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**Guest editor: Dr Darko Vuković**

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# THE DETERMINATION OF EXTERNAL ENVIRONMENT'S IMPORTANT FACTORS IN DREDGING INDUSTRY IN IRAN BASED ON FUZZY DELPHI METHOD

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## Abstract

*It is possible to use famous and powerful models such as pesteli and Porters Five Competitive Forces to examine the external environment. The main objective of this study is determination of external environment's important factors in the dredging industry in Iran based on fuzzy Delphi. Dredging companies, by using these factors, are able to determine the strategic factors that create threat and opportunity and also formulate and implement the strategies in all levels of company to coordinate and adapt more with increasing changes in the external environment. The research is respectively applicable and explanatory in terms of the purpose & method. The statistic population of the research includes 19 experts of dredging companies. The data related to the research has been collected by questionnaires which are analyzed by descriptive method based on fuzzy Delphi method and in two rounds due to Kendell's coefficient of concordance of about 0.7 in the second round and little difference of this coefficient in two consecutive rounds. The validity of the questionnaires based on content validity, reliability by Cronbach's alpha coefficient above 0.9 was confirmed. The results of the study indicate that in stages of two and three of the process, the initial criteria and then after determination of their importance and screening, the secondary criteria including 13 factor and 86 subfactors (7 factors & 35 sub factors of macro environment and 6 factors & 51 subfactors of micro environment) was characterized and determined.*

JEL classification: L16

**Keywords:** macro environment; micro environment; fuzzy Delphi; Pesteli; Porters five competitive forces.

## 1. INTRODUCTION

((The environment where organizations in is complex, and in a rapid change, at the same time competition is very intense.)) [Türkay et al,2011] ((So while carrying out its operations, a company must increasingly take into account the environment within which it operates.)) [Yüksel, 2012] Today, the environmental variations for existing firms in dredging industry have same procedure and have rapid diversities. In recent decades, this industry had widespread growth due to building the ships with high capacity, marine transportation improvement, increasing the tourism industry, urban development, coastal protection, weather conditions and etc. ((so that the growth of global dredging turnover in 2013 (€11680 mln) compared to 2000 and 2012 was respectively 2.82 and 1.03 times.)) [IADC,2007-2014] Meanwhile the Persian Gulf with huge oil resources and development projects of the countries in the region, is one of the best markets in the world, because the growth of dredging turnover (( in this region in 2013 (€1100 mln) than to 2000 and 2012 was respectively 4.73 and 1.38 times and it is still more than the dredging average in global markets.)) [IADC,2007-2014] As Iran is located in one of the international strategic regions and with 3000 km maritime boundary and 86 trade & fishing port, always tries to develop and improve its marine

development and to provide appropriate marine services to all vessels. The result was an increase in dredging projects so that ((The volume of dredging in Iran from the 1 mln in 1979 reached to 10 mln and needs more than 114 mln. In

addition to the dredging projects in the main ports of the country, we can describe the dredging of rivers such as Arvandrood and Karoon so that the volume of dredging in these two regions is about 30 mln .)) [Adeli, 2016, p39-41] These factors indicate the appropriate scope from the growing dredging markets and the profitability of this industry in the country.

Increasing the dredging projects and widespread environmental variations and also increasing the number of dredging companies from 3 to 12 companies between 1996 to 2014 in the country as well as the tendency and pay attention of other companies to investment in this industry, led to more competition. So in this competitive situation, ((it is not possible for a company to survive in the long term without considering this dynamic process)) [Yüksel, 2012] and it needs competitive advantage. The analysis and continuous monitoring of the environment is an approach that can create a competitive advantage for the companies. It is one of the elements of strategic management and is one of the key success factors. ((Strategic management

was defined as a set of managerial decisions and actions that ensure organization's compliance with its surroundings and long-term success is a process in which organizations' competitive advantages have been maximized and disadvantages have been minimized.)) [Türkay et al, 2011] The continuous investigation of the environmental variations in dredging industry helps the companies to identify the opportunities and threats and thus analysis and continues monitoring of External environment due to the high complexity and rapid rate of change plays significant role. Environmental evaluation done because We want to be aware of the surroundings that we want to work on it. So the managers of the dredging companies ((should analyze

the external environment effectively and continuously for response to the changing needs and desires of customer and adaptation to the market conditions and in a systematic way)) [Morden, 1993; Türkay et al, 2011] Because the external environment incorporates the wide domain that its surveillance is so difficult. ((In the process of adaptation to the external environment a basic function was taken upon by managers. In fact, they must direct the relations of organization with external environment and retain a clear interaction of organization among actors of external environment. Such a close contact will empower managers to capitalize on opportunities and avoid threats in the external environment.)) [Stahl et al, 1997; Türkay et al, 2011] ((Adaptation to the external environment and to achieve long-term success in dredging enterprises depends on the development of appropriate strategies.)) [Türkay et al, 2011] ((Because the strategies determine the activity fields in a complicated and dynamic environment)) [Harrison et al, 2007] and ((are the means by which long-term objectives will be achieved.)) [David FR, 2011] ((However, before they develop a strategy, dredging companies need to analyze the current status in the marketplace. However, rapid changes in environmental conditions are able to turn possible strategies inadequate and organizations living in an ever-changing business environment need to anticipate these changes and ensure harmony between the external environments.)) [Türkay et al, 2011] ((It is therefore important for enterprise management to understand the variety and characteristics of the external environment and forces relevant to

policy formulation and decision making.)) [Morden, 1993, Türkay et al, 2011] If the environment was stable, **the environmental impacts weren't so important.** But today the changing **Daftisan** inevitable reality and thus **Kotler** knowing the influencing important factors of the external environment ((including the factors of the macro

(Gen al) environment and micro (Task) environment)) [Arabi, 2010; , 2010; Harrison et al, 2007; et al, 202; Ritson ,2013] is important in dredging industry.

In this study, the Delphi method was used for better using the **experts'** knowledge and opinion. Also the fuzzy numbers were used to overcome the inability of this method to manage the current vagueness and uncertainty in **respondents'** verbal terms. So the main question in this study is that what are the important factors of the external environment in dredging industry based on fuzzy Delphi method in Iran? The results of this study helps the dredging companies in Iran as detection the expert's opinion. The managers and strategists of the dredging companies are able by using these factors and considering the effect of weights and their probability Coefficients in the industry and also its probable impact of these factors in their companies to determine the strategic opportunistic and threatening factors of the external environment. Also they are able to formulate and implement the strategy in all levels of the company to coordinate and adapt better to increasing environmental changes in the external environment. So the main purpose of this study is to determine the important factors of the external environment in dredging industry in Iran based on the Delphi method. Although the literature on strategic management and Determination of Environmental

factors base upon fuzzy Delphi is quite expansive, it can be mentioned that the number of studies addressing **the Environmental factors in dredging's area especially in Iran** is low. In this respect, this study is important



because it is addressing the Determination of important Environmental factors in the dredging industry in Iran and will offer a significant contribution to dredging firms in the country by revealing the points of view of experts of dredging industry.

## 2. LITERATURE REVIEW

One of the most important steps in strategic management is Environmental Strategic analysis that ((includes two internal and external environments and incorporates all the factors related to the activities of the firm.)) [Yüksel, 2012] The purpose of environmental analysis, is investigation and identification the factors that influence on the activity and the performance of organization. These factors often are related with internal environment and external environment. ((The internal environment of a corporation consists of variables (strengths and weaknesses) that are within the organization itself and are not usually within the short-run control of top management.)) [Hunger et al, 2011] In other hand they are usually within the continues and long term control of top management. ((These variables form the context in which work is done. They **include the corporation's structure, culture, and resources**. The external environment includes the variables that outside of the organization)) [Hunger et al, 2011] ((and are out of organization's control, but they have direct or indirect effect on the performance of the firm.)) [Aliahmadi et l, 2007] ((The analysis of external environment needs macro and micro environments investigation to identify the threats and opportunities and to provide a way for strategic path.)) [Harrison et al, 2007]

### 2.1. THE MACRO ENVIRONMENT ANALYSIS: PESTELI MODEL

The macro environment ((is an environment in which there are forces and trends that shape opportunities and pose threats. These forces represent "uncontrollable" **which the companies** must monitor and respond and react to them.)) [Kotler,1997] They can have a deep effect on the firm and its micro environment.)) [Harrison et al, 2007] The macro environment directly or indirectly affect the operations of the company and consists of the political, economic, socio-cultural, technologic, ecologic, legal factors.)) [Yüksel, 2012]

More ever, we can describe the international **Daft** factor that ((reflects the competitive challenges in global markets)) [Panagiotou,2005]and ((it can directly affect many organizations, and it has become extremely important in the last few years.)) [ ,2010] Although there is not a rule or regulation in environmental investigation, but ((A review of the literature reveals that different approaches and techniques were used for the analysis of macro environment.)) [Yüksel, 2012] ((The best way to study that macro-environment is by Political, Economic, Social, Technological, Environmental, Legal and International (PESTELI) analysis. PESTELI is a strategic management tool typically used to shape future organizational strategy.)) [Panagiotou,2013] In this research, this model is used to analyze the macro environment. ((As with all strategy models, PESTELI has its advantages and disadvantages. Its main advantage is that it considers most factors that may influence an organizational strategy and decision making. Moreover, it helps strategists and managers better understand key drivers of change and helps them design realistic scenarios that offer plausible alternative views on how the business environment of an organization might develop in the future. The main disadvantages are that managers applying the PESTELI model may get over-whelmed by the multitude of details, the analysis of which may produce long and complex lists. Moreover, scenarios based on PESTELI, cannot offer a single forecast of how the environment will change. so, managers should have contingency plans and other strategies for each scenario, a long and complicated task.)) [Panagiotou,2013]

### 2.2. THE MICRO ENVIRONMENT ANALYSIS: THE PORTER'S FIVE COMPETITIVE FORCES MODEL

((The task environment includes sectors with which the organization **Daft** interacts directly and that have a direct

**impact on the organization's ability to achieve its goals.)) [ ,2010] ((Hunger & Wheelen (2011) believes that the task(micro) environment includes those elements or groups that directly affect the corporation and, in turn, are affected by it and can be thought of as the industry within which it operates.)) [Hunger et al, 2011]**

**One of the best models to analyze the micro environment is the Porter's five competitive forces that** ((is a framework for industry analysis and business strategy development formed by Michael E. Porter of Harvard Business School in 1979. Porter referred to these forces in the micro environment as these consist

of those forces close to a company that affect its ability to serve its customers and make profit.) [Wu et al, 2012] ((Porter's Five Forces analysis is a simple but powerful model to determine competition level in an industry)) [Barutcu et al, 2012] ((and has been one of the most influential frameworks for strategic management. It has been considered a standard tool for analyzing industry attractiveness. The more attraction of the industry leads to mPorterbenefit potentials.)) [Hopkins, 2008; Lee et al, 2012] ((The extended rivalry that results from **all five forces defines an industry's structure and shapes the nature of competitive interactionPorter** within an industry.)) [ ,2008] The Porter's Five Competitive Forces are [Lee et al, 2012; , 2008]

- |   |  |
|---|--|
| 1) Rivalry among Existing Competitors (REC) | 4) Threat of Substitute Products (TS)  |
| 2) Bargaining Power of Clients/Buyers (BPC) | 5) Bargaining Power of Suppliers (BPS) |
| 3) Threat of New Entrants (TNE)             |  |

Builders and repairers of dredgers independent from other suppliers (chart 1) will be studied as the sixth Porter competitive forces in dredging industry in Iran According to their importance. ((in this study and according to Porter, the government's role or thePortercomplementary products **in micro environment weren't** considered as independent factors among other forces, but also the impact of these forces on the competition by the five competitive force was discussed.)) [ ,2008]



**Chart 1- Porter<sup>+</sup> model in dredging industry in Iran**

((According to Porter model, each factor or force that is strong would be a threat for organization, because it probably leads to reduce the profit. In contrast, each factor or the force that is weak, will be an opportunity, because it makes an opportunity for the organization to gain more benefit.)) [Harrison et al, 2007] ((by determining the strength of individual forces it is possible to determine the best strategy to counteract the strongest industry forces.)) [Hopkins,2008]

### 3. METHODOLOGY

The methodology is a road map to reach to solution of the problems. In order to reach to valid results in the research, it is necessary to use appropriate method to obtain the reasonable results. The research by purpose & method is respectively applicable and explanatory and in terms of the data, is a qualitative research and in terms of investigating the literature review is a library study. As described before, the main purpose of this study is determination of important factors of external environment in dredging industry in Iran based on the fuzzy Delphi method that were known significant by the experts of this industry.

((Delphi may be characterized as a flexible method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem)) [Turoff et al, 1975] ((and the researcher is able to collect a set of informed judgements from experts on specific issues.)) [Williams et al, 1994] ((The Delphi method is used to identify and screen the most

important decision-making indices and is a group knowledge acquisition method, which is also used for qualitative issue decision-makings.) [Habibi<sup>1</sup> et al, 2014] ((The main object of this method is to obtain the most reliable consensus of opinion of a group of experts. It attempts to achieve this by a series of intensive questionnaires(QNRs) interspersed with controlled opinion feedback.)) [Dalkey et al, 1963] so that ((it collects the expert's opinions by distributing the questionnaire(QNR) among them and in some stages, it converts to the opinion of the majority.)) [Azar,1994] ((Three distinctive features of the Delphi method is the unknown identity of the members among themselves, get feedback and repetition.)) [Malekzadeh et al, 2013] ((The main advantage of this method is that it avoids direct confrontation of the experts with one another. The method employed in the experiment appears to be more conducive to independent thought on the part of the experts and to aid them in the gradual formation of a considered opinion. on the other hand, Direct confrontation often induces the hasty formulation of preconceived notions, an inclination to close **one's** mind to novel ideas, a tendency to defend a stand once taken or, alternatively and sometimes alternately, a predisposition to be swayed by persuasively stated opinions of others.)) [Dalkey et al, 1963; Okoli et al, 2004] ((Guidance suggests that number of panel's participants will vary according to the scope of the problem and resources available such as the money and time.)) [Powell,2013] ((And is done with the participation of individuals who have the knowledge and expertise of the study subject.)) [Habibi et al, 2014] ((Williams and Webb (1994) believed that there is no agreement regarding the size of the panel and regarding the composition of the panel, there are few studies which specify the criteria on which they were selected. The notion that panel members are experts seems to be implicit in the fact that they are singled out for selection rather than fulfilling any specific standards.)) [Williams et al, 1994] ((it is also suggested to use a combination of individuals with multiple specialties and heterogeneous groups better than the homogeneous groups.)) [Habibi et al, 2014, Powell,2013] ((In some resources, between six and twelve members are ideal for Delphi technique and if a mixture of experts with different specialties is used, between five and ten members are sufficient. In qualitative research, it is recommended to use a group of ten experts with different specialties)) [Habibi et al, 2014] ((Powell (2003) says 10 to 20 experts for homogenous groups and Martino (1972) says 15 to 30 experts for non-homogenous groups are appropriate. The results of the Brockhoff (1975) studies indicates that in the perdictory researches, 11 experts and in fact finding, 7 experts make more appropriate performance. ([Feizi et al, 2013] ((Following recommendations from Delphi

literature, Okoli & Pawlowski (2004) believe that 10 to 18 experts in each panel is a valid sample.)) [Okoli et al, 2004] In this study the Delphi method is used ((that is accomplished based on the **respondents'** opinion and the verbal terms are used for investigation of opinions. The verbal terms have some restrictions to reflect **the whole respondent's mental attitudes. For example, the term "high" for the person A who is disciplinarian** is different with person B. if a definite number is used for quantify the opinion of two persons, the results have bias. So by developing the fuzzy method, it is possible to overcome to this problem. The fuzzy Delphi method was introduced by Kaufmann & Gupta in 1988. Ishikawa also developed the Delphi method by triangular fuzzy numbers (TFNs) in 1993. There should be distinguish between the two applications of the Delphi method. The Delphi method is used to determine the importance of the indexes and screening the most important identified indexes. One of the most important advantageous of the fuzzy Delphi method respect to traditional Delphi is that it is possible to use a round to screen the items. The reasonable justification of this process is that in screening, the researcher first conducted the initial screening and the analysis has validation aspect.)) [Habibi<sup>2</sup> et al, 2014] The Statistical Society of this study is the 19 experts familiar with strategic issues and dredging industry with different expertize with at least 10 years' experience **that their opinions were used during the project. So in this study, the sampling wasn't used.** The following three steps was used to reach to purpose. In determining factors in the following steps, the subfactors determination are also taken into account that was ignored for summarization.

1. Identification of the raw factors of the macro environment in dredging industry in Iran
2. Identification and determination the initial factors based on the fuzzy Delphi method
3. Determination the secondary factors using the fuzzy Delphi method

**The first step of the research process:** In this step the library method was used. Because of high amount of tables of the macro & micro environment factors, these tables **weren't shown.**

**The second step:** In this step the following steps were conducted to identify and determine the initial factors influencing on the external environment (macro & micro environment) in the dredging industry in Iran.

2-1- according to high diversities of the raw factors, some factors for adaption with the conditions of the country and dredging industry in Iran were selected After the consultation, interviews and expertize sessions with some industry experts and also previous studies without any variation. some of them were selected especially in micro environment After minor changes or major and necessary corrections. It should be noted that in this step it was tried to hinder the variables elimination unless with reasonable reason.

2-2- after conducting the above paragraph, the selected factors of the first step were provided in a QNR form and distributed to all experts and it was requested to them to write their opinions about the external environment analysis of the dredging industry using the Delphi method and say their suggestions about the efficiency of these factors to analyze the external environment. It was also requested to experts to note the factors that are appropriate in external environment analysis. In fact, in the first and second steps of the Delphi method, the large list of the factors contributing in the strategic analysis in dredging industry in Iran was collected and analyzed. Finally, and after two rounds of survey, all initial factors and sub factors that were identified from the two above steps, were indicated as the initial factors and sub factors in the tables 4 and 5 for the micro and macro environment.

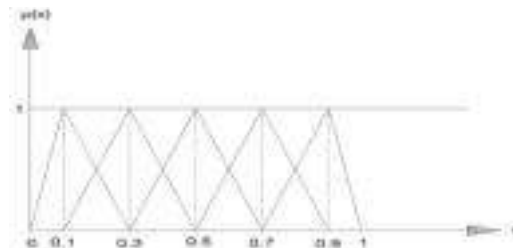
**The third step:** In this step, the final propose is to determine the secondary factors. Determination of these factors in individual decisions is not so difficult, because a decision maker determines this factors. While it is possible in group decisions-making due to differences in interests and expertise be so difficult and long-term. In this step, using the common techniques of group decision-making is appropriate. The common recommendation in this situation is to determine the most important factors using the Delphi method. The following stages are necessary to determine the secondary factors and screening the initial factors of the external environment.

