct relationship exists between the two variables.

In addition, the numerical value of significance observed in the relationship between relationship quality and customer support is 0.041. Since the figure is smaller than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>0</sub> is rejected. That is, there is a significant, positive relationship between relationship quality and customer support. Furthermore, because of positive correlation (5%) it is concluded that a direct relationship exists between the two variables.

Based on Table 3, the numerical value of significance observed in the relationship between relationship value and loyalty is 0.100. Since the figure is larger than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>1</sub> is rejected. That is, there is no significant relationship between the two variables.

The numerical value of significance observed in the relationship between relationship quality and loyalty is 0.097. Since the figure is larger than standard significance level (0.05), it can be said, with 95% confidence, that H<sub>1</sub> is rejected. That is, there is no significant relationship between the two variables.

### 4.3. STRUCTURAL EQUATION MODEL

Structural equation model (SEM) is a holistic multivariate technique of regression family. It is considered an inclusive approach to test hypotheses concerning relationships between observed variables. It is mainly employed in multivariate issued where it is not feasible to solve problems through considering every independent variable with a dependent one. The tool is capable of simultaneously evaluating different relationships between variables, testing and comparing similarities and differences between various participant groups.

Symbols in charts below include: social responsibility (AC), innovation (INO), customer support (CUS), loyalty (LO), relationship value (VAL), and relationship quality (QUA).

Based on SEM results, research main hypothesis is rejected. Overall fitness indicators of the main hypothesis are presented in Table 4 suggesting good fitness of the model. In other words, data supports the model.