**Table 1. Verbal termsHabibiforthe: important with the triangular fuzzy numbers [Barbazza et al, 2014; Chen et al, 20085; et al, 2014;, Yadollahi Farsiet al, 2012]**

Verbal terms	Very low (VL)	Low (L)	Medium low (ML)	Medium (M)	Medium high (MH)	High (H)	Very high (VH)
TFNs scale	(0,0,0.1)	(0,0.1,0.3)	(0.1,0.3,0.5)	(0.3,0.5,0.7)	(0.5,0.7,0.9)	(0.7,0.9,1)	(0.9,1,1)

Source: Author

3-1) Initial survey of the experts: In this section, two closed QNRs based on the fuzzy Delphi method are distributed among members of the group that incorporates all initial factors of the external environment in dredging industry and it was asked to the members of the group to determine the importance of each factors using the Likert fuzzy seven- scale. The numerical scale of these verbal terms based on the TFNs are indicated in the table 1 and the chart 2. In this study, the experts described their opinions as verbal terms. The crisp number is determined After that the Defuzzification process is done.



**Chart 2: The TFN equivalent to the Likert seven-scale [Habibi<sup>2</sup> et al, 2014]**

The first QNR is related to a micro environment and is divided based on the PESTELI model to seven parts and consisting 56 questions and the second QNR is related to the micro environment and is divided to six initial factors based on Porter<sup>+</sup> model and consists 122 questions. The validity of the QNRs is according to content validity and based on **PESTELI and Porter's Five Competitive Forces model**. the reliability by Cronbach's alpha coefficient 0.924 and 0.973 was confirmed. It is important to note that the QNRs 1 and 2 were regulated using the sub factors of tables 6 and 8.

3-2) The initial processing of questionnaire: After collecting the QNRs and according to using the **fuzzy Delphi method to gather the experts' votes in this study, the following steps were conducted.**

- ✓ Verbal data transformation to software and determination the frequency of the verbal data: the data after collection and fuzzy numbering based on the Likert fuzzy scale were imported to the computer. the appropriate operations were applied using the related software and were interpreted by descriptive techniques.
- ✓ ((The fuzzy Aggregation of the **experts'** opinion using the fuzzy average for each one of the three triangular fuzzy number based on the equation 1.)) [Habibi<sup>2</sup> et al, 2014]

$$F = \frac{1}{3} (a + b + c) \tag{1}$$

- ✓ ((Defuzzification and determination of the crisp average values for each factors (questions) based **on averages' maximum method (X<sub>max</sub><sup>i</sup>)** as the equations 2 and 3.)) [Bojadziev et al, 2007; Habibi<sup>2</sup> et al, 2014]

$$X_{max}^i = \max_j (X_{ij}) \tag{2}$$

$$Crisp\ number = Z^* = \max_j (X_{ij}) \tag{3}$$

3-3) The crisp average values insertion of the **experts'** opinion along each questions of the QNR: after determination of the crisp average values of the **experts'** opinion, these numbers were informed to experts in order to survey again.

3-4) Back to the first stage (3-1) and repeat the process: Again, the QNR one and two were provided to the experts with crisp average values insertion along each questions of the QNRs and with the previous filled QNR. It was requested to the experts that to complete the QNR based on the average value and the obtained information from the previous stage. Some of the experts presented a new prediction and modified their previous opinion. After collecting the QNRs, the obtained data were processed again base on the stage 3-2. In this study, the Kendall's coefficient of concordance (KCC) was used to determine the number of Delphi methods rounds and the consensus between the experts. ((This coefficient can be used to determine the level of consensus between the participants.)) [Habibi<sup>1</sup> et al, 2014] ((This coefficient is a scale for determining the level of coordination and agreement between several ranks of *n* phenomenon (objects/factors/individuals) and indicates that those who have ordered several categories according to their importance have used the same criteria to judge the importance of each category and in this regard, they agree to each other.)) [Habibi<sup>1</sup> et al, 2014; Malekzadeh et al, 2013]

((**There are two ways found in textbooks for computing Kendall's W statistic** ( left and right forms of Equations (4) and (5)); they lead to the same result. S or S' is **computed first from the row-marginal sums of ranks R<sub>i</sub>** received by the objects:

$$S = \sum_{i=1}^m \sum_{j=1}^n (R_{ij} - \bar{R})^2 \tag{4}$$

S is a sum-of-squares statistic over the row sums of ranks R<sub>i</sub> (R<sub>i</sub> is the total ranks of a factor). R is the mean of the R<sub>i</sub> values. Following that, Kendall's W statistic can be obtained from either of the following formulas:

$$W = \frac{S}{T} \tag{5}$$

Where n is the number of objects (number of ranked factors or phenomena), m is the number of judges (variables or number of ranks sets or judges). T is a correction factor for tied ranks (Equations 6) in which t<sub>k</sub> is the number of tied ranks in each (k)of g groups of ties.

$$T = n! \prod_{k=1}^g (k!)^{t_k} \tag{6}$$

The sum is computed over all groups of ties found in all  $m$  columns (judges) of the data table.  $T=0$  when there are no tied values.)) [Legendre, 2005]

((Schmidt (1997) proposed two statistical criteria to make decisions about stopping or continuing the Delphi rounds. The first criteria are a strong consensus among the panel members which is determined based on KCC. If there is no such a consensus, the constant coefficient or its negligible growth in two successive rounds shows that consensus has not been increased and the survey process must be stopped. Statistically significant coefficient  $w$  is not enough to stop a Delphi process. For panels with fewer than ten members, very small values of  $w$  are also significant. [Habibi<sup>1</sup> et al, 2014, Malekzadeh et al, 2013] The table 2 indicates the values interpretation of this coefficient.

**Table 2. Interpretation of different values of the KCC [Malekzadeh et al, 2013]**

The Kendall's coefficient	0.1	0.3	0.5	0.7	0.9
The consensus interpretation	Very weak	weak	medium	strong	Very strong
Reliability respect to the factors sequence	---	low	medium	high	Very high

*Source: Author*

The KCC for the first and second round of QNRs according to table 3 is about 0.7. so according to table 2, the amount of consensus about the stopping the Delphi rounds is strong and the reliability about the factors sequence is high. The fixing of this coefficient or slight growth in two successive rounds indicates that there is no improvement in the **members'** consensus and the survey process should be stopped. So in this study the Delphi method -according to the Kendall's computed coefficient and stabilizing of the expert's opinion average enough- in two rounds was conducted.

**Table 3. The KCC for the QNR 1&2**

QNR no.	The KCC				Increasing the KCC
	1 <sup>st</sup> round	Sig	2 <sup>nd</sup> round	Sig	
1	0.707	0.00	0.736	0.00	0.029
2	0.658	0.00	0.685	0.00	0.027

*Source: Author*

3-5) Determination of the threshold value and screening the initial factors and the identification of secondary factors: ((After the Defuzzification of the values, a threshold value should be considered for screening the items. The threshold value is usually 0.7 but this value can be different based on the **expert's** opinion. if the crisp value resulted from the Defuzzification is more than threshold value, the index is validated unless it is eliminated.)) [Habibi<sup>2</sup> et al, 2014] In this study, the threshold value for the first and second QNR is 0.5 and its reason is investigation and review by the strategists in determination of the strategic factors in dredging firms. The initial factors that their average value is more than 0.5, are the secondary factors that are distinguished in tables 6 and 8 by a term "OK" in a result column. After determination the list of the secondary factors, each firm in the dredging industry can use them to determine the strategic factors.

#### 4. RESEARCH RESULTS

The research results according to the process of the study are described in this section. As mentioned, because of the high amount of the tables related to raw factors of macro and micro environment, we ignore to indicate the results of this stage. The characteristics of the respondents were summarized in table 4.

**Table 4. The frequency of respondents based on the job title, education and work experience**

Job title	Education level			Job experience						Frequency	Frequency %
	PH.D.	MSc	BSc	6-10	11-15	16-20	21-25	26-30	=>31		
Chief Executive Officer	2	1	5	0	1	1	3	0	3	8	42.11
Member of the board	0	0	2	0	0	0	1	0	1	2	10.53
D	0	1	2	0	1	0	1	1	0	3	15.79
Chairman	0	3	2	1	0	1	1	2	0	5	26.32
Expert	0	0	1	0	0	0	0	0	1	1	5.26

Job title		Education level			Job experience						Frequency	Frequency %
		PH.D.	MSc	BSc	6-10	11-15	16-20	21-25	26-30	=>31		
Total	Frequency	2	5	12	1	2	2	6	3	5	19	100
	%Frequency	10.53	26.32	63.16	5.26	10.53	10.53	31.58	15.79	26.32	100	

Source: Author

### the second stage of the research: identify and determine the initial criteria

**The macro environment:** The number of the initial factors and sub factors of the macro environment is 7 factors and 56 sub factors as following tables

- |   |  |
|---|--|
| 1) Political factor: 6 sub factors      | 5) Environmental/ Ecological factor: 5 sub factors |
| 2) Economical factor: 16 sub factors    | 6) Legal/ legislative factor: 7 sub factors        |
| 3) Sociocultural factor: 11 sub factors | 7) International factor: 5 sub factors             |
| 4) Technological factor: 6 sub factors  |  |

**Table 5. The importance of the initial factors of macro environment**

Factor	l	m	u	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	Crisp value (X <sub>MAX</sub> )	Rank
Political	.492	.669	.817	.659	.662	.664	.664	1
Economical	.452	.638	.805	.632	.633	.635	.635	2
Sociocultural	.317	.492	.670	.493	.493	.493	.493	7
Technological	.439	.630	.801	.623	.625	.627	.627	3
Environmental	.445	.627	.792	.621	.623	.624	.624	5
Legal/ legislative	.393	.580	.753	.575	.577	.578	.578	6
International	.442	.629	.796	.622	.624	.626	.626	4
Total	.420	.603	.771	.598	.599	.600	.600	

Source: Author

According to tables 5 and 6, The importance of the macro environment is 0.6 and is between the medium and medium high important. among the factors, the politic factor (0.664) is most important and the cultural-social factor (0.493) is the least important. Among the existing sub factors in politic factor, the subfactor of "foreign and regional policy and relations with other countries" (0.837) is most important and "government's views and policies" (0.367) is the least important. So in the economic factor, "the governmental nature of the economy in the country" (0.812) and "the stock market and shares trend" (0.395) and "the Monetary and financial politics" (0.395), in Sociocultural factor, "the Dredging engineering educational centers in the country on college" (0.876) and immigration rating (0.24), in technologic factor, "the relationships and interactions between the universities and dredging industry" (0.735) and "the marine transportation technology" (0.553), in the environmental factor, "the environmental standards and regulations in dredging field" (0.776) and "renewable energies" (0.367), in the Legal/ legislative factor, "the environmental protection regulations" (0.75) and "business rule" (0.405), in international factor, "the wars and international conflict especially in the middle east " (0.751) and "tourism exchanges" (0.456) have the most and least important.

**Table 6. The important of initial subfactors in macro environment**

Ques.	Subfactors	Crisp average			Crisp value	Result
1	International sanctions and its impact	.758	.762	.766	.766	ok
2	Geopolitical location of Iran	.43	.429	.428	.430	reject
	other countries					
4	Government politics and Views	.367	.364	.362	.367	reject
5	The country's policy regarding the investment of foreign companies	.788	.792	.796	.796	ok

Ques.	Subfactors	Crisp average			Crisp value	Result
6	politic stability in the country and Next election	.788	.792	.796	.796	ok
7	Budget deficit and its constraints	.758	.762	.766	.766	ok
8	Local and foreign investment and its security	.788	.792	.796	.796	ok
9	The privatization politics by the government	.489	.489	.489	.489	reject
11	Price variations	.618	.62	.622	.622	ok
12	The stock market and share trend	.395	.392	.389	.395	reject
13	Gross national production	.489	.489	.489	.489	reject
14	the governmental nature of the economy in the country	.804	.808	.812	.812	ok
15	Energy availability and its price	.76	.763	.767	.767	ok
16	the Monetary and financial politics	.395	.393	.392	.395	reject
17	Exchange rate and its successive variations	.782	.787	.791	.791	ok
18	The employment rate	.451	.45	.449	.451	reject
19	Interest rate	.647	.649	.65	.650	ok
20	Inflation rate	.737	.741	.745	.745	ok
21	The price of the raw oil and intensive dependence of the country to it	.682	.684	.686	.686	ok
22	Interest rate of bank facilities and financial institutions	.654	.655	.656	.656	ok
23	Immigration rating	.24	.237	.233	.240	reject
24	Attitude about the foreign people	.488	.488	.489	.489	reject
25	Education level and knowledge in community	.739	.742	.746	.746	ok
	country on college					
27	Social and cultural centers	.367	.364	.362	.367	reject
28	Entertainment centers especially in coastal regions of the country	.325	.321	.318	.325	reject
29	Wealth and income distribution	.489	.489	.489	.489	reject
30	The attitude and public confidence to government	.4	.399	.397	.400	reject
31	The attitude and life style	.433	.432	.43	.433	reject
32	Culture level	.432	.43	.429	.432	reject
33	The public welfare level in Deprived coastal regions	.735	.738	.741	.741	ok
34	The communications and interaction between the university and dredging industry	.728	.732	.735	.735	ok
35	IT growth and information availability	.609	.611	.612	.612	ok
36	The research funding in dredging activities in the	.575	.576	.577	.577	ok
37	The research and industrial centers in dredging field in the country	.6	.601	.603	.603	ok
38	The marine transportation technology	.553	.553	.553	.553	ok
39	<b>Dredgers' monitoring to improve the performance</b>	.675	.678	.68	.680	ok
40	Environmental standards and regulations about dredging	.768	.772	.776	.776	ok
41	Renewable energies	.367	.363	.36	.367	reject
42	The variations of weather conditions especially in marine field	.674	.676	.679	.679	ok
43	The amount of energy consumption in the country	.698	.701	.704	.704	ok
44	The weather contaminations especially in marine field	.6	.601	.603	.603	ok
45	Social supply laws	.689	.692	.695	.695	ok



Ques.	Subfactors	Crisp average			Crisp value	Result
47	Custom laws	.447	.446	.445	.447	reject
48	Tax laws	.604	.605	.607	.607	ok
49	Business laws	.405	.404	.403	.405	reject
50	Occupational Safety and Health Act	.67	.672	.675	.675	ok
51	Antitrust laws	.47	.47	.469	.470	reject
52	Globalization of the markets and economic	.712	.716	.719	.719	ok
53	Tourism exchanges	.456	.455	.454	.456	reject
54	International and regional deals	.489	.489	.489	.489	reject
55	The economic situation of the countries in the region	.711	.713	.716	.716	ok
56	Wars and especially international conflicts in the region	.744	.747	.751	.751	ok

Source: Author

**The micro environment:** the initial number of factors and sub factors in micro environment is 6 factors and 122 sub factors in accordance to tables 7 and 8

1. Rivalry among Existing Competitors factor (REC): 17 sub factors
2. Threat of New Entrants factor (TNE): 18 sub factors
3. Bargaining Power of Clients factor (BPC): 15 sub factors
4. Threat of Substitute Products factor (TS): 8 sub factors
5. Bargaining Power of Builders and repairers of dredgers factor(BPBD): 19 sub factors
6. Bargaining Power of Suppliers factor (BPS): 45 sub factors

According to tables 7 & 8, The significance of the micro environment is 0.485 and is very close to the medium important. among the factors, "Rivalry among Existing Competitors" factor (0.664) is the most **important and the "Bargaining Power of Suppliers" factor (0.441) is the least important.** Among the existing sub factors in the REC factor, the sub factor of "demand volume" (0.711) is the most important and the sub factor of "government's politics impact on the REC" (0.389) is the least important. Thus in TNE factor, "the excess cash of dredging firms and potential to get loans" (0.643) and "the impact of the price and the quality of complementary products" (0.333), in the BPC factor, "the price and the volume of the dredging projects" (0.668) and "**the impact of dredging on the overall quality of the client's project**" (0.284), in the TS factor, "the price of the Substitute services to dredging services" (0.659) and "imposed price to client for using the Substitute products" (0.346), in the BPBD factors, "**the dredger's importance for dredging firms**" (0.73) and "the impact of government politics on the Overhaul **and underwater repairs'** firms" (0.342), in the BPS factor, "the Backward vertical integration of the competitors- the Excavation and embankment activities" (0.71) and "dependence of the Excavation and embankment operation contractors" (0.268) are the most and least important.

**Table 7. The importance of initial factors in micro environment**

Factor	l	m	u	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	Crisp value (X <sub>MAX</sub> )	Rank
Rivalry among Existing Competitors	.367	.554	.734	.552	.552	.553	.553	1
Threat of New Entrants	.310	.497	.684	.497	.497	.497	.497	3
Bargaining Power of Clients	.313	.496	.680	.496	.496	.496	.496	4
Threat of Substitute Products	.309	.488	.669	.489	.489	.488	.489	5
Bargaining Power of Builders and repairers of dredgers	.328	.509	.690	.509	.509	.509	.509	2
Bargaining Power of Suppliers	.261	.438	.623	.441	.440	.439	.441	6
<b>Total</b>	.303	.484	.668	.485	.485	.485	.485	

Source: Author

**Table 8. The importance of the initial subfactors of micro environment**

S	Ques no.	Subfactors	Crisp average			Crisp value (X <sub>MAX</sub> )	Result	
			X <sub>max</sub> <sup>1</sup>	X <sub>max</sub> <sup>2</sup>	X <sub>max</sub> <sup>3</sup>			
Existing	1	The number of dredging firms	.681	.683	.685	.685	ok	
	2	The dredging firms similarity - the number of dredgers	.682	.686	.689	.689	ok	
	3	The dredging firms similarity- type and the capacity of the dredgers	.574	.575	.576	.576	ok	
	4	The dredging firms similarity- machineries & equipment	.421	.420	.418	.421	reject	
	5	The dredging firms similarity- experience, knowledge & planning	.572	.574	.575	.575	ok	
	6	The dredging firms similarity- financial capability	.689	.692	.695	.695	ok	
	7	The imposed cost to dredging firms- Switching costs of the sale resource	.470	.470	.469	.470	reject	
	8	Constant costs	.677	.679	.681	.681	ok	
	9	Variable costs	.419	.418	.418	.419	reject	
	10	Exit barriers	.393	.391	.389	.393	reject	
	11	The demand volume / dredging turnover	.705	.708	.711	.711	ok	
	12	The Differentiation of Dredging firms	.553	.554	.555	.555	ok	
	13	The communication and interactions among the dredging firms	.672	.674	.675	.675	ok	
	14	Commitment and desires of the dredging firms to business leadership	.396	.395	.393	.396	reject	
	15	The politics of the ports & marine organization about the dredging competitors	.691	.693	.696	.696	ok	
	at of w	16	The impact of the government policies on the REC	.389	.388	.387	.389	reject
		17	The impact of the price and quality of the complementary products on the REC	.395	.393	.392	.395	reject
18		Economies of scale	.570	.571	.572	.572	ok	
19		The Availability to technology and dredging knowledge, its Transmission and supply costs	.584	.584	.584	.584	ok	
20		Advanced type of dredging technology and its changes speed	.516	.516	.516	.516	ok	
21		The Experience Curve	.451	.450	.449	.451	reject	
22		Initial investment	.593	.595	.596	.596	ok	
23		Ease of access to raw materials and resources	.414	.413	.412	.414	reject	
24		clients loyalty to existing dredging companies	.347	.346	.345	.347	reject	
25		The profit of the dredging activities	.623	.625	.627	.627	ok	
26		Easy to differentiate from other Dredging companies	.502	.501	.501	.502	ok	
27		The Network Effects (Demand-side benefits of scale)	.411	.409	.408	.411	reject	
28		The dredging firms communications and clients	.460	.459	.459	.460	reject	
29		The reaction of the existing dredging firms to new entrants	.402	.401	.401	.402	reject	
30		The extra cash flow in dredging firms and their loan capacity	.639	.641	.643	.643	ok	
31		The Excess production capacity of dredging companies	.614	.616	.618	.618	ok	
32		The price reduction by dredging firms to protect the markets share	.511	.511	.511	.511	ok	
33		The clients interest to deliver some projects to the valid & state firms as well as on the cumulative package	.616	.617	.618	.618	ok	
34		The impact of the government politics on the TNE	.360	.358	.356	.360	reject	
35		The impact of the price and the quality of the complementary products on the TNE	.333	.332	.330	.333	reject	
o	36	The number of clients	.561	.562	.562	.562	ok	
	37	Concentration and clients organization	.340	.338	.336	.340	reject	
	38	Price and the volume of dredging projects	.663	.666	.668	.668	ok	
	39	The price ratio of the dredging project against the overall clients costs	.595	.596	.597	.597	ok	

Ques	Subfactors	Crisp average			Crisp value	Result	
1	40	the impact of dredging on <b>the overall quality of the client’s project</b>	.284	.280	.276	284	reject
	41	The impact of dredging on other clients costs	.500	.500	.500	500	ok
	42	The imposed cost to the client- Switching costs of purchase resource	.409	.408	.407	409	reject
	43	The obtained profit for the client from dredging	.342	.339	.337	342	reject
	44	The applied pressure to client to reduce the dredging purchase costs	.653	.655	.658	658	ok
	45	The backward vertical integration of the client	.412	.411	.409	412	reject
	46	Information, knowledge of the consultants and their performance about dredging	.551	.551	.552	552	ok
	47	The purchase possibility for dredging services with less costs for client	.628	.630	.632	632	ok
	48	The credit and the importance of some clients for dredging companies	.653	.655	.658	658	ok
	49	The impact of governments politics on the BPC	.405	.404	.403	405	reject
2	50	The impact of the price and the quality of complementary products on the BPC	.447	.446	.445	447	reject
	51	The number of potential substitutes of dredging services	.558	.559	.561	561	ok
	52	<b>The substitutes’ function similarity to the dredging companies’ services</b>	.554	.555	.556	556	ok
	53	The price of substitutes services respect to dredging services	.654	.657	.659	659	ok
	54	<b>The imposed cost to the client for using the substitute’s goods</b>	.346	.343	.341	346	reject
	55	The quality of substitute services respect to the dredging activities	.535	.536	.536	536	ok
	56	The easy access of clients to <b>substitute’s goods</b>	.396	.395	.393	396	reject
	57	<b>The ease of using substitute’s goods by the client</b>	.516	.516	.516	516	ok
3	59	The number of foreign builders of dredger	.665	.667	.669	669	ok
	60	Concentration and organize the foreign builders of the dredger	.407	.405	.404	407	reject
	61	The differentiation between the foreign builders of the dredger	.526	.526	.526	526	ok
	62	The importance of the dredger for dredging firms	.723	.726	.730	730	ok
	63	The imposed cost to dredging companies- No purchase dredgers from abroad	.454	.454	.454	454	reject
	64	dredger foreign builders					
	65	The dependency of foreign builders of dredger to Iranian companies	.440	.439	.439	440	reject
	66	The forward vertical integration of the dredging builders	.365	.363	.361	365	reject
	67	The backward vertical integration of dredging firms- dredging construction	.377	.375	.373	377	reject
	68	The number of <b>Overhaul &amp; underwater repairs’</b> companies	.633	.636	.638	638	ok
	69	The concentration and organizing of Overhaul & underwater repairs’ companies	.465	.464	.464	465	reject
	70	<b>The differentiation of the Overhaul &amp; underwater repairs’ firms</b>	.516	.516	.516	516	ok
71	The importance of conducting the Overhaul & underwater repairs for dredging companies	.714	.717	.720	720	ok	
72	The backward vertical integration of dredging firms - the Overhaul & underwater repairs	.704	.707	.710	710	ok	
73	The imposed cost to dredging companies- switching costs of the <b>Overhaul &amp; underwater repairs’ firms</b>	.456	.455	.454	456	reject	

Ques	Subfactors	Crisp average			Crisp value	Result
74	The dependency of the Overhaul & underwater repairs' firms to dredging companies	.604	.605	.607	.607	ok
75	The forward vertical integration of the Overhaul & underwater repairs' firms	.375	.374	.372	.375	reject
76	The impact of government politics on the foreign builders of the dredger	.411	.409	.408	.411	reject
77	The impact of governments politics on the Overhaul & underwater repairs' firms	.342	.339	.337	.342	reject
78	The number of the Excavation and embankment contractors	.596	.597	.598	.598	ok
79	The number of hydrography and survey companies	.623	.625	.627	.627	ok
80	The number of repairing & maintenance companies	.519	.520	.520	.520	ok
81	The number of towing companies	.298	.295	.291	.298	reject
82	The number of financial resources centers	.296	.293	.290	.296	reject
83	The number of suppliers	.416	.416	.416	.416	reject
	embankment contractors					
85	The concentration and organizing of hydrography and survey companies	.412	.412	.411	.412	reject
86	The concentration and organizing of repairing & maintenance companies	.361	.359	.357	.361	reject
87	The concentration and organizing of towing companies	.426	.425	.424	.426	reject
88	The concentration and organizing of financial resources centers	.419	.418	.418	.419	reject
89	The concentration and organizing of suppliers	.398	.397	.396	.398	reject
90	The differentiation of Excavation and embankment contractors	.372	.371	.370	.372	reject
91	The differentiation of hydrography and survey firms	.405	.404	.403	.405	reject
92	The differentiation of repairing & maintenance companies	.307	.304	.301	.307	reject
93	The differentiation of the towing and transportation companies	.282	.279	.275	.282	reject
94	The differentiation of the financial resources centers	.411	.409	.408	.411	reject
95	The differentiation of suppliers	.367	.366	.365	.367	reject
96	The importance of Excavation and embankment contractors	.426	.425	.424	.426	reject
97	The importance of the hydrography and survey firms	.658	.661	.663	.663	ok
98	The importance of repairing and maintenance firms	.684	.687	.689	.689	ok
99	The importance of the towing firms	.374	.372	.371	.374	reject
100	The importance of financial resources centers	.458	.457	.455	.458	reject
101	The importance of suppliers	.377	.376	.375	.377	reject
102	The imposed cost to competitors- switching costs of Excavation and embankment contractors	.407	.405	.404	.407	reject
103	The imposed cost to competitors- switching costs of the suppliers	.465	.464	.464	.465	reject
104	The imposed cost to competitors- switching costs of hydrography and survey firms	.451	.450	.449	.451	reject
105	The imposed cost to competitors- switching costs of repairing and maintenance firms	.375	.374	.372	.375	reject
106	The imposed cost to competitors- switching costs of the towing firms	.465	.464	.464	.465	reject
107	Dependency of Excavation and embankment contractors to dredging firms	.268	.264	.261	.268	reject
108	The Dependency of Suppliers to dredging firms	.425	.424	.423	.425	reject
109	The dependency of hydrography and survey firms to dredging firms	.604	.605	.607	.607	ok

Factors	Ques no.	Subfactors	Crisp average			Crisp value (X <sub>MAX</sub> )	Result
			X <sup>1</sup> <sub>max</sub>	X <sup>2</sup> <sub>max</sub>	X <sup>3</sup> <sub>max</sub>		
	110	The dependency of repairing and maintenance firms to dredging firms	.604	.605	.607	.607	ok
	111	The dependency of towing and transportation firms to dredging firms	.430	.429	.428	.430	reject
	112	The forward vertical integration of the Excavation and embankment contractors	.370	.368	.367	.370	reject
	113	The forward vertical integration of suppliers	.332	.330	.329	.332	reject
	114	The forward vertical integration of hydrography and survey companies	.395	.393	.392	.395	reject
	115	The forward vertical integration of the repairing and maintenance firms	.463	.462	.461	.463	reject
	116	The forward vertical integration of the towing companies	.402	.400	.398	.402	reject
	117	The backward vertical integration of the competitors- Excavation and embankment activities	.704	.707	.710	.710	ok
	118	The backward vertical integration of the competitors- the hydrography and survey activities	.598	.600	.602	.602	ok
	119	The backward vertical integration of the competitors- the repairing and maintenance activities	.621	.624	.626	.626	ok
	120	The backward vertical integration of the competitors- the towing activities	.398	.396	.394	.398	reject
	121	The government politics- the suppliers and Excavation and embankment contractors	.396	.396	.396	.396	reject
	122	The impact of the price and the quality of the complementary products on suppliers and Excavation and embankment contractors	.360	.358	.356	.360	reject

Source: Author

**The third stage of the research process: the determination of the secondary criteria**

After screening, the number of secondary factors and sub factors of macro and micro environment after two times QNR completion by fuzzy Delphi method, respectively 7 factors and 35 subfactors for macro environment and 6 factors and 51 subfactors for the micro environment as summarized in table 9. On the other hand from the 56 initial subfactors of the macro environment, 35 subfactors and from 122 initial subfactors in micro environment, 51 subfactors were selected for the next level to form the secondary sub factors.

**Table 9. The number of secondary factors and subfactors of the micro and macro environment**

The macro environment	1. Political: 4 subfactors 2. Economical: 11 subfactors 3. Sociocultural: 3 subfactors 4. Technological: 6 subfactors 5. Environmental: 4 subfactors 6. Legal: 4 subfactors 7. International: 3 subfactors
The micro environment	1. The Rivalry among Existing Competitors: 10 subfactors 2. The Threat of New Entrants: 10 subfactors 3. The Bargaining Power of Clients: 8 subfactors 4. The Threat of Substitute Products: 5 subfactors 5. The Bargaining Power of Builders and repairers of dredgers: 8 subfactors 6. The Bargaining Power of Suppliers: 10 subfactors

Source: Author

## 5. CONCLUSION

This study determined using a three-stage process, the external environment's important criteria in the dredging industry including factors and subfactors based on fuzzy Delphi method. These criteria were evaluated based on the models of the PESTELI in the macro environment and Porter's five competitive forces in the micro environment. finally, by considering the experts' opinion using the fuzzy Delphi method, the initial criteria including 13 factors and 173 subfactors (7 factors and 51 subfactors from the macro environment and 6 factors and 122 subfactors from the micro environment) were determined. Among the factors of the micro and macro environment, respectively the politic factors and the Rivalry among Existing Competitors and respect to subfactors, the subfactor of **“foreign and regional policy and relations with other countries”** and **“the importance of the dredger for dredging companies”** have the most important. After determination the importance of initial criteria and screening them based on the fuzzy Delphi method and two times filling the QNR, the secondary criteria including 13 factors and 86 sub factors (7 factors and 35 sub factors from the macro environment and 6 factors and 51 sub factors from the micro environment) were determined. In fact, from the 173 initial subfactors, 86 sub factors (with average more than 0.5) were selected for the next round to form secondary sub factors. The **dredging companies' managers by using these** secondary factors are able to determine the opportunistic and threatening strategic factors specified for their company and formulate the strategy to coordinate and coincide more with environmental increasing variations. An overall analysis of the proposed three-stage process and the results showed that there is the possibility of determination of **external environment's important criteria in the dredging industry** including Factors and subfactors in a systematic and analytical mode based on fuzzy Delphi method.

In this study, the triangular fuzzy numbers to overcome the current uncertainty and ambiguity in verbal terms and **averages' maximum method ( $X_{\max}^i$ )** to defuzzy was used. Therefore, the proposed three-stage process to determine **external environment's important criteria can be further developed by researchers in** future studies by using the models of PESTELI, **Porter's five competitive forces and porter's diamond** and also defuzzification by **“Converting Fuzzy data into Crisp Scores”** (CFCS) method proposed by Opricovic & Tzeng (2003).

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# THE EFFECT OF SOCIAL NETWORKS TO ATTRACT THE TOURISTS (CASE STUDY: ISFAHAN PROVINCE)

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## **Abstract:**

*Today, tourism is accounted as one of the most economic experiences in countries national cycle, particularly in terms of employment, exchange technology and promotion the various areas which in addition to it, has some communicative, political, cultural benefits and also special international effects. On one hand, the Information & Communication Technology has been doomed in all aspects of the life. Internet and social cyberspace can be having an important role in the development and prosperity of the tourism industry by creating the tourism products and providing information to tourists through the introduction of tourist attractions, providing the travel guide, sharing the personal experiences of travel and etc. The aim of this study was to investigate the impact of social networks to attract the tourists in Isfahan Province which is one of the most important tourism hubs in Iran. Statistical population, including tourists who have visited the historical places in Isfahan Province in 2016 and 400 of these tourists have been selected as a statistical sample. The research tool is questionnaire that content and face validity was used for determination the validity and also, Cranach's Alpha was used for determination the reliability. To analyze the data collected, in The first stage, normality was analyzed by using Kolmogorov – Asminorof (K-S) and then, simple regression was used and data was analyzed by SPSS software. The results showed that social networking is a significant and positive impact to attract the tourists in Isfahan Province.*

JEL classification: L83, L86

**Keywords:** Social Networking, Tourism, Trust, Perceived Value, Perceived Risk

## **1. INTRODUCTION**

All aspects of human life are influenced by Information & Communication Technology. Internet and cyberspace have been attracted large audience in social, cultural, economic and political areas as examples of this technology and has provided a proper space to express the opinions and individual, group and institutional interests (Taghi Zadegan, 2013). Since 2005 so far topic of social virtual networking is considered as the main busy of Internet users in the world and consequently in Iran. Today, social virtual networking is the most powerful online media in the world. The characteristics of these networks is power to establish a network between friends and **colleague's** users on an organized and a regular basis (Ziaee Parvar and Aqeeli, 2010). Social media describes the online tools that people use it to share their content, profiles, comments, views, experiences and thoughts. So, social media facilitates the dialogues and online interaction actions between groups of people (Oftadeh, 2010).

Also, the tourism industry is one of the largest and most visited world economic activities which is created the highest added value and other economic and cultural activities is influenced by it as directly or indirectly. Although tourism alone can no lead to the development of the country, but there will be need to changes in creation the facilities for accommodation, relocation and other related activities and also with arrival of tourists gradually (Yaghoub Zadeh and Dolat Abadi, 2010). In general, the development of the tourism industry in particular for developing the countries like Iran faces with problems such as high unemployment, limited currency and single- product economy is very important (Tibi et al., 2011). Iran is one of the countries that regarding for having the natural resources, cultural heritage, abundant antiquities, variety of crafts in the field of tourism has a great importance. Isfahan is also considered one of the

country's tourism hubs with a rich historical background can attract a lot of tourists and one of the most attractive regions of Iran. (Nasouhi, 2012).

The rapid development of information technology, global expansion of the Internet and e-commerce has been transferred the industrial structures in the world. This development is no without any effect on the large-scale industry of tourism and all parts of it affected. Travel offers resources which leads to attract tourists is also one of these components which is deformed by internet penetration. Brochures, newspapers, Maps, books and television advertising and if no say without any importance but significant portion of their authority has been lost and replaced with virtual networks and media and activities such as posting, sharing, tagging, Like, comment, etc. on these networks (Hopke, 2011). Exchange of information between users about the experience of traveling to different regions, destination amenities, attractions and tourism opportunities can be effect on the make decision of other users for travel and in this way can also be effect on the programs and policies of local governments to attract the tourist. Social networking by influencing the behavior variables can be effect on attracting the tourists to many destinations. Users for these networks plays some important roles by sharing their experiences of traveling to various places to encourage or reluctant of potential tourists. In different researches, various variable has been cited as the most important factors to attract the tourists which we can be pointed out to trust, perceived value and perceived risk as the most cases (Mazloumi and Jalali, 2013).

Because of the fact that Iran's country and Isfahan Province have a high potential for attraction the tourists but there is fundamental weakness in this area that need to more study and investigation. In fact, according to the growth and advancement of information technology, communication and especially social networks in our country but country's share is very low in tourism industry and there is no proportional to the number of tourist attractions and also, Isfahan Province due to the good potential in the field of tourism can be as a tourism hub at international level, therefore, this study examines the Impact of social networking on the attracting the tourists.

## **2. THEORETICAL PRINCIPLES**

### **2.1. SOCIAL NETWORKS**

In general, social networks refer to web sites that their primary objective from establishment and services is establishment the social communication and interaction (Lu, 2011). Social networks are a place for gathering the hundreds million users regardless to the border, language, gender, and culture pay to interact and information exchange process. Establishment the communication will be provided through information on people's profile such as user's photo, personal information and interests that all provides the information regarding identity. Users can see the profiles of others and through various applications such as email and chat establish the communication with each other (Pompak and et al., 2009). Social network users meet the collection of information in different formats and different contents through activities in these networks, theses information and content can be affected on made decision those members are at the thought of traveling to different world 's places and in this way, they affect the tourists through internal programs and policies in different parts of the world. Research findings belongs to di Petro and Pantano (2013) confirms the role key social networks as a powerful tool for selection purposes of tourism and introduces it as a strong predictor for attitude and behavioral purpose of the tourists (di Petro and Pantano, 2013).

#### **2.1.1. Trust**

Trust has been conceptualized as various forms, common values, mutual goals, keeping the promise, reliability and action with positive results are some concepts that already explained by researchers against trust in different researches (Richard, 2009). Creation the sense of trust involves the subjective evaluation of each of the interaction parties for specific exchange at desired level of confidence and in an environment by uncertainty characterized (Yousof Zaei and et al., 2003). Trust plays an important role in determining the intend to purchase and predictors and it will positively effect on it (Chen et al., 2007). It should be noted that "buying the consumed commodities " with" travel plans "in the tourism industry is

synonyms with the physical commodities -producing industries due to the nature of the industry and its difference. Kim and et al in his study about effective factors to buy indicated that trust is located beside in risk and perceived benefit as collection factors that influenced on the intend to buy a Particular product or service (Kim et al., 2008).

### **2.1.2. Perceived Value**

Perceived value refers to the overall assessment of customer for service benefits (commodity) based on the perception of whatever have received and whatever to take have served to it (John Kingtone and Ganjanert, 2012). In tourism literature, perceived value refers to overall assessment of visitor for net worth of travel based on his assessment of whatever have been received (benefits) and whatever is paid (cost). Perceived value refers to overall assessment of costs, tangible and non-tangible benefits (Chen et al., 2010). Kim and et al (2008) in their study entitled as " trust- based consumer decision making model in electronic commerce" concluded that the affective factors on the purchase of trust in the risk and perceived value are as set factors that affected the intend to purchase a specific product or service (Kim et al., 2008).