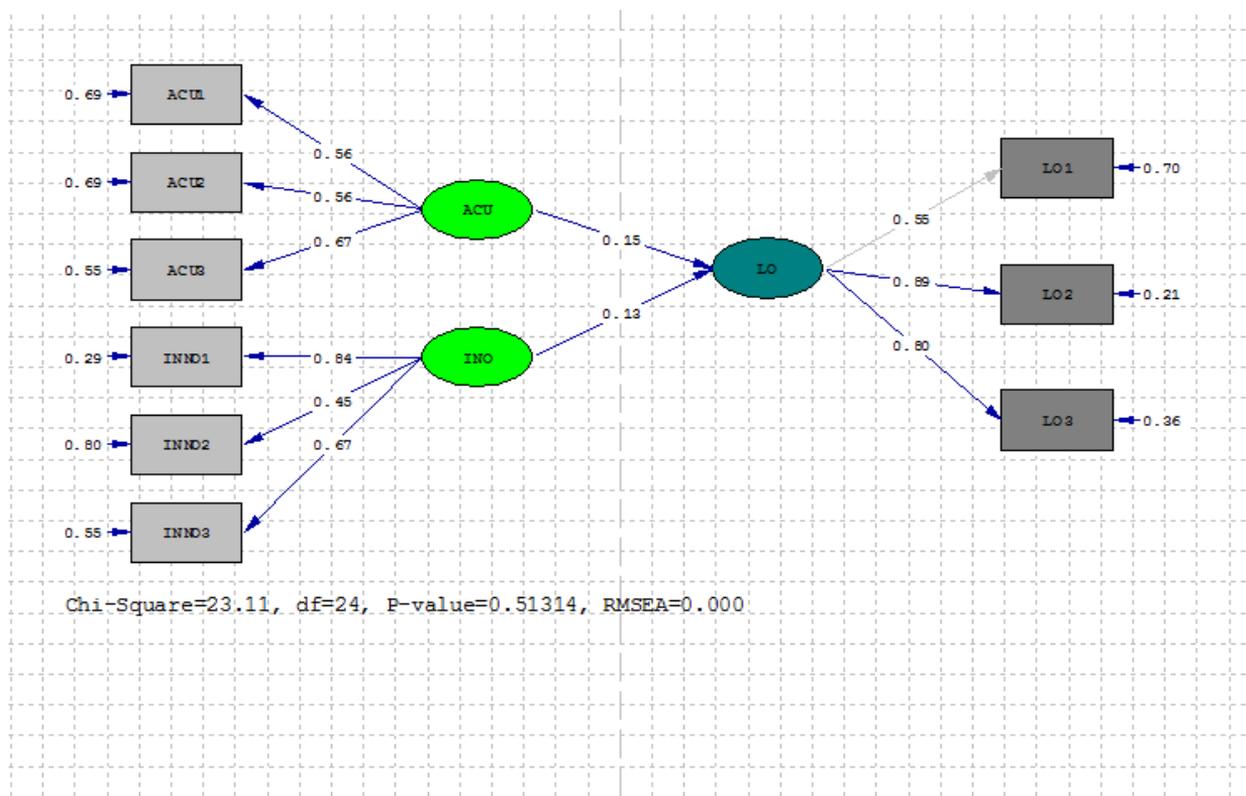


Figure 2. Standard model

Source: Author

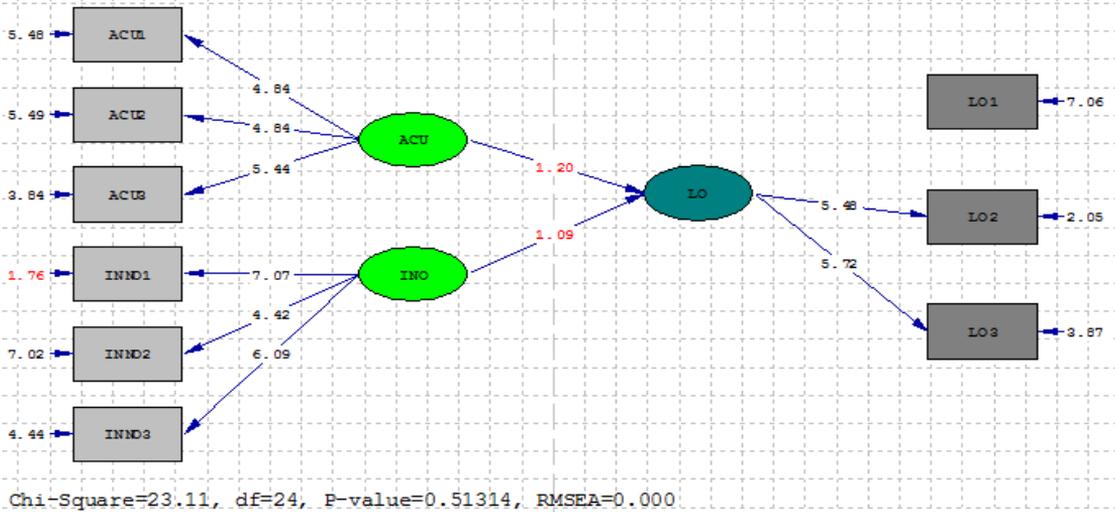


Figure 3. Significance model

Source: Author

Table 4. Fitness indicators of the overall model

Fitness indicator	Abbreviation	Acceptable range	Calculated value	Result
Relative squared chi	X2/df	1-3	1	Confirmed
Good fitness indicator	GFI	> 0.9	0.96	Confirmed
Adjusted good fitness indicator	AGFI	>0.9	0.92	Confirmed
Comparative fitness indicator	CFI	> 0.9	1	Confirmed
Root mean squared error of approximation	RMSEA	< 0.1	0	Confirmed
Residues mean root	RMR	Around 0	0.057	Confirmed
Normalized fitness index	NFI	> 0.9	0.93	Confirmed
Relative fitness index	RFI	> 0.9	0.93	Confirmed
Norm fitness index	NNFI	Around 1	1	Confirmed
Intercalary fitness index	IFI	> 0.9	1	Confirmed

Source: Author

Since SEM of the main hypothesis is accepted, this hypothesis is studied using standard coefficients, critical values and significance level.

Table 5. Examining path significance for hypotheses testing

Path	Path coefficient	t statistic	Result
Innovation → customer support	0.23	2.22	Significant
Social responsibility → customer support	0.44	8.79	Significant

Path	Path coefficient	t statistic	Result
Relationship value → loyalty	0	0.03	Insignificant
Relationship quality → loyalty	0.15	1.46	Insignificant
Customer support → relationship value	0.80	2.65	Insignificant
Customer support → relationship quality	0.25	2.23	Insignificant
Innovation – social responsibility → loyalty	1.95 – 0.13 * 0.15	1.30	Insignificant

Source: Author

## 5. CONCLUSION AND SUGGESTIONS

The first hypothesis examines the relationship between innovation and customer support. Respecting significance of 2.22 (> 1.96) and standard coefficient of 0.23, this hypothesis is confirmed and obtained results are consistent with Yah (2015). Moreover, results concerning this hypothesis are consistent with Tavakoli et al (2014) and Nazemi and Saadat Yar (2013). Because of the positive relationship between innovation and customer support, top management of Parsian Bank is suggested to use customers’ ideas to present innovative objectives. This is feasible through direct and indirect (Internet, Email, survey forms, suggestion) interactions. In addition, managers have to interact with customers in order to enhance efficiency and improve economic status. Bank branches are, also, suggested to present predominant services through analyzing rivals behaviors in the market and evaluating internal and external environment of their organization.