### **2.1.3. Perceived Risk**

In general, risk is as the probability of an adverse event that has negative consequences on consumer's behaviour. Perceived risk refers to the overall negative perception of consumer for one action. In other words, it refers to consumer 's beliefs about the uncertain and negative outcome of an action )Kim, 2008). In tourism, perceived risk is one factor that tends to visiting or cancel the visiting for one destination and it can be used as a powerful predictor tool for avoidance the tourists for made decision. The main issue in consumer behaviour is selecting from among various alternatives. Since the consequences of a choice will be specified only after it and future time, so, consumers meet with uncertainty or the risk (Fuchez and Rich, 2011).

Pavlou Researches (2003) entitled " Consumer acceptance of electronic commerce "Shows that there is an inverse relationship between risk and people 's tendency. In explaining the relationship between risk and intend to travel due to consider the social network roles need to careful the control of external sources of risk for tourists, especially in the target destination and effect of such risks should be adjusted to obtain reliable results (Pavlou, 2003).

### **2.1.4. Tourism**

Tourism industry is a mixture of different activities to perform as a chain in order to serving the tourists; so tourism includes all phenomena and relations resulting in the interaction between tourists, vendors and sellers of tourism products, governments and communities, the host in the process of attracting and entertaining the tourists (Zangi Abadi, et al., 2007). Constitutive elements of tourism can be summarized into four cases: 1- Tourist or tourists2. The proper region and attractive destination to visit and travel; 3. Proper road and connection path for access the tourists to the region; 4. Supporting Systems and services to help the tourists during the travel and accommodation (Alvani, 2007).

In another definition, tourism is set of trips for the purpose of rest and recreation and business or other occupational activity or that take place in order to participate in special events and the absence of tourists from his permanent location is temporary and transient during this travel. It is obvious that those who action to travel regularly between job work and life are no subjected to this definition Dohar and Situmorang, 2012).

The research results of Dr. Nader Mazlouni and Seyd Hassan Jalali (2013) entitled as "Social networking and social policy success of tourism in Iran" shows clarity on the relationship between social networks and social policy success of tourism that social networks are effective in shaping the mindset of trust between its users regarding the choosing Iran as a tourist destination. Emerged mental trust is effective through social networking to attract the foreign tourists directly. Also, these networks in determining the perceived risk of its users is effective for choosing Iran as the tourism destination. The assessment the relationship between the three variables mental trust, risk and tend to travel indicates the positive correlation between the mental trust and tend to travel and also negative correlation between risk and trust and also risk and intend to travel. This result shows the action and reaction between these three variable in transmission of

social network effects on the attraction the foreign tourists. Finally, empirical evidence of this research is indicated the effectiveness of the arrival of foreign tourists from intend to travel and mental trust which these factors also influenced by the social networks. Network of interrelations between three variables: mental trust, risk and intend to travel and also, interaction of these three elements with social networks directly or indirectly shows the importance of social network on decision-making of tourists for traveling to Iran (Mazloumi and Jalali, 2013). In another study entitled "The Role of E-Media in attracting the internal tourists" has been investigated the role of E-Media in attracting the internal tourists to Shiraz Province. The results indicate that the internet advertising variables, websites, radio and television advertising programs, satellite promotional programs and software has a positive impact on attracting the internal tourists (Moshfegh, 2015). Hopken (2011) in one paper entitled as "ICT and Travel and Tourism" studied the changing nature of tourism by ICT and forecasted the future of tourism to 2020. He displayed the effectiveness factor of technology Information and communication on 3 stages of travel planning, in travel and after travel. On this basis we can say the travel planning, seeking to travel destination, within travel process, seeking to guidance after the trip, advertisements and travel's feedback, unlike in the past which was made with traditional tools and brochures and books today, it done by new features such as social networking and mobile phone (Hopken, 2011). Conceptual Framework is shown in figure 1 by considering the literature review about subject.

### 3. RESEARCH HYPOTHESES

According to the purpose of the study, main and secondary research hypothesis can be stated as follows:

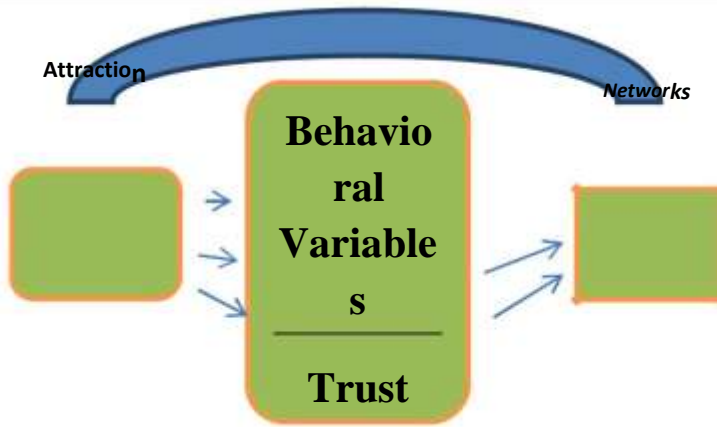
1. Social networks have impact on attraction the tourists.
  - 1.1 Social networks have impact on the tourist's trust.
  - 1.2 Social networks have impact on perceived value of tourists.
  - 1.3 Social networks have impact on perceived risk of tourists.
  - 1.4 Trust has impact on attracting the tourists.
  - 1.5 Perceived value has impact on attraction the tourists.
  - 1.6 Perceived risk has impact on attraction the tourists.

#### 3.1. RESEARCH METHODOLOGY

This research is a functional study by purpose and is a correlation study by on how to data process and analysis and theme of research is an experimental - cross sectional study which will be performed by survey research.

Statistical population of this study included tourists who have visited of historical sites in Isfahan Province in 2016 (like as Naghsh Jahan, Ali Qapu Palace, Thirty-three bridges and Monarjonban) and 400 of these tourists were selected as sample. Since the statistical population were unlimited according to the Cochran formula 384 visitors are selected as samples which number increased to 400 visitors due to the supervisor opinion. With regard to the seasonal tourists may have different opinions, questionnaire was distributed in four seasons in order to sampling. Library method (books, articles, theses, magazines) was used for data collection and questionnaire tool was used for field method and validity the content and formal questionnaire have been approved by 10 professors and experts. Also, due to the acquisition of 88% for Cronbach's alpha coefficient was approved the reliability of the questionnaire. Statistical methods used in this research included descriptive statistics (frequency, percentage, mean, deviation criterion and descriptive diagrams) and inferential statistics was studied by using the Kolmogorov-Smirnov (K-S) in the first stage of data normalization and then used the simple regression. Data were analyzed by using SPSS software.





**Fig 1. Conceptual Framework of Research**

**4. FINDINGS**

Descriptive results showed that 55.5% of respondents were women and 44.5% were men, moreover, the highest number by 47.8% were in the age group between 20 to 30 years old. In terms of education, 37% of visitors had bachelor education and, 47.8% of visitors had income between 1 -3 million Toman. In terms of using the social networks, 35.5% of visitors was allocated lower than one hours a day for social networks. In the reasons for using social networks, the most frequent was related to entertainment with 70 percent and in terms of the type used social networks, the most frequent was related to telegram social network with 44.8 percent. Also, the descriptive findings are provided in Table 1. as mean and standard deviation.

**Table 1. Mean and Standard Deviation of Research Variables**

Variables	Mean	Standard Deviation
Attraction the Tourists	4.865	2.172
Social Network	4.435	0.714
Trust	4.606	0.434
Perceived Value	4.610	0.412
Perceived Risk	4.797	0.352

*Source: Author*

As shown in Table 1, the highest mean is related to attract tourist variable and lowest mean is related to social network variable. Kolmogorov-Smirnov (K-S) is used to examine the normality of the data.

**Table 2. Results of Kolmogorov-Smirnov Test**

Variables	Value K-S	Significant variable	Error value	Confirmation the Hypothesis	Conclusion
Social Network	0.148	0.184	0.05	H0	Normal
Trust	0.122	0.368	0.05	H0	Normal
Perceived Value	0.137	0.291	0.05	H0	Normal
Perceived Risk	0.112	0.411	0.05	H0	Normal
Attraction the Tourists	0.127	0.341	0.05	H0	Normal

*Source: Author*

According to the results of above table since the significance level is larger than the error value (0.05) for all components so, these variables have a normal distribution and therefore, parametric statistics is used for testing the hypothesis.

In Table 3, correlation results are provided between variables.

**Table 3. Correlation Coefficients between Variables of Research**

	Social Network	Trust	Perceived Value	Perceived Risk	Attraction the Tourists
Social Network	1	0.119	0.668	-.0189	0.351
Trust		1	0.448	-.0451	0.258
Perceived Value			1	-0.342	0.135
Perceived Risk				1	-0.115
Attraction the Tourists					1

*Source: Author*

The significant coefficients are lesser than 0.05 at level. The results showed that there are a positive and significant relationship between all variables but perceived risk variable was a negative and significant relationship with other variables.

Simple regression was used in order to testing the hypothesis.

#### 1. Main hypothesis test ((Social networks have impact on attracting the tourists)).

**Table 4. Results of Variance Analysis between Social Networks and Attraction the Tourists**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Social Network	Attraction the Tourists	0.122	0.121	5.108	0.351	9.785	30,122	0.001

*Source: Author*

As seen in the above table, 122% of variance changes belongs to the criterion of attraction the tourists variable predicates by predictive variable of social network. Also, Beta coefficient equals to 351% this means that for a unit change in independent variable of social networks, the dependent variable of attraction the tourists will be changed as 351%. F static value achieved at significant level 0,001. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, social networks have a positive and meaningful impact on attraction the tourists and as a result, the research hypothesis is confirmed.

#### Sub-hypothesis test 1: ((Social networks have impact on tourist's trust)).

As seen in the above table, 0.014 of variance changes belongs to the criterion of trust predicates by predictive variable of social network. Also, Beta coefficient equals to 0.119; this means that for a unit change in independent variable of social networks, the dependent variable of trust will be changed as 0.119. F static value achieved at significant level 0,017. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, social networks have a positive and meaningful impact on tourist's trust and as a result, the research hypothesis is confirmed.

**Table 5 Summary the Regression Model and Regression Coefficients between Social Networks and Trust**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Social Network	Trust	0.014	0.012	0.72	0.119	2.397	5,744	0.017

Source: Author

**Sub-hypothesis test 2:** ((Social networks has impact on perceived value of tourists)).

**Table 6. Summary the Regression Model and Regression Coefficients between Social Networks and Perceived Value**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Social Network	Perceived Value	0.446	0.444	0.385	0.668	17.885	319.8	0.001

Source: Author

As seen in the above table, 446% of variance changes belongs to the criterion of perceived value predicates by predictive variable of social network. Also, Beta coefficient equals to 668%; this means that for a unit change in independent variable of social networks, the dependent variable of perceived value will be changed as 668%. F static value achieved at significant level 0,001. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, social networks have a positive and meaningful impact on perceived value and as a result, the research hypothesis is confirmed.

**Sub-hypothesis test 3:** ((Social networks has impact on perceived risk of tourist)).

**Table 7. Summary the Regression Model and Regression Coefficients between Social Networks and Perceived Risk**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Social Network	Perceived Risk	0.035	0.034	0.244-	-0.189	-6.971	7,284	0.008

Source: Author

As seen in the above table, 35% of variance changes belongs to the criterion of perceived risk predicates by predictive variable of social network. Also, Beta coefficient equals to - 189%; this means that for a unit change in independent variable of social networks, the dependent variable of perceived risk will be changed as 189%. F static value achieved at significant level 0,008. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, social networks have a reverse and meaningful impact on perceived risk and as a result, the research hypothesis is confirmed.

**Sub-hypothesis test 4:** ((Trust has impact on attracting the tourists))

As seen in the table 8., 67% of variance changes belongs to the criterion of attraction the tourists predicate by predictive variable of trust. Also, Beta coefficient equals to 258%; this means that for a unit change in

independent variable of trust, the dependent variable of attraction the tourists will be changed as 258 %. F static value achieved at significant level 0,001. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, trust has a positive and meaningful impact on of attraction the tourists and as a result, the research hypothesis is confirmed.

**Table 8 Summary the Regression Model and Regression Coefficients between Trust and Attraction the Tourists))**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Trust	Attraction the Tourists	0.067	0.064	1.292	0.258	5.333	28.443	0.001

*Source: Author*

**Sub-hypothesis test 5:** ((Perceived value has impact on attraction the tourists)).

As seen in the table 9., 0,018% of variance changes belongs to the criterion of attraction the tourists predicate by predictive variable of perceived value. Also, Beta coefficient equals to 135%; this means that for a unit change in independent variable of perceived value, the dependent variable of attraction the tourists will be changed as 135%. F static value achieved at significant level 0,007. This means that showed changes by regression model is no by chance and regression model is valid. Therefore, trust has a positive and meaningful impact on of attraction the tourists and as a result, the research hypothesis is confirmed.

**Table 9. Summary the Regression Model and Regression Coefficients between Perceived Value and Attraction the Tourists**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Perceived Value	Attraction the Tourists	0.018	0.016	0.710	0.135	0.711	7.349	0.007

*Source: Author*

**Sub-hypothesis test 6:** ((Perceived risk has impact on attraction the tourists)).

**Table 10 Summary the Regression Model and Regression Coefficients between Perceived Risk and Attraction the Tourists**

Independent Variable	Dependent Variable	Coefficient of Determination	Adjusted Coefficient of Determination	B		t	f	sig
Perceived Risk	Attraction the Tourists	0.013	0.011	-0.709	-0.115	-2.307	5.321	0.022

*Source: Author*

As seen in the above table, 0.013 of variance changes belongs to the criterion of attraction the tourists predicate by predictive variable of perceived risk. Also, Beta coefficient equals to -0,115; this means that for a unit change in independent variable of perceived risk, the dependent variable of attraction the tourists will be changed as -0.115. F static value achieved at significant level 0,022. This means that showed



changes by regression model is not by chance and regression model is valid. Therefore, perceived risk has an inverse and meaningful impact on attraction of the tourists and as a result, the research hypothesis is confirmed.

## 5. CONCLUSION

According to this concept that today, tourism is accounted as one of the most economic activities in countries national cycle, particularly in terms of employment, exchange technology and promotion the various areas which in addition to it, has some communicative, political, cultural benefits and also special international effects and also the rapid development of information technology, global expansion of the Internet and e-commerce has been transferred the industrial structures in the world. Cyberspace have been attracted large audience in social, cultural, economic and political areas as examples of this technology. This development is not without any effect on the large-scale industry of tourism and all parts of it affected. This research is conducted since Iran's share is very low in tourism industry and there is no proportional to the number of historical, cultural and natural attractions in this country and results indicates that social networks has a positive and meaningful impact in attraction of the tourists in Isfahan Province. It can be said that using the Information technology and social can be increase the tourists and more promotion in national and international tourist industry through the introduction of tourist attractions, providing the travel guide, sharing the individual experiences of travel and etc. and as a result these causes to creation the attractive opportunities for advertisement about tourist products. Also these social networks can be promoting the level of perceived value and trust between tourists according to socialization and people's participation in updating and registration the photos, videos and related content such as quality of hotels and restaurants or services provided by travel companies etc. for a tourist destination. And consequently, perceived risk of tourists will be decreased which will be lead to more attraction of the tourists. These results in consistent with Mazlumi and Jalali's findings (2013).

Statistical analysis shows that there are positive and meaningful impact between social networks and tourist's trust so that social networks is effective in the formatting and increasing the mental trust among its users. Also, there are positive and meaningful impact between trust and attraction of the tourists so that by increasing the trust level, the possibility for traveling to desired destination will be increased for potential tourists who are social network users. These results in consistent with Mazlumi and Jalali's findings (2013). In this regard, it is better that sites and channels provides some information about the safety and security features of destination in social networks.

Also, statistical analysis shows that there are positive and meaningful impact between social networks and perceived value so that social networks is effective in the formatting and increasing the mental perceived value among its users. Also, there are positive and meaningful impact between perceived value and attraction of the tourists so that by increasing the perceived value level, the possibility for traveling to desired destination will be increased for potential tourists who are social network users. These results in consistent with Mazlumi and Jalali's findings (2013) as well as Kim and etc. In this regard, it is better that sites and channels provides in order to giving the information about easy access to easy access and affordable facilities and amenities include hotels, restaurants, transportation, health centers and hospitals, business centers and.

Also, there are inverse and meaningful impact between social positive and perceived risk so that social networks are effective in decreasing the mental perceived risk among its users as well as, there are inverse and meaningful impact between perceived risk and attraction of the tourists so that by increasing the perceived risk level, the possibility for traveling to desired destination will be decreased for potential tourists who are social network users. These results in consistent with findings for Mazlumi and Jalali (2013) and Povelu (2003) and Kim and et al., (2008). When planners for tourism are aware to stressors factors and insecurity cases for tourists, they can be prepared proper marketing programs and effective to mitigate the perceived risk of tourists and thus, they can enhance the trust and security between tourists including some advertisement in cyberspace as follows; expansion the safe flight lines inside and outside of the country – removing the technical problems of roads, bridges, striping and marking them to reduce

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the interactive road risks, increasing the standard coefficient for residential facilities, Facilities for passport of tourists who arrive by personal car to Iran, increasing the border and internal security, increasing the skilled manpower for tourism (a guide predominate on language and interest to work and trusted, service developers familiar with different languages), improving the health facilities and related infrastructure.

This study meets some limitations, first, the impossibility of direct measurement for trust, perceived value and perceived risk variables. It should be noted that these variable are as subjective concept and internal and individual state which finally, lead to selection. Always changing the qualitative values to quantitative values is faced with the error in such researches. Second, research topic is limited to the historical sites of Isfahan Province. For future research can be study the effective factors in order to increasing the trust of tourists to the desired destination in social networks. Also, recommended to study the effective factors on increasing the perceived value of tourists to desired destination in social networks as well as recommended to study the effective factors on decreasing the perceived risk of tourists to desired destination in social networks.

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# STUDYING THE RELATIONSHIP BETWEEN CREDIT RISK AND LIQUIDITY RISK AMONG PUBLIC AND PRIVATE BANKS OF IRAN

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## Abstract

*According to most important and fundamental role of banks on economy, the issue of correct management and its effectiveness with lowest possible risk is at center of attention. Sudden changes due to domestic and global financial and economic crisis have caused several risks for banks and financial institutes. Therefore, using integrated system of risk management as a supreme pattern is in fact active management of portfolio of financial institute and moving toward success and reducing harmful effects of an activity through wise action for anticipating unwanted incidents and planning for its prevention. The present research deals with the relationship between risk of organizations and reflects nature of risk. This research also examines the relationship between credit risk and liquidity risk on banks of Iran during the year 2005 to 2013 and studies the influence of 3 variables including: "size of bank, type of ownership of bank and financial crisis" on the relationship between credit risk and liquidity risk. According to the results of test for analyzing Pearson correlation coefficient, there is no significant relationship between credit risk and liquidity risk among banks of Iran. Therefore, according to the theory of probabilities, it is stated that there is indirect relationship between credit risk and liquidity risk among banking industry of Iran; except variable of bank ownership, size of bank, financial crisis on the relationship between credit risk and liquidity risk, it is not influenced on each of the aforesaid risks.*

JEL classification: E51, E52, G21

**Keywords:** *Liquidity Risk, Credit Risk, Size of Bank, Financial Crisis, Type of Bank Ownership*

## 1. INTRODUCTION

One of the fundamental goals of countries is obtaining to permanent economic development that depends on applying correct strategy of excess resources. Having correct relationship between financial market and productive enterprises is regarded as most important factor for economic growth and development of each country. Therefore, equipping and allocating investment resources to economic activities through financial market is mainly performed by banking credit market. The banking system has decisive role on improving economic activities and as most important part of financial system and heart of economics of each country, plays vital role. The banking system is in charge of collecting excess liquidity from society and directing it toward allocated credits to the applicants and economic enterprises. Certainly, such role is not obtained without selecting required strategies and integrated management. Any negligence in this way (offered loans) from banks and resources (deposit of investors) is faced with serious danger. Therefore, managers of banking system shall anticipate the requirements of liquidity, finance, credit status and liquidity of loan receivers for preventing from causing danger of not equal deadline of assets and banking debts which may lead to fundamental challenge. Cash flow and capital flow in society exposes the financial institute to different forms of risks. Banking in compliance with nature of activities (equipping and allocating resources) and having diverse portfolio is seriously influenced by any changes at economic components and accelerating process of developing financial activities, technical innovations and compliancy of financial systems and is faced with different forms of risks; therefore, it is regarded as high risky activity.

On the other hand, the life of banking industry depends on accepting risk. In fact, risk and return on investment and financial supply are correlated and they may not be assumed separated; since, decisions related to investment are always based on relationship between risk and return. Meanwhile, it is impossible to prevent risk and only there is possibility of managing risk. It is to be noted that credit risk and liquidity risk are among the largest and most important fundamental risks of financial institutes that are famous as challenges of third millennium. According to the aforesaid descriptions, the present research examines the relationship between credit risk and liquidity risk among all public and private banks of Iran.

## 2. THEORETICAL FUNDAMENTALS

Financial agents shall permanently adopt risk as probable difference of real results and expected results. The business process of banks is based on this issue that through rejecting life cycle of such institutes may be collapsed. Reasons of risk in banks may be justified in compliance with type of function; since, banks from one hand are responsible against collecting capital of people and on the other hand banks by using this capital perform banking operation and economic activities. Therefore, the main process of banks and financial institutes influences on method of management and optimizing the relationship between risk and return. The fluctuation of financial market, growth of technology, intensity of competition of organizations, financial innovations, socioeconomic crisis, environmental uncertainty or ever-changing environment has caused many challenges for financial institutes and the discussion of risk management as recognizing, measuring, controlling and supervising different forms of risks is turned into an important issue; so that these institutes are simultaneously in search of both creating and reducing risk. The climax of this event was during recent years that simultaneous with allocation of large volume of abundant financial resources through different banks all over the world, we faced for causing many crisis, damages and even bankruptcy of several banks. Outbreak of banking crisis due to releasing deposits, increasing delayed debts of banks, economic depression leads to disorder in discipline of financial markets and bankruptcy of many banks. The main origin of many challenges is the risks influenced by this industry. Therefore, the credit risk and liquidity risk are regarded as most vital forms of banking crisis. Granting bank loans shall be performed based on anticipations related to original resource with expected profit that shall repaid during expected deadline. Any negligence in repayment of granted loans, may reduce from value of bank assets and causing some problems for fulfilling the duties of bank. Excess delayed debts are the result of lack of repayment of received loans and abuse of good intention of bank. Delayed debts of banks are the origin of many monetary and financial crises all over the world and have much negative influence on economic sector and even people of each country. In this condition, the level of profit making process of banks is reduced and banks are moved toward bankruptcy. Such probability refers to credit risk. In fact, credit risk that is defined as damage due to lack of repayment of original and profit of received loan or risk due to granting trading credit is created due to level of influence and the most fundamental dangers of banks, since, default of some limited customers may cause great unexpected damage to a credit unit. On the other hand, most of resources of banks is supplied from short term deposit finance; moreover, the granted loan of banks is spent for investment of assets and has low degree of liquidity. Maintaining good level of liquidity is one of the main duties of banks and its negligence leads to increasing liquidity risks of banks. Liquidity risk is created due to shortage and uncertainty for level of liquidity of banks. According to this issue, the main duty of banks is creating balance between short term obligations and long term investments. Generally, whereas the deadline of assets and debts are not equal at this industry and economic depression in the mid-year 2007, this issue revealed the specific importance of credit risk and liquidity risk for different economic sectors specially banks. In compliance with this fact that banking risks influence each other, the financial institutes shall consider any action and reaction of risks. Therefore, reviewing previous events focuses on relationship between finance, liquidity risk and correlation between liquidity risk of finance and credit risk and this reality that liquidity is regarded as important factor for health of banking system.

### 3. RESEARCH BACKGROUND

Researchers of financial and banking field, have performed several studies on issue of risk in banking industry. In other countries, Sang & Chang (2010), Acharya & Naqvi (2010) Varotto (2011) Michialk & Ohad (2012) Da Silva & Divino (2013) in their studies referred to different available risks in banking industry and offered some solutions for risk management in banking system. Nevertheless, in the way of relationship between liquidity risk and credit risk, Imbierowicz & Rauch (2013) in his research examined the relationship between liquidity risk and credit risk among all trading banks of US during the year 1998 to 2010. In this research several indices of determining credit risk and liquidity risk were analyzed for finding out any probable relationship between these 2 risks. In the first stage, it was benefit from similar equivalent for studying the simultaneous and non-simultaneous relationship between 2 resources of risk among US banks. In the second stage, the reaction of liquidity risk toward changes between credit risk out of bank was studied, that is regarded as the most important issue for financial crisis in the year 2007-2008. In the final stage, the separated and mixed influence of credit risk and liquidity risk on probability of bankruptcy of banks is performed by assistance of Logit model for all 254 bankrupted trading banks during the year 2007 to 2010. Results of this study showed that there is positive bilateral but poor relationship between credit risk and liquidity risk. The analysis of inner-banking liquidity and credit risk out of bank confirms the strong relationship between these 2 factors. Finally, it is showed that any resource of risk not only separately but also has correlated influence on default probability of bank. In Iran, Malekinejad (2011) Khosh Sima (2012) examined the influential factors on liquidity risk among banking system. Moreover, Bagheri, Nazarin, Mirzaei (2011) Zargar (2011) Hesabi (2012) Samaei Chokami (2012) have dealt with studying credit risk in banking system and influence of different factors. Among already performed researches, a few researches have examined the relationship between credit risk and liquidity risk. Meanwhile, Nikomaram, Taghavi and Khalili Diman 2013 in their article with title “**the relationship between liquidity risk and credit risk among Islamic banking industry**” examined this issue.

They examined the status of public and private banks during the year 2005 to 2012 and results of Pearson correlation shows positive significant relationship between credit risk and liquidity risk and even size of bank is effective on these 2 forms of risks. Nevertheless, it seems that there is no relationship between financial crisis and type of ownership with aforesaid risks. Nodoshan 2013 by using data panel and simultaneous equation system examined the relationship between liquidity risk and credit risk among 13 trading bank of Iran during the year 2002 to 2011. Studying the hypothesis with GMM strategy showed there is no relationship between liquidity risk for covering the application of cash and credit risk. Amiri 2013 by focusing on balancing role of strategic enterprise system examined the relationship between credit risk with profit making and liquidity risk among 9 banks member at stock exchange during the year 2009 to 2012. Results of this research show that credit risk has negative significant influence on ROA and ROE index. Moreover, the relationship between credit risk and liquidity and NIM of banks is not significant. In addition, the strategic tools of company including: separating duties of managing director from chairperson and vice-chairperson of board of directors have positive significant influence on relationship between credit risk with return of assets and liquidity; nevertheless, ownership of government in banks has negative significant influence on relationship between credit risk and return of assets.

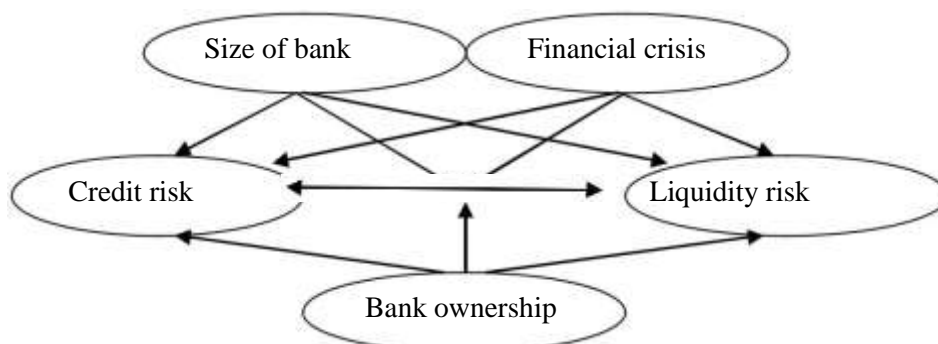
### 4. RESEARCH METHODOLOGY

In this research, the credit risk (CR) and liquidity risk (LR), liquidity risk with index of Berger-Bouwman (LRBB), credit risk with CRZ-Score criterion is regarded as dependent variables and size of bank, financial crisis and type of ownership are regarded as independent variable. The variables of research are studied within conceptual model that is shown in figure 1.

Liquidity risk (LR) is calculated as follows:

$$\text{Liquidity risk (LR)} = [(\text{Total Deposits}) - (\text{Cash} + \text{Currency \& Coin} + \text{Trading Assets} + \text{Commercial Paper} + \text{Securities available for Sale}) \pm \text{Net Inter Bank Lending Position}] / \text{Total Asset}$$

Upper zero value of this ratio refers to such concept that bank is not able to guarantee deposits of customers against unexpected events.



**Figure 1: Conceptual model for variables of research**

Berger-Bouwman (BB) liquidity risk index or Cat Fat is level of liquidity based on elements of balance sheets and below line of balance sheet and the following steps are taken for calculating Cat Fat:

$$\text{Berger-Bouwman (BB)} = \text{Cat Fat} / \text{Total Assets}$$

First step: All elements of balance sheet and below line of balance sheet are classified based on liquidity

Second step: All elements based on liquidity are multiplied to 0.5

Third step: Sum of all weights that is available in second step

Liquidity risk is calculated with Berger-Bouwman (BB) or LRBB. If the level of this ratio is higher, it shows increase in risk of liquidity. Credit risk is calculated according to following formula:

A) Credit risk

$$\text{Credit risk} = (\text{Net average time for loans of current year} / \text{Average time for loans of previous year})$$

High value of this ratio shows unexpected damage.

B) In order to evaluate the credit risk, it is applied from CRZ-Score according to the following formula

$$CR_{z\text{-score}} = Ln(ROA + CAP / \sigma_{ROA})$$

**In which ROA is return of assets, CAP is ratio of capital to asset and  $\sigma_{ROA}$  is standard deviation for return of assets and if the level of this index is lower, it shows higher dangers.**

Type of ownership is regarded as a virtual variable and in order to show it in public banks the zero code and for private banks 1 code is shown. Size of banks is calculated by using total logarithm of assets. On the other hand, financial crisis like type of ownership is regarded as virtual variable that in order to show it to previous period of crisis, it is applied from number zero for period after crisis it is applied from number 1. In this research, all active banks at banking industry of Iran including: public and private banks during the year 2005 to 2013 were examined. Therefore, by observing conditions of banks and status of risk, first of all by using descriptive statistics, the central indices and dispersion is described. Meanwhile, whereas having normal and non-normal distribution for the variables of research, it is benefit from inferential statistical method for testing the relationship between variables and in order to study the causative relationship, it is applied from simple-mixed-correlation model and independent t-test and Mann-Whitney. In the way of analyzing regression model, all assumptions of regression are examined. Moreover, in order



to obtain statistical analysis, it is benefit from SPSS, E-views and AMOS software. In addition, whereas data is collected from audited documents published by applicable organization and whereas variables of this study benefit from raw data and specific formula applied by global standards examined by 3 professors and researchers of monetary and banking field, it is claimed that methods of measuring research variable have acceptable level of validity and reliability.

## 5. RESEARCH FINDINGS

### 5.1. RELATIONSHIP BETWEEN CREDIT RISK AND LIQUIDITY RISK

In order to study the relationship between credit risk and liquidity risk, it is benefit from Pearson correlation coefficient and its results are offered in table 1

**Table 1: Results of Correlation Test (SPSS v.21)**

	Pearson correlation	Sig level
Relation of CR to LR	-.063	.380
Relation of CR to LRBB	0.03	.967
Relation of CRZ-Score to LR	-.361	.000
Relation of CRZ-Score with LRBB	.049	.495

*Source: Author*

Relation of CR with LR, relation of CR to LRBB and relation of CRZ-Score with LRBB with high certainty of 0.95 is not significant; nevertheless, relation of CRZ-Score with LR with certainty coefficient of 0.99 is significant.

### 5.2. COMPARING CORRELATION COEFFICIENT OF INDICES OF CREDIT RISK AND LIQUIDITY BASED ON TYPE OF OWNERSHIP

In this stage, the information of public and private banks is reclassified and according to 68 observations related to public banks and 131 observations related to private banks and step, the results of correlation coefficient test, in order to compare the intensity of coefficients between indices of credit risk and liquidity, the results of classification is shown in table 6.

**Table 2. Results of correlation test with influence of type of ownership (SPSS v.21)**

Type of ownership	Relations	Pearson Correlation	Sig Level
Public	Relation of CRZ-Score with LR	-.200	.102
	Relation of CRZ-Score with LRBB	.169	.168
	Relation of CR with LR	-.404	.001
	Relation of CR with LRBB	.282	.200
Private	Relation of CRZ-Score with LR	-.435	.000
	Relation of CRZ-Score with LRBB	-.001	.995
	Relation of CR with LR	-.071	.423
	Relation of CR with LRBB	-.004	.961

*Source: Author*

Results of table 2 shows that in public banks the relationship between CRZ-Score with LR and CRZ-Score with LRBB is not significant and the relationship between CR with LR with CR with LRBB is significant. Moreover, in private banks the relationship between CRZ-Score with LRBB, CR with LR with LRBB is not significant; nevertheless, the relationship between 2 indices of CRZ-Score with LR is significant. In continuation in order to compare the intensity between variables of research in public and private banks, correlation coefficient is turned into fisher and is examined according to the following formula among public and private banks.

$$Z_{ob} = (Z_{r1} - Z_{r2}) / \sqrt{(1/n_1 - 3) + (1/n_2 - 3)}$$

Results of table 3 shows that the relation of CRZ-Score with LR and relation of CRZ-Score with LRBB and relation of CR with LRBB is smaller than absolute value of critical level of 1.96; therefore, type of ownership does not have influence on variables of credit risk and liquidity risk. In addition, the relation of CR with LR is larger than absolute value of critical level of 1.96; therefore, the zero hypothesis for equal intensity of coefficients at public and private banks is rejected; thus, type of ownership does not have influence on variables of credit risk and liquidity risk.

**Table 3. Results of Z test for variable type of ownership of bank (SPSS v.21)**

Research variables	Correlation coefficient		Fisher		Z statistics
	Private	Public	Private	Public	
Relation of CRZ-Score with LR	-.435	-.200	.466047	.202733	-1.73
Relation of CRZ-Score with LRBB	-.001	.169	.001	.170637	-1.13
Relation of CR with LR	-.071	-.404	.07112	.42842	2.35
Relation of CR with LRBB	-.004	.282	.004	.289854	-1.93

Source: Author

**Table 4. Studying influence of ownership on different forms of risks by using t-test and independence hypothesis of groups (SPSS v.21)**

Type of ownership	Variable	Number	Standard deviation	t-test	Degree of freedom	Sig level	Difference average
Public	CR	68	0.006	-0.772	197	0.441	-0.0027
Private		131	0.03				
Public	Z-Score	68	0.965	1.806	197	0.073	0.26
Private		131	0.954				
Public	LR	68	0.33	-5.608	197	0.000	-0.26
Private		131	0.26				
Public	BB	68	0.36	1.770	197	0.078	0.165
Private		131	0.72				

Source: Author

According to sig level in table 4, type of ownership does not influence on level of risk CR, Z-Score, LRBB of bank; nevertheless, type of ownership does not influence on level of liquidity risk (LR) of banks. Meanwhile, in case of studying the influence of ownership with hypothesis of not -normal data by using Mann–Whitney test, the results of table 5 is obtained. In this mode, we do not apply from t-test and 2 independent samples; since, average variables due to not having equal distance of units, may not have real average meaning and concept and in this way it is applied from Mann–Whitney test.

**Table 5: Studying the influence of ownership on different risks by using Mann–Whitney test and hypothesis of not having normal data (SPSS v.21)**

Type of ownership	Variable	Number	Average rank	Z statistics	Sig level
Public	CR	68	97.24	-0.488	0.626
Private		131	101.44		
Public	Z-Score	68	109.21	-1.625	0.104
Private		131	95.22		
Public	LR	68	68.71	-5.523	0.000
Private		131	116.24		
Public	BB	68	129.46	-5.198	0.000
Private		131	84.71		

Source: Author

According to the aforesaid test, type of ownership is not significant on level of CR and CRZ-Score among public and private banks; nevertheless, type of ownership is significant on level of LR and LRBB risk among public and private banks.

### 5.3. RESULTS OF CORRELATION TEST BY CONTROLLING INFLUENCE OF VARIABLE OF SIZE OF BANK

According to table 6, there is no significant relationship between indices of CRZ-Score with LRBB, CR with LR and CR with LRBB; nevertheless, the relationship between 2 indices of CRZ-Score with LR with controlling influence for size of bank is significant.

**Table 6. Results of correlation coefficient test with controlling size of bank in (SPSS v.21)**

	Pearson correlation	Sig level
Relation of CRZ-Score with LR	-.524	.000
Relation of CRZ-Score with LRBB	.000	.995
Relation of CR with LR	-.060	.398
Relation of CR with LRBB	.005	.940

*Source: Author*

### 5.4. REGRESSION TEST FOR INDICES OF CREDIT RISK AND LIQUIDITY RISK WITH SIZE OF BANK

In order to study the relationship for each index of credit risk and liquidity risk with influence of size of bank, it is applied from simple regression with standard output in Amos software. The results of regression model and results of test is shown in following table.

**Table 7. Results of Model for Simple Regression and Influence of Size of Bank on Level of Credit Risk and Liquidity Risk (SPSS v.21)**

Variables	Standardized amounts	Critical points	Sig level
Size of bank: credit risk	0.001	0.438	0.661
Size of bank: credit risk of Z-Score	-0.957	-11.392	.0001
Size of bank: liquidity risk of LR	-0.036	-1.013	0.311
Size of bank: liquidity risk of BB	-0.076	-1.083	0.279

*Source: Author*

According to the simple regression model and standard output in Amos software with exactness for influence and determining coefficient and level of p-value, lack of significant size of bank on CR, LR, LRBB and significant size of bank on CRZ-Score is statistically inferred.