The second hypothesis examines the relationship between organization’s social responsibility and customer support. Considering the significance of 8.79 (> 1.96) and standard coefficient of 0.44, the hypothesis is confirmed and its related results are consistent with Yah (2015), Mojoudi et al (2013), and Ghazizadeh et al (2013). Because of the positive correlation between social responsibility and customer support, bank managers are suggested to focus on their employees’ mental issues and lead them toward reinforcing organizational citizenship behavior to enhance positive interactions between employees and customers. This is feasible through improving job life quality of employees, enhancing their morale, providing on-the-job training to improve their motivations, creating an environment based on cooperation and flexibility. In other words, if employees are considered as internal customers, external customers will be more satisfied.

The third hypothesis of this research examines the relationship between customer support and value of the relationship. Respecting the significance of 0.03 (< 1.96) and standard coefficient of 0, this hypothesis is rejected. Results are inconsistent with Yah (2015), and Zarepoor et al (2010). Because of the positive correlation between customer support and relationship value, top managers are suggested to maintain their positive interactions with customers in order to enhance customers’ interests and their satisfaction. In addition, they may encourage customers by presenting specific plans and festival. Online evaluation and survey is a proper way for customers to evaluate bank performance on a periodic basis. Another strategy is to reinforce and empower the CRM section (Customer Relationship Management).

The fourth hypothesis evaluates the relationship between customer support and the quality of relationship. Respecting the significance of 1.46 (< 1.96) and standard coefficient of 0.15, the hypothesis is rejected and obtained results are inconsistent with Yah (2015), and Zarepoor et al (2010). Thus, respecting the positive correlation between customer support and relationship quality, Parsian Bank top managers are advised to focus on customer support and try to maintain and enhance the quality of their services. Also, they may create a flexible atmosphere for good customers by providing cash rewards and encouragement plans. Bank branches have to modify conditions so that customers can express their ideas in a transparent and open manner.

The fifth hypothesis examines the relationship between relationship value and customer loyalty. Respecting the significance of 2.65 ( $> 1.96$ ) and the standard coefficient of 0.80, this hypothesis is confirmed and results are consistent with Yah (2015), Zarepoor et al (2010), and Tavakoli et al (2014). Because of the negative correlation between relationship quality and loyalty, top managers of Parsian Bank are suggested to exert more serious supervision on the quality of their relationships and services, and employ required measures while modernizing bank services (using advanced global technologies). They have to choose employees with high levels of job-related knowledge and guide them as required. Furthermore, they must consider customers' specific needs and provide services to meet those needs.

The sixth hypothesis evaluates the relationship between quality of the relationship and loyalty. Considering the significance of 2.23 ( $> 1.96$ ) and standard coefficient of 0.25, this hypothesis is confirmed and related results are consistent with Yah (2015), Zarepoor et al (2010), and Tavakoli et al (2014). Because of the negative correlation between relationship quality and loyalty, bank managers are suggested to become aware of customers' satisfaction of presented services, respecting the fact that loyalty is a consequence of satisfaction. Furthermore, they may try to inform customers of bank services through distributing advertising bulletins and playing ad clips in the bank branches. In this way, customers are encouraged to analyze rivals' status and performance of the considered bank and believe that the value they gain through the current bank is superior to that of other competitors.

The seventh hypothesis examines the relationship between organization's social responsibility and innovation and customers' loyalty. Respecting the significance of 1.30 ( $< 1.96$ ), this hypothesis is rejected and related results are inconsistent with Yah (2015), Nanda et al (2013), and Mojoudi et al (2013), but consistent with Liana et al (2005). Because of the negative correlation between value of the relationship and loyalty, top managers of Parsian Bank are advised to consider the fact that sole reliance on financial strategies may not meet diversified needs of customer in today's market. They must analyze the issue of bank's social responsibility in the public level and inform customers on the results. Moreover, they must evaluate customers' feedback on bank performance and services through face-to-face interactions with employees and customers. Banking strategies should be designed based on principles of social responsibility to reach innovation. Some of these strategies include sponsoring social programs of the media, providing special conditions for students and their families, entering other service sections such as chain stores, etc.

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