### 5.5. COMPARING COEFFICIENTS OF CORRELATION OF INDICES OF CREDIT RISK AND LIQUIDITY DURING BEFORE AND AFTER CRISIS

Through separating observations into 2 groups including: before and after crisis, the influence of financial crisis on credit risk and liquidity risk is examined and its results are offered in table 8. Results of table show that during period before crisis the relationship between CR with LRBB and CRZ-Score with LRBB is not significant; nevertheless, the relationship between CR with LR and CRZ-Score with LR is significant. Moreover, during period before crisis the relationship between CRZ-Score with LRBB and CRZ-Score with LR, CR, LR and CR with LRBB is not significant. In continuation in order to compare the intensity of coefficients between variables of research during period before crisis and after financial crisis, the correlation coefficient is turned into fisher and is studied through following formula in both societies before and after crisis and the results of calculation is offered in table 9.

**Table 8. Results of correlation test with influence of financial crisis (SPSS v.21)**

Financial crisis		Pearson correlation	Sig level	Number of observations
Before crisis	Relation of CRZ-Score with LR	-.665	.000	54
	Relation of CRZ-Score with LRBB	.041	.767	54
	Relation of CR with LR	-.495	.000	54
	Relation of CR with LRBB	.020	.887	54
After crisis	Relation of CRZ-Score with LR	.013	.880	145
	Relation of CRZ-Score with LRBB	.044	.597	145
	Relation of CR with LR	-.020	.814	145
	Relation of CR with LRBB	.001	.989	145

Source: Author

$$Z_{ob} = (Z_{r1} - Z_{r2}) / \sqrt{(1/n_1 - 3) + (1/n_2 - 3)}$$

**Table 9. Results of z test for the variable of financial crisis (SPSS v.21)**

Research variables	Number before crisis	Number after crisis	Correlation coefficient before crisis	Correlation coefficient after crisis	Fisher before crisis	Fisher after crisis	Z statistics
Relation of CRZ-Score with LR	54	145	-.665	-.266	.8017249	.0130007	-4.99
Relation of CRZ-Score with LRBB	54	145	.041	.056	.041023	.0440284	-0.02
Relation of CR with LR	54	145	-.495	-.041	.5426615	.0200027	-3.2
Relation of CR with LRBB	54	145	.020	.001	.0200027	.001	0.12

Source: Author

Whereas the value of Z in the relationship of CRZ-Score with LRBB and relation of CR with LRBB is smaller than absolute value of critical level of 1.96; therefore, the hypothesis of zero for equity of intensity of coefficients during period before and after crisis is not rejected and consequently the financial crisis does not have significant influence on variables of credit risk and liquidity risk; nevertheless,

**Table 10. Studying the influence of crisis on different risks by using t-test and hypothesis of independence of groups (SPSS v.21)**

Type of ownership	Variable	Number	Standard deviation	t-test	Degree of freedom	Sig level	Difference average
Before	CR	54	0.004	-0.430	197	0.668	-0.001
After		154	0.027				
Before	Z-Score	54	0.94	1.259	197	0.210	0.193
After		154	0.97				

Type of ownership	Variable	Number	Standard deviation	t-test	Degree of freedom	Sig level	Difference average
Before	LR	54	0.30	0.772	197	0.471	0.036
After		154	0.32				
Before	BB	54	0.43	-0.576	197	0.566	-0.058
After		154	0.69				

Source: Author

the Z value between relation of CRZ-Score with LR and relation of CR with LR is larger than absolute value of critical level of 1.96 and the zero hypothesis concerning for equity of intensity of coefficient before and after critical level is rejected and consequently the financial crisis has significant influence on variables of credit risk and liquidity risk.

According to sig level and degree of freedom of 197 in table 10 and existence of non-existence of crisis on level of credit risk, the credit risk of Z-score, liquidity risk and liquidity risk of BB is not influencing on bank.

**Table 11. Results of Mann–Whitney for studying the influence of crisis (SPSS v.21)**

Financial crisis	Variable	Number	Average rank	Z statistics	Sig level
Before crisis	CR	54	113.57	-2.029	0.042
After crisis		154	94.49		
Before crisis	Z-Score	54	111.06	-1.653	0.098
After crisis		154	95.88		
Before crisis	LR	54	106.00	-0.897	0.370
After crisis		154	97.77		
Before crisis	BB	54	99.00	-0.149	0.881
After crisis		154	100.37		

Source: Author

According to the aforesaid test and hypothesis of non-normal data, level of LR, LRBB and CRZ-Score risk on periods before and after crisis do not have significant difference; nevertheless, financial crisis has significant influence on CR risk.

## 5.6. INFLUENCE OF INDEPENDENT VARIABLES ON DEPENDENT VARIABLE

If variables of CRZ-Score, LRBB, LR and CR are regarded as dependent variable and size of bank, financial crisis and type of ownership is regarded as independent variables, it is possible to apply from multi variable regression analysis and studying the influence of independent variables on dependent variables.

**Table 12. Multi variable regression coefficients and studying influence of ownership, size of bank and financial crisis on risk (SPSS v.21)**

Independent variables	Dependent variables	t-statistics	Sig level
Type of ownership	CR	.784	.434
	CRZ-Score	-3.479	.001
	LR	5.985	.000
	LRBB	-1.948	.053
Size of bank	CR	.434	.665
	CRZ-Score	-11.871	.000
	LR	-.333	.740
	LRBB	-1.428	.155

Financial crisis	CR	.281	.779
	CRZ-Score	1.047	.296
	LR	-1.052	.294
	LRBB	.977	.330

*Source: Author*

As it is obvious in table 12, type of ownership may influence on LR and CRZ-Score dependent variable; nevertheless, it cannot have significant influence on LRBB and CR dependent variable. Moreover, size of bank may influence on CRZ-Score dependent variable; however, it cannot have significant influence on LR, LRBB and CR dependent variable. The interesting point is that variable of financial crisis does not have significant influence on none of the dependent variables.

## 6. CONCLUSION

Liquidity risk and credit risk are regarded as 2 key factors for survival of banks; therefore, it is necessary to manage the inner-organizational and outer-organizational factors on credit risk of banks. According to the importance of management of credit risk and liquidity risk and attempting to improve the related methods in banks and financial institutes, the present research examines the relationship between credit risk and liquidity risk from the year 2005 to 2013. According to the results obtained from test, it is concluded that there is no direct and significant relationship between 2 variables of credit risk and liquidity risk and all 3 variables of bank ownership, size of bank and financial crisis are not influencing on relationship between credit risk and liquidity risk and none of the aforesaid other risks. The result of this study has contradiction with the study of Nikomaram and et al (2013) in some aspects. Moreover, the type of ownership has significant influence on risk that is due to pressures applied to banks on behalf of main shareholders that has a few differences with the study of Imbierowicz and Rauch (2013).

According to the obtained results, the following recommendations are offered for the beneficiaries:

- Bank managers, analyzers and investors through management of influencing factors on indices of credit risk and liquidity may be able to effectively management risks simultaneously
- Whereas the elements below line of balance sheet are entered for calculating indices, through controlling these elements, it may have positive influence on reducing risk
- It is recommended to perform similar research among insurance companies
- It is recommended to study the relationship between other different forms of risks including: credit risk, liquidity risk, IT risk, market risk, profit rate risk and market risk among banking industry
- To apply from other variables including: index of stock exchange for studying and influencing the relationship between credit risk and liquidity risk
- It is recommended to increase time periods and number of collected data

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# THE ANALYSIS OF EFFECTIVE FACTORS ON VIRTUAL BANKING ADOPTION (CASE STUDY: E-CITIZEN OF ZAHEDAN SADERAT BANK)

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## Abstract

*One of the major obstacles in the way of developing electronic banking is non-acceptance of this technology by the consumers as well as the willingness to traditional banking procedures. The purpose of this study is to analysis the effective factors on virtual banking adoption and creation in Saderat Bank of Zahedan. The methodology is applied in terms of aim and is descriptive-survey in terms of performance. The statistical population of this research includes customers of virtual banking in Saderat Bank has been more than 10,000 and 383 of them have been selected using Morgan table randomly. Library studies have been used to collect information and researcher-made questionnaire with Likert scale has been used which its validity has confirmed (0.81) using Cronbach's alpha as well as its reliability has been confirmed by the experts. The descriptive and inferential statistics using SPSS software have been used to analyze data. The results showed that the components of usefulness perception, ease of use perception, self-efficacy perception, safety perception, internet quality, the internet accessibility have effect on the adoption of virtual banking in Zahedan Saderat Bank branches.*

JEL classification: E52, G21

**Keywords:** Virtual banking, banking acceptance, Electronic Citizen, Saderat Bank.

## 1. INTRODUCTION:

In the financial and banking services industry, serving customers via the Internet is a growing phenomenon (Erickson et al., 2005). Because customers must change their behavioral patterns to use online banking, the use of this technology can be extremely complex (Meuter et al., 2000). Among the most important electronic banking services are ATMs, telephone banking, online banking, etc. (Doaee and Kamali, 2008). During recent years, technological advances in banking changed the ways of implementing banking operations in the form of the fundamental as well as the customers can be in touch with banking activities on a daily basis (Sayar, 2007). So, online e-banking adoption has been rising in most countries; so that the rate of e-banking relationship in the past leading countries passed from 50 % (Doaee and Kamali, 2008). Despite the electronic banking has many benefits, most customers do not accept this approach (Abvshnab and Pearson, 2007). So, the prominent point is the issue of customer acceptance and their adoption to the modern banking technology. Generally, in the acceptance of any innovation, two factors play the major role: the first factor is related to the technology characteristics and the second one is related to the demographic variables.

Evidently, the effect of each of these factors varies according to different societies and cultures (Rastegar & Agha Mohammadi, 2011) So, the identification of these factors can help banks to response these factors and applies itself marketing strategies to promote electronic banking that it is meeting the needs of customers (Wang et al., 2003).

In the past decade, great efforts have been made in the area of electronic banking in Iran (Ardakani Fatemi, 2005). But it seems that the service is not welcomed by the customers. In fact, to understand the perceptions and the preferences of the electronic banking service customers will help to electronic banking



industry (Doaee and Kamali, 2008). This study model seeks to answer this question that what are the effective factors on the adoption of e-banking of customers through technology acceptance?

## 2. LITERATURE REVIEW

The E-banking, is a banking service was used for the first time in the U.S in the 1995; then, it was quickly spread out among the developed countries (Wendy, 2005). E-banking is to provide banking services via a public computer network (Swift, Annual Report 2000) and the other definition; e-banking is any banking services that do not create the physical presence restrictions in a particular place for customer. And banking services are performed using electronic tools (Leo and Cheung, 2002). E-banking allows customers to have faster and widespread electronic banking interactions through the Bank's website and with lower costs compared to traditional bank branches and without the restriction of time and space (Crater, 2008). Among, the e-banking tools such as electronic money, electronic Czech, Electronic wallet, variety of cards, including debit card, credit card, charge card, ATM and POS systems are used (Schneider, 2006). Although electronic banking has several levels; but, what separates it from the non-banking, the existence of software and hardware systems and the processes financial information is by them. (Kamel & Hassan, 2003).

Given the diversity of information and communication tools, as well as the capacities and needs of the banking system, the required infrastructure for the development of electronic banking are: communication infrastructure, finance and banking infrastructure, legal infrastructure, human resources infrastructure, Security and software infrastructures and cultural and educational infrastructure (Sarfarazy & Memarzade, 2009). In this study, the aim is that effective factors on the acceptance and deployment of virtual banking system by customers in the Saderat bank in Zahedan are investigated.

It is necessary to mention that among the modern banking approaches in recent decades; perhaps the emergence of electronic banking is the most influential banking system. The zinc in today's competitive era, the bank cannot be found that is unaware of the e-banking capacity. In the past years, country's banking system to keep pace with market developments and keep pace with global developments with significant momentum is moving toward electronic banking and also has brought many achievements. While, **yet it didn't benefit from its full capacity**. For this reason, in this article we have tried to briefly explain the reasons for the banks movement toward e-banking to be field that Banking veteran colleagues over the work with looking again at the role and functions of e-banking in use of its capacities (Wendy, 2005).

Most researches have investigated the factors that affect technology adoption among the users. Davis' Technology Acceptance Model is the most common among the proposed models. (Rastegar & Agha Mohammadi, 2011) This model was presented by Davis in 1989. The use of information technology can be determined by going to use a particular system; intend to use is determined by the amount of the usefulness of the technology from the perspective of user and system ease of use is determined by him (Hussaini et al., 2012). Based on the initial model of Davis, two beliefs play the major role in the adoption of information technology. These two beliefs that can be influenced by the exogenous variables were as follows: the benefit perception and the ease of use. In total, these two beliefs have been made to create attitude toward the use of system and have effect on the aims and intentions of use as well as finally determine the actual level.

The benefit perception is defined as a degree that a member believes will improve the use of a specific system of her job performance. The ease of use perception is defined as a degree that an organization member believes will improve the use of a specific system without difficulty and without too much effort (Davis, 1989). According to TAM, Davis considered exogenous variables as factors affecting the benefit perceptions and the ease of use perceptions that we added to the model by investigating the papers in this field. Other variables such as perceived risk, the use of computers effectiveness, the Internet quality and Internet accessibility.

Nilipour Tabatabai and Piri(2015);Rastegar et al(2011), Geranmaye (2015); Ahmad Zadeh et al. (2015); Taghizadeh and Takhyrh (2015) Foladi and Bavarsad (2014); Haghghinasab et al(2014), Faryabi et al (2014), Erickson (2005); Pykarynan (2004), Chen and Lee (2005) studied the effective factors on the adoption of virtual banking and conducted that if customers have a positive attitude towards e-banking , they will attempt to use e-banking services; so, the cultural infrastructure and acquaint the people with the benefits of this technology and simplify how to use it and improve the quality of Internet connection can be effective on the adoption of Internet banking services and the increasing use of it.

### 3. RESEARCH METHODOLOGY:

This research method is to develop practical knowledge in a particular field. This research has intended to apply the results of its findings in Saderat bank of Zahedan, and is an attempt to respond to the relationships that exist in the real world. This research aim is applied. In this study, the researchers sought to examine effective factors on virtual banking adoption; so, this research is descriptive – survey. The statistical population of this research includes online Banking Customers of Saderat Bank. The number of clients is unlimited. Online banking customers are the ones who have access to their accounts through the Internet and use its services. Therefore, by default, the number more than 10,000 people have been considered as the statistical population. Using Morgan table, 383 of them have been selected with simple random. Library studies contains reviews of books, journals, theses and other documents available in the Special Libraries were used to collect information and in the free level, 5-point Likert questionnaire was used. The questionnaire contains 36 questions. Researcher with detailed review of topic literature and existing questionnaires and localize them in relation to the statistical population, designed the questionnaire. In designing of this part, the questionnaire has been shortening as possible as and has become understandable as well as providing negative questions should be avoided.

Content validity method was used to determine the validity of questionnaire. The questionnaire after reviewing the relevant sources, were distributed among the number of professors and experts to determine validity. Necessary reforms were done with taking into account their views and finally its validity was confirmed by them. Cronbach's alpha test was used for the reliability of the research tool and questionnaire reliability was calculated 0.81 which is indicative of high validity of questionnaire. As well as to analyze research data, Kolmogorov-Smirnov test and one-sample t-test using SPSS version 23 was used.

### 4. DATA ANALYSIS:

At first the normal test must be conducted, then the hypothesis be examined; if variables are normally distributed, parametric test will be used and if the data are not normal, the nonparametric tests will be used.

**Table 1. Results of normality test (Kolmogorov - Smirnov)**

Variable	Sig	$\alpha$ (The error amount )	Test result
The usefulness perception	0.101	0.05	The data is normal.
The perceived Ease of Use	0.102	0.05	The data is normal.
Security	0.260	0.05	The data is normal.
The use of computer self-efficacy	0.364	0.05	The data is normal.
Internet Quality	0.214	0.05	The data is normal.
The Internet accessibility	0.103	0.05	The data is normal.
The entire questionnaire	0.087	0.05	The data is normal.

*Source: Author*

As it can be seen in Table 1, all the variables are normally distributed, because significance level of it is higher than the standard amount 0.05, in this case, the parametric tests should be used for testing

hypotheses. The hypothesis 1: the usefulness perception of services effect on the adoption of virtual banking at Saderat Bank of Zahedan.

The results of the above table regarding studying the effect of Service usefulness perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 3.16 calculated mean with the 382 degrees of freedom at a significance level of 0.001 is greater than critical value in the table at the level 95%.

**Table 2. The results of performing one-sample t-test on the Service usefulness perception Test statistic: 3**

Variable	Mean	Standard deviation	The number	The statistic T	The degrees of freedom	The significance level
The Service usefulness perception	3.16	0.417	383	5.20	382	0.001

*Source: Author*

So, the difference between the marked mean and the base (3) is significant statistically means that the Service usefulness perception affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

The hypothesis 2: The ease of use perception affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

**Table 3. The results of performing one-sample t-test regarding: the ease of use perception Test statistic: 3**

Variable	Mean	Standard deviation	The number	The statistic T	The degrees of freedom	The significance level
: the ease of use perception	3.26	0.469	383	3.59	383	0.007

*Source: Author*

The results of above table regarding studying the effect of the ease of use perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 3.26 calculated mean with 382 degrees of freedom at a significance level of 0.007 is greater than critical value in the table at the level 95%. So, the difference between the marked mean and the base (3) is significant statistically means that the ease of use perception use affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

The hypothesis 3: Perception of security affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

**Table 4. The results of performing one-sample t-test regarding the perception of security Test statistic: 3**

Variable	Mean	Standard deviation	The number	The statistic T	The degrees of freedom	The significance level
The perception of the security	3.09	0.469	383	3.84	382	0.025

*Source: Author*

The results of above table regarding studying effect of the perception of the security on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 3.09 calculated mean with the 383 degrees of freedom at a significance level of 0.025 is greater than critical value in the table at the level 95%. So the difference between the marked mean and the base (3) is significant statistically means that perception of the security affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

Hypothesis 4: the self-effectiveness of the use of computers affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

The results of above table regarding studying the effect of the self-effectiveness of the use of computers perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 3.28 calculated mean with the 383 degrees of freedom at a significance level of 0.005 is greater than critical value in the table at the level 95%. So, the difference between the marked mean and the base (3) is significant statistically means that the self-effectiveness of the use of computers perception affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

**Table 5. The results of performing one-sample t-test regarding the perception of the self-effectiveness of the use of computers. Test statistic: 3**

Variable	Mean	Standard deviation	Number	T	Degrees of freedom	Significance
The self-effectiveness of the use of computers	3.28	0.498	383	4.27	382	0.005

*Source: Author*

The hypothesis 5: The Internet quality affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

**Table 6. The results of performing one-sample t-test regarding the internet quality perception Test statistic: 3**

Variable	Mean	Standard deviation	The number	The statistic T	The degrees of freedom	The significance level
The Internet quality	3.52	0.456	383	5.27	382	0.001

*Source: Author*

The results of above table regarding studying the effect of Internet quality perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 3.52 calculated mean with the 383 degrees of freedom at a significance level of 0.001 is greater than critical value in the table at the level 95%. So, the difference between the marked mean and the base (3) is significant statistically means that Internet quality perception affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

The hypothesis 6: Internet accessibility affects the adoption of virtual banking at Saderat Bank branches of Zahedan.

**Table 7. The results of performing one-sample t-test regarding the Internet accessibility perception Test statistic: 3**

Variable	Mean	Standard deviation	The number	The statistic T	The degrees of freedom	The significance level
Internet accessibility perception	4.01	0.354	383	3.65	383	0.000

*Source: Author*

The results of the above table regarding studying the effect of Internet accessibility perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that the 4.01 calculated mean with the 383 degrees of freedom at a significance level of 0.000 is greater than critical value in the table at the level 95%. So, the difference between the marked mean and the base (3) is significant statistically means that Internet accessibility perceptions affect the adoption of virtual banking at Saderat Bank branches of Zahedan.

## 5. CONCLUSION

The results of studying the effect of Service usefulness perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that it affects the adoption of virtual banking at Saderat Bank branches of Zahedan. So, as image of person about improving the job performance at the organization be more by using a particular technology in banking, this will make electronic banking adoption. The results of the study approve findings of the researches (Chen and Lee, 2004).

The results of studying the effect of the ease of use perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that its use affects the adoption of virtual banking at Saderat Bank branches of Zahedan. So, learn how to use and work with a particular system requires little effort mentally. If this requirement is met, banking acceptance by citizens will be more comfortable. In fact, this result implies that the use complexity of online banking can discouraged bank customers from using it. Result of this assumption is aligned with findings of Ericsson and colleagues (2005); Pykarynan (2004) and (Chen and Lee, 2000). As we mentioned, the ease of use and the usefulness of technology perception were two fundamental dimensions in determining and accepting the technology in TAM model. The ease of use a personal conviction that represent individual interaction with separate technology from the cognitive load and expressing one's ease to interact with a synthetic product and specific software (Agrawal & Karahana, 2000). It seems that the ease of use and computerized self-efficacy were intrinsically related to each other and several studies have confirmed the effect of computerized self-efficacy on the ease of use as well as they found that ease of use effect on people's intentions to use technology is positive and very important. The results of studying the effect of the security perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that it affects the adoption of virtual banking at Saderat Bank branches of Zahedan. If security accounts and the customers' trust are exceeding in the deals and transactions that are conducted via the Internet, banking acceptance by the customers will be possible. The result of this hypothesis is aligned with the findings of Taghizadeh (2015), Faryab (2014) and (Chen and Lee, 2000). The results of studying the effect of self-effectiveness of the use of computer perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that it affects the adoption of virtual banking at Saderat Bank branches of Zahedan. This means that if the bank customers have the ability to use and work with computers and Internet systems, they will be able to accept electronic banking. The result of this study approves the findings of Folady (2014) and Haghyghinasab (2014). Few studies have been conducted in literature and among the different studies on the impact of computerized self-efficacy on acceptance and use of electronic banking technology. In the meantime, there are only two studies have investigated the effect of ease of use of technology on electronic banking. Chau and Lu (2004) found that perceived ease of use by the customer has indirect role in individual's intentions for adoption or continued use of electronic banking. Also, in another study, it was determined that ease of use as primary education has indirect effect on the use of electronic banking (Guriting & Ndubisi, 2006). As it was explained in the previous sections, this variable had the mediator role and other variables affect the acceptance and use of electronic banking with the mediation of this factor. The results of studying effect of Internet quality perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that it affects the adoption of virtual banking at Saderat Bank branches of Zahedan. This results approve the findings of Ericsson et al. (2005); Pykarynn (2004). The result of studying the effect of Internet accessibility perception on the adoption of virtual banking at Saderat Bank of Zahedan shows that it affects the adoption of virtual banking at Saderat Bank branches of Zahedan. This means that, if hardware and software facilities are available for the use of the Internet, it will lead to the electronic banking acceptance by the customers. This result approves findings of Nilipour Tabatabai (2015) and Ahmad Zadeh et al (2015).

Studying different researches stressed on the problem of low use e-banking and its services as well as the limited research on this issue is also evident. These studies have pointed to the technology effectiveness of banking industry and have done the comparisons in this case. The remarkable role of computer self-efficacy is obvious. It affects computer use and technology adoption. Sensitivity computer self-efficacy has been confirmed for basic educations and it is more effective than other types of trainings among particular computer trainings. The perceived ease of use is considered as an introduction to technology

acceptance in technology adoption model and is known as key factor in using e-banking. According to the technological change in all areas, especially in the field of banking, and the necessity of attention to internet undeniable role in creating efficiency and differentiation in today's competitive environment as well as the necessity of attention to bank customers attitude to use the Internet services, in this study, we try to identify Factors that are effective on the Internet Banking services intention of use so that the possibility of developing these services by the Banks will be increased. Thus, the results of the present study offered the following recommendations:

1. Justifying the owners of bank accounts than usefulness of acceptance electronic banking.
2. Facilitating the use of electronic banking services for all owners of bank accounts.
3. Providing access to the Internet for the owners of bank accounts.
4. Justifying the owners of bank accounts, the use of electronic banking services being secure.
5. Performing banking operations without fees for those who use electronic banking.

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# IDENTIFICATION AND EVALUATION OF RISKS CONCERNING A BUILDING CONSTRUCTION PROJECT IN KERMAN, IRAN BASED ON FAHP METHOD

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## Abstract

*Construction is perceived as a dangerous industry because of its distinctive quiddity. Thus, selecting an appropriate method for identifying and analyzing risks related to construction activities is vital for minimizing economic losses and maximizing profitability of a construction project. Construction risk is commonly regarded as serious incidents that affect project objectives of quality, time and cost. This paper represents - on the basis of a questionnaire survey answered by the authorities and experts of the RAVAND construction company - a perspective of construction risks, and a proposed model of risk analysis based on the functionality of Fuzzy Analytic Hierarchy process (FAHP) with triangular typed fuzzy numbers. For this purpose, Risk assessment for a building construction project in Kerman, Iran accomplished through investigating 3 major criteria (quality, cost and time) and the respective 9 sub-criteria (factor). Consequently, Risk factors were compared at the end.*

JEL classification: D81

**Keywords:** risk in construction, risk assessment, FAHP

## 1. INTRODUCTION

Although risks which are associated with large-scale construction projects are more significant than small-scale projects due to engagement of numerous workers, great amount of materials, complicated construction operation and complex management activities, accidents which contribute substantially to safety reduction are inextricably linked with construction industry regardless of the project size.

There are various definitions for Risk. It can either be defined as the probability of an occurring event - whether the event is positive or negative - and its result, or a disastrous incident that leads solely to negative consequences. However, there is always a possibility for occurrences and consequences which create opportunity for success or menace to prosperity.

Accordingly, Moavenzadeh and Rosow (1999) have regarded risks as a factor that leads to economic loss and Boothroyd and Emmett (1998) have explained risk in respect of construction project whose variations contributes to uncertainty in duration, quality and ultimate cost of the project. In order to strengthen and implement the main goals of the survey on risk assessment actions, Risk has been determined as the probability of emergence of some inevitable and uncertain events that would lower the benefit for a given investment and would have an impact on at least one project objective (quality, time, cost, etc.)

The construction industry is generally highly exposed to risks and is characterized to be very complex, dynamic, and unique where different sources give birth to uncertainties. For instance, Iran, being located in an active seismic belt, is a country which is exposed to earthquakes of a considerable magnitude. According to the International Institute of Earthquake Engineering and Seismology, In the average, Each day approximately 30 earthquake of magnitude 4 to 6 occur in Iran (<http://geophysics.ut.ac.ir/En/>). Therefore, more than 140 fatal earthquakes have taken place within the last century which have caused the death of more than 250,000 people, ruined innumerable villages and thousands of cities, and caused massive economic damage (Tabassi, Bakar, 2009).

Considering the significance of this issue, it poses a valid question reasoning the destruction of so many buildings during these earthquakes in Iran. Some of these destructions are attributed to improper design and low quality materials (Ghafory-Ashtiany, Eslami,1997) while other demolitions are due to poor construction (Berberian,2004).

According to the report of the Ministry of Housing and Urban Development (HUD) of Iran, the shelf life of buildings is about 25–35 years in Iran, whereas, it is measured about 200–300 years in developed countries (<http://www.icic.gov.ir>). This reveals that the low quality of construction and lack of PRM execution in construction projects in Iran is a flaw that can be fixed. Thus, PRM implementation in construction projects should be emphasized and enhanced.

Project Risk Management (PRM) has been studied and examined extensively in construction project because of its fundamental significance. Presently in our world, where changes take place at a rapid rate with approaching risks, the necessity for survival is to have a deep understanding of the environment and to be competent to prevent flawed decisions.

The PRM procedure includes the following - 1.RM planning. 2. risk identification. 3. qualitative and quantitative risk analysis. 4. risk response planning. 5. risk monitoring and control (Bon-Gang Xianbo, Li Ping, 2013).

The objectives of this paper are:

- (1) To identify the risks and the status quo of Risk Management implementation in a small project (Sepehr Yes residential-commercial building) in Kerman, Iran.
- (2) To analyze quantitatively and appraise the risks which the construction project is prone to.
- (3) to organize the risks in order of importance.

The Analytic Hierarchy Process (AHP) that originally promoted by Saaty, is an efficient approach for problem solving of multi-criteria decision-making, and has been used in diverse fields of construction management. To follow the objectives of this study efficiently, a fuzzy AHP model with simultaneous triangular typed fuzzy numbers has been employed-following the introduction section-to assess and organize the risks including quality risks, cost risks and time risks, also a questionnaire survey has been utilized through the risk identification process.

## 2. METHOD

This study has been described based on the fuzzy AHP algorithm. Data was collected for this study using a questionnaire which comprises two segments. The first segment was used to identify risks and the second segment determined the weight and also the degree of importance of each factor in relation to each criterion.

Managers and Experts in a building construction firm constitute the statistical population in this study. One executive manager and three experts, who necessary information were gathered by their contribution, have been considered as the statistical sample. Using statistics from the questionnaire, data analysis accomplished based on FAHP method

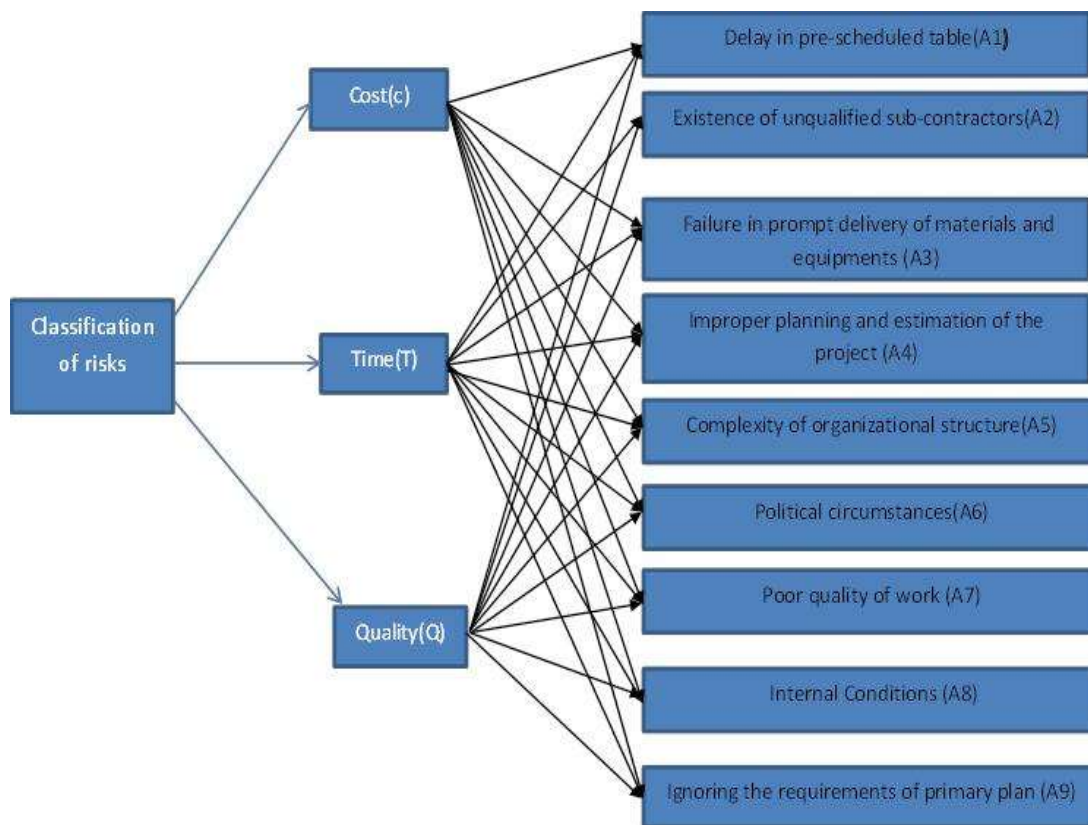
Application of FAHP in evaluating construction risk factors consists of the following steps:

### Step 1: Establishing hierarchical structures:

Saaty concluded **that a hierarchy structure “gives the great detail of information on the structure and function of the system in the lower levels and provides an overview of the actors and their purposes in the upper levels” (Saaty, 1980)**

In this study; after identifying the risks and factors which affect them, a hierarchical structure is illustrated.

In this illustrated model, the hierarchy structure of building project risks is shown in figure (1) Saaty, 1980; Tang, Beynon, 2005).



**Figure 1: The hierarchy of the risk factors in a building construction project**

**Step 2: Using Pair-wise Comparisons for establishing Fuzzy Judgment Matrix:**

According to Kaufmann and Gupta (1988), triangular fuzzy numbers (TFNs) help in easier decision making. Hence, in this paper TFN is used as the membership function. Membership function of a TFN is shown by the triplet (l, m, u) and is an equation (Mikhailov, 2004).

Here, linguistic scale is used Instead of absolute numbers to determine weight of criteria also for ranking the factors.

A fuzzy linguistic scale, which is characterized by triangular fuzzy numbers for the comparison between two substitutes is presented. Table 1. Compare risk factors (Kaufmann, Gupta, 1988).

**Table 1. Judgment matrix for risk factors with respect to the Cost criteria of construction project**

Linguistic scale for proportionate significance	Triangular fuzzy scale	Reciprocal of triangular fuzzy scale
Exactly the same	(1,1,1)	(1,1,1)
Same importance	(1,2,3)	(0.33,0.5,1)
Slightly important	(2,3,4)	(0.25,0.33,0.5)
Serious importance	(3,4,5)	(0.2,0.25,0.33)
More serious	(4,5,6)	(0.166,0.2,0.25)

Linguistic scale for proportionate significance	Triangular fuzzy scale	Reciprocal of triangular fuzzy scale
Importance		

Source: Author

According to the risk factors hierarchy, through the comparison in importance of each pair of risk criteria, the judgment matrix of the 3 criteria of the construction project is shown in Table 2.

**Table 2: Judgment matrix for criteria in construction project**

	Cost	Quality	Time
Cost	(1,1,1)	(2,3,4)	(1,2,3)
Quality	(0.25,0.33,0.5)	(1,1,1)	(1,2,3)
Time	(0.33,0.5,1)	(0.33,0.5,1)	(1,1,1)

Source: Author

The judgment matrix of risk factors compared to the criteria can be obtained respectively as Table 3-5

**Table 3: Judgment matrix for risk factors with respect to the Cost criteria of construction project**

C	A1	A2	A3	A4	A5	A6	A7	A8	A9
A1	(1,1,1)	(.2,.25,.33)	(.2,.25,.33)	(.2,.25,.33)	(.25,.3,.5)	(.16,.2,.25)	(.16,.2,.25)	(.2,.25,.33)	(.16,.2,.25)
A2	(3,4,5)	(1,1,1)	(.2,.25,.33)	(.25,.3,.5)	(.3,.5,1)	(.2,.25,.33)	(.25,.3,.5)	(1,1,1)	(1,1,1)
A3	(3,4,5)	(3,4,5)	(1,1,1)	(.2,.25,.33)	(.3,.5,1)	(.2,.25,.33)	(.25,.3,.5)	(.2,.25,.33)	(.25,.3,.5)
A4	(3,4,5)	(2,3,4)	(3,4,5)	(1,1,1)	(2,3,4)	(.2,.25,.33)	(.25,.3,.5)	(.25,.3,.5)	(1,1,1)
A5	(2,3,4)	(1,2,3)	(1,2,3)	(.25,.3,.5)	(1,1,1)	(.2,.25,.33)	(.25,.3,.5)	(.25,.3,.5)	(.25,.3,.5)
A6	(4,5,6)	(3,4,5)	(3,4,5)	(3,4,5)	(3,4,5)	(1,1,1)	(2,3,4)	(2,3,4)	(1,2,3)
A7	(4,5,6)	(2,3,4)	(2,3,4)	(2,3,4)	(2,3,4)	(.25,.3,.5)	(1,1,1)	(.3,.5,1)	(.3,.5,1)
A8	(3,4,5)	(1,1,1)	(3,4,5)	(2,3,4)	(2,3,4)	(.25,.3,.5)	(1,2,3)	(1,1,1)	(2,3,4)
A9	(4,5,6)	(1,1,1)	(2,3,4)	(1,1,1)	(2,3,4)	(.3,.5,1)	(1,2,3)	(.25,.3,.5)	(1,1,1)

Source: Author

**Table 4: Judgment matrix for risk factors with respect to quality criteria of construction project**

Q <sub>α</sub>	A1 <sub>α</sub>	A2 <sub>α</sub>	A3 <sub>α</sub>	A4 <sub>α</sub>	A5 <sub>α</sub>	A6 <sub>α</sub>	A7 <sub>α</sub>	A8 <sub>α</sub>	A9 <sub>α</sub>
A1 <sub>α</sub>	(1,1,1) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.25,.3,.5) <sub>α</sub>	(.16,.2,.25) <sub>α</sub>	(.16,.2,.25) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.16,.2,.25) <sub>α</sub>
A2 <sub>α</sub>	(3,4,5) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,2,3) <sub>α</sub>	(2,3,4) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>
A3 <sub>α</sub>	(1,1,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,2,3) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>
A4 <sub>α</sub>	(1,2,3) <sub>α</sub>	(.25,.33,.5) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>
A5 <sub>α</sub>	(1,1,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,1,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>
A6 <sub>α</sub>	(2,3,4) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(.3,.5,1) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,1,1) <sub>α</sub>	(2,3,4) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	<sub>α</sub>
A7 <sub>α</sub>	(3,4,5) <sub>α</sub>	(1,1,1) <sub>α</sub>	(1,2,3) <sub>α</sub>	(2,3,4) <sub>α</sub>	(2,3,4) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,1,1) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>	(.2,.25,.33) <sub>α</sub>
A8 <sub>α</sub>	(4,5,6) <sub>α</sub>	(1,1,1) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(1,1,1) <sub>α</sub>	<sub>α</sub>
A9 <sub>α</sub>	(4,5,6) <sub>α</sub>	(1,1,1) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(3,4,5) <sub>α</sub>	(1,2,3) <sub>α</sub>	(3,4,5) <sub>α</sub>	(1,2,3) <sub>α</sub>	(1,1,1) <sub>α</sub>

Source: Author

**Table 5. Judgment matrix for risk factors with respect to the time criteria of construction project**

T□	A1□	A2□	A3□	A4□	A5□	A6□	A7□	A8□	A9□
A1□	(1,1,1)□	(.3,.5,1)□	(.3,.5,1)□	(.3,.5,1)□	(.3,.5,1)□	(.25,.33,.5)□	(.25,.33,.5)□	(.25,.33,.5)□	(1,1,1)□
A2□	(1,2,3)□	(1,1,1)□	(1,2,3)□	(1,1,1)□	(2,3,4)□	(1,2,3)□	(1,1,1)□	(1,1,1)□	(1,1,1)□
A3□	(1,2,3)□	(.3,.5,1)□	(1,1,1)□	(1,2,3)□	(1,1,1)□	(1,1,1)□	(.3,.5,1)□	(.25,.33,.5)□	(.25,.33,.5)□
A4□	(1,2,3)□	(1,1,1)□	(.3,.5,1)□	(1,1,1)□	(1,2,3)□	(.3,.5,1)□	(.3,.5,1)□	(.25,.33,.5)□	(1,1,1)□
A5□	(1,2,3)□	□	(1,1,1)□	(.3,.5,1)□	(1,1,1)□	(.3,.5,1)□	(.3,.5,1)□	(.25,.33,.5)□	(1,1,1)□
A6□	(2,3,4)□	(.3,.5,1)□	(1,1,1)□	(1,2,3)□	(1,2,3)□	(1,1,1)□	(1,2,3)□	(1,1,1)□	(1,2,3)□
A7□	(2,3,4)□	(1,1,1)□	(1,2,3)□	(1,2,3)□	(1,2,3)□	(.3,.5,1)□	(1,1,1)□	(.25,.33,.5)□	(1,1,1)□
A8□	(2,3,4)□	(1,1,1)□	(2,3,4)□	(2,3,4)□	(2,3,4)□	(1,1,1)□	(2,3,4)□	(1,1,1)□	(1,2,3)□
A9□	(1,1,1)□	(1,1,1)□	(2,3,4)□	(1,1,1)□	(1,1,1)□	(.3,.5,1)□	(1,1,1)□	(.3,.5,1)□	(1,1,1)□

Source: Author

**Step 3: calculated value of fuzzy synthetic extent:**

If  $D = \{D_1, D_2, \dots, D_n\}$  be a criteria set, where “n” is the number of criteria, And  $R = \{R_1, R_2, \dots, R_n\}$  is a risk factor set with “m” number of risks. Let  $M^1_{Di}, M^2_{Di}, \dots, M^m_{Di}$  be values of extent analysis of the “i” criteria for “m” risks. Here  $i = 1, 2, \dots, n$  and all the  $M^j_{Di} (j = 1, 2, \dots, m)$  are triangular fuzzy numbers. To make use of the algebraic operations on TFNs, the value of fuzzy synthetic extent “ $S_i$ ” is defined as:

$$S_i = \left[ \sum_{j=1}^m \sum_{k=1}^n M^j_{D_k} \right]^{-1}$$

$$S_{Cost} = (0.26, 0.53, 1.01)$$

$$S_{Time} = (0.11, 0.18, 0.38)$$

$$S_{Quality} = (0.15, 0.29, 0.57)$$

**Step 4: Calculation of the sets of weight values of the FAHP:**

To obtain the measures for the sets of weight values under each criterion, it is necessary to consider a “principle of comparison for fuzzy numbers” (Chang, 1999). For example, for two fuzzy numbers  $M_1$  and  $M_2$ , the extent of possibility of  $M_1 \geq M_2$  is defined as (Kahraman, Ertay, 2006):

$$V(M_1 \geq M_2) = hgr(M_1 \cap M_2) \begin{cases} 1 & , m_1 \geq m_2 \\ \frac{u_1 - u_2}{(u_2 - l_2) - (m_2 - m_1)} & , 0.W \end{cases}$$

Based on this formula, we are doing the calculations as following:

$$V(S_C \geq S_Q) = 1 \quad V(S_Q \geq S_C) = 0.56 \quad V(S_T \geq S_C) = 0.26$$

$$V(S_C \geq S_T) = 1 \quad V(S_Q \geq S_T) = 1 \quad V(S_T \geq S_Q) = 0.66$$

Finally, the weight vectors of the 3 categories of risk criteria are obtained:

$$W_T = \min (V(M_T > M_i)) \quad i = 1, 2, \dots, n$$

$$W = (0.55, 0.31, 0.14)^T$$

Similarly, the weight vectors of the risk factors compared to the Criteria are obtained as follows:

$$W_C = (0, 0, 0.053, 0.155, 0, 0.292, 0.187, 0.158, 0.155)$$

$$W_Q = (0, 0.273, 0.002, 0, 0, 0.041, 0.144, 0.273, 0.267)$$

$$W_T = (0, 0.159, 0.08, 0.086, 0.047, 0.17, 0.148, 0.224, 0.086)$$

**Step 5:** finally; the overall weight vectors of the risk factors equals to sum of the multiplication of weight factors in the weight of its relevant criteria. Steps are shown as follows:

$$W_{\text{total}} = (0, 0.0517, 0.026, 0.028, 0.0153, 0.0553, 0.0481, 0.0729, 0.0281)$$

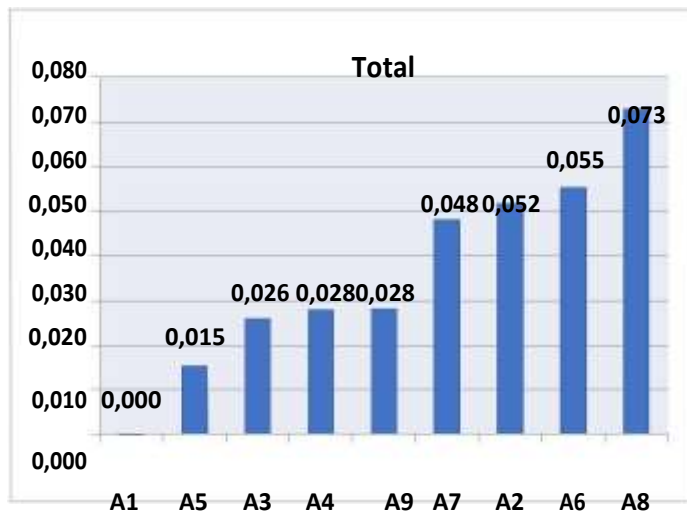


Chart 1. Priority of risk factors

### 3. CONCLUSION

Organizations have found that project risks can either be a threat or an opportunity for increasing success of a project. Thus, when organizations trust in admitting and responding to risks, they attempt to assess the project risks in an oriented path. Consequently, after responding to risks, a specific balance between accepting threats of the risk and avoiding them would be constituted.

Since various risks threaten the project, ignoring them may cause deviation from scheduled cost and time, thus providing a model for project risk management is essential.

In this paper the risk factor hierarchy for a construction project was progressed based on the FAHP, and then a comprehensive risk assessment was established including determination of the weights of the risk factors, the quantitative analysis of risk factors, and the establishment of a risk calculation. Subsequently, Risk factors were sorted according to their influences on the overall risk level, and the key risk factors in this project were obtained, which is the “internal condition”.

Finally, an algorithm for project risk assessment and a knowledge base of risks for future projects were introduced in this paper. Hence, using this algorithm or similar algorithms can be very effective in reducing the quality, cost and time deviations which are common in Iran.

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# PERFORMANCE MANAGEMENT ASSESSMENT BASED ON ARMSTRONG'S MODEL IN HASHEMINEJAD HOSPITAL

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## Abstract

*In recent years, examination of performance management has been always a problem in Iranian organizations. This is a serious problem in hospitals specially in Hasheminejad Hospital. Regarding necessity and importance of problem, in this research performance management has been examined using Armstrong's model in Hasheminejad Hospital.*

*Statistical population in this study is all of managers and personnel in Hasheminejad Hospital that include 310 persons. Method of sampling is simple random sampling. According to Cochran's formula sample size is 172. T test technic was used to analyze data and hypotheses were examined by inferential average. The results revealed that performance management is not in good state in Hasheminejad Hospital. Also, performance agreements, personnel development planning, performance and performance review were not in good state.*

JEL classification: L25

**Keywords:** Performance Management, Assessment, Hasheminejad Hospital.

## 1. INTRODUCTION

To examine performance management, researchers used questionnaire. This questionnaire was designed **based on Armstrong's model and was** developed after asking experts and examining its validity. In recent years, development of human resource management has been accelerated in different organizational aspects and its outcomes has involved with different organizational processes that ignoring it would damage these processes (Jazani, 2011). Lack of a performance management system means lack of communication with internal and external environment of organization that will result in decadence of open, active and dynamic organizations and eventually will affect the society.

Researches have indicated that people usually use 20-30 percent of their potential to not keep their jobs. If managers motivate employees, they could exploit 80 percent of their potential and decrease inefficiency that most of governmental organizations suffer from it by proper use of organizational resources especially human resources. In this respect, we can find and solve the problem with knowing current state of performance management. Examination of performance management has been always a problem in organizations. This problem is very obvious in Iranian hospitals specially in Hasheminejad Hospital. Furthermore, lack of proper and coherent research that examines different aspects of this problem in hospitals escalates importance of studying performance management.

Regarding to necessity and importance of the problem, in this research condition of performance management in hospitals is studied and researchers try to answer the following question:

1. How is state of performance management in studied population? Armstrong performance management model

Armstrong (2012) presented performance system as a multidimensional structure that its assessment is based on different factor. In fact, performance measurement and assessment process is a framework of principles and scientific concepts to achieve organizational objectives.



## 1- Attitude and agreement about performance criteria

Purpose of this criterion is a mutual agreement among organization members about nature of performance. Any member knows good performance as a duty and all members have a common perception of its concept. These agreements include role agreement, process improvement agreement and personnel development agreement.

### 1. Performance measurement system

This element represents a method to measure performance, procedures, and processes that are related. A performance measurement system is composed of following elements:

1. Organizational cognition: a true perception of organization and its objectives, strategies, plans and processes.
2. Designing performance assessment model parameters include:
  - Studying different performance assessment model
  - Study and research on special application in the organization
  - Study and research about different technics of developing indicators
  - Study and research about different technics of performance assessment of personnel and motivational systems

Evaluation and comparison among different methodologies and choosing the best model

3. Developing performance assessment indicators, (in different aspect including: financial, customers, stakeholder s, processes, human resource and their connection)

### 2. Feedback

Studying performance based on agreements and performance measurement system shows its outcome in feedback. Method of receiving feedback is considered a element of a good performance system in organization.

### 3. Performance positive reinforcement

Purpose of this element is rewards and compensation because of positive performance indicators. Armstrong believes that this element equals to concept of continuous improvement in organizational literature.

### Communication based on performance

In performance management system, existence of good communication is considered an element of good performance management system. This communication in organization can be vertical or horizontal.

Based on what was said, framework of performance measurement system can be demonstrated as bellow.

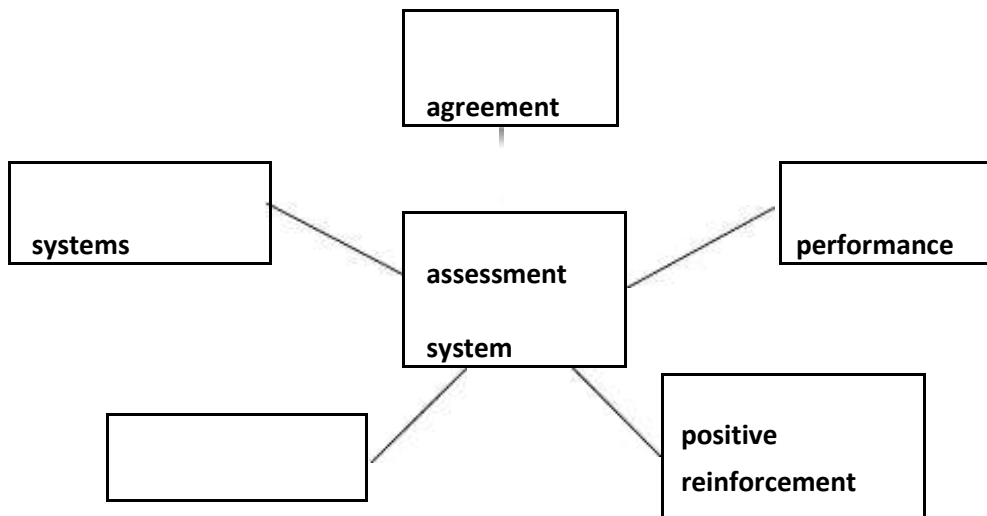
Based on what was said, Armstrong has summarized his model in 4 elements: performance agreement, personnel development planning, performance review, and performance.

The Performance agreement: which defines expectations – what individuals have to achieve in the form of objectives, how performance will be measured and the competences needed to deliver the required results.

The personal development plan: which sets out the actions people should take to develop their knowledge and skills and increase their levels of competence.

Performance review: which is the formal evaluation stage when a review of performance over a period takes place covering achievements, progress and problems as the basis for the next part of the continuous cycle – a revised performance agreement and performance improvement and personal development plans. It can also lead to performance ratings.

Performance: monitoring performance and orientation of organization toward performance plans and importance of performance management among managers.



Regarding this model, we can develop the hypotheses:

**Main hypothesis: performance management in Hasheminejad Hospital is not in good state.**

**Sub hypotheses:**

Performance agreements in Hasheminejad Hospital are not in good state.

Personnel development plan in Hasheminejad Hospital is not in good state.

Performance in Hasheminejad Hospital is not in good state.

Performance review in Hasheminejad Hospital is not in good state.

## 2. RESEARCH METHOD

This study can be considered a descriptive-survey research based on method of data gathering. Statistical population in this study is all of managers and personnel in Hasheminejad Hospital that include 310 persons. **Method of sampling is simple random sampling. According to Cochran’s formula sample size is 172.**

To examine performance management, researchers used questionnaire. This questionnaire was designed **based on Armstrong’s model and was** developed after asking experts and examining its validity. Table 1 illustrates concepts of questionnaire.

To examine reliability of questionnaire **the researchers used Cronbach’s alpha. The alpha was calculated** for elements: performance management 0.789; performance agreement 0.881; personnel development plan 0.792; performance review; 0.721; and performance 0.846. If calculated alpha is bigger than 0.7, reliability of questionnaire is acceptable.

## 3. DATA ANALYSIS

Research hypothesis can be examined by T test. Before running T test the Kolmogorov- Smirnov test showed that statistical distribution of data is normal. Table 2 show the result of T test.

**Table 2. T Test the Kolmogorov- Smirnov**

Variable	T statistic	Degree of freedom	Significance level	Difference of averages	Upper limit	Lower limit	Result
Performance management	-30.624	210	0	-1.239	-1.12	-1.01	H0 Reject
Performance agreements	-30.921	210	0	-1.252	-1.33	-1.17	H0 Reject
Personnel development planning	-25.254	210	0	-1.222	-1.02	-0.89	H0 Reject
performance	-23.093	210	0	-1.269	-1.38	-1.16	H0 Reject
Performance review	-25.392	210	0	-1.213	-1.11	-0.91	H0 Reject

*Source: Author*

Performance management is not in good state in Hasheminejad Hospital.

Value of this variable is low. In table 1 level of significance was calculated less than 0.0001. This means performance management is not in middle state (the average is not around 4).

To determine this impact is high or low we should refer to upper and lower limits. As shown in table these limits are negative. So we can conclude that performance management in Hasheminejad Hospital is not in good state.

The second row in table shows significance level 0.000. to be more accurate, this element is not in middle state (average is not4).

To determine this impact is high or low we should refer to upper and lower limits. As shown in table these limits are negative. So we can conclude that performance agreement in Hasheminejad Hospital is not in good state.

Personnel development plan in Hsheminejad Hospital is not in good state.

The third row in table shows significance level 0.000. to be more accurate, this element is not in middle state (average is not4).

To determine this impact is high or low we should refer to upper and lower limits. As shown in table these limits are negative. So we can conclude that personnel development plan in Hasheminejad Hospital is not in good state.

Performance in Hsheminejad Hospital is not in good state.

The forth row in table shows significance level 0.000. to be more accurate, this element is not in middle state (average is not4).

To determine this impact is high or low we should refer to upper and lower limits. As shown in table these limits are negative. So we can conclude that personnel development plan in Hasheminejad Hospital is not in good state.

Performance review in Hsheminejad Hospital is not in good state.

The fifth row in table shows significance level 0.000. to be more accurate, this element is not in middle state (average is not4).

To determine this impact is high or low we should refer to upper and lower limits. As shown in table these limits are negative. So we can conclude that personnel development plan in Hasheminejad Hospital is not in good state.

#### 4. CONCLUSION

Hospitals and medical institutions have confronted the problem that how assess organization performance and witch financial and nonfinancial elements in their assessment. This problem is studied in this research and tried to present proper framework to examine performance management in Hasheminejad Hospital. As noted earlier, main objective of this research was to examine performance management in Hasheminejad Hospital. Therefore, the research was designed and performed to meet the objectives.

This study can be considered as one of numerous researches in performance management field. By **reviewing literature was found that a few researches have done based on Armstrong's model. Considering** results of the research following suggestions can be offered.

Using T test main hypothesis proved that performance management in Hasheminejad Hospital is not in good state. Hence, its suggested that performance management in Hasheminejad Hospital can improved by improving its elements.

To improve performance through performance agreements.

Personnel development plans can impact on effective performance management.

Pay more attention to monitor performance.

Try to improve performance review.

Note that this study had limitations that will discussed next.

Number of statistical population was a limitation. More Hospitals could be examined but lack of enough time hindered researchers. Opinions of personnel could be analyzed based on their educations. This could show opinion of personnel based on their education and specialization. But it was avoided to limit research. Next limitation is studying ideas of managers in medical area. Reviewing the research using their ideas and comments could lead to better results.

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# INVESTIGATING THE EFFECT OF BRAND EQUITY, BRAND EXPERIENCE, BRAND SATISFACTION AND BRAND TRUST ON CUSTOMER BRAND LOYALTY IN CUSTOMER OF BAHMAN MOTOR COMPANY

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## Abstract

*Customer loyalty to the brand can increase the firm's market share and market share and profitability are closely related to the rate of return on investment. Customer loyalty to the brand would strengthen the company in response to competitive threats, make sales and earn more and reduce the sensitivity of customers to competitors marketing efforts. The study aim was investigating the effect of brand equity, brand experience, brand satisfaction and brand trust on loyalty to the brand. The population of this research was customer of Bahman Motor Company in East Azerbaijan province that available sampling was used. A standard questionnaire is measuring variables. To test the hypotheses, correlation and regression tests and the results showed that brand equity, brand experience, brand satisfaction and brand trust has a positive effect on brand loyalty customers on Bahman Motor Company.*

JEL classification: M31, D12, D18

**Keywords:** brand equity, brand experience, brand satisfaction, brand trust, brand loyalty

## 1. INTRODUCTION

Development of the relationship between customer - brand in recent years increasingly been the focus of attention. Brand as a mechanism of interaction between the buyer-seller in the long-term relationship acts (Shaheen et al., 2011; Davis et al 2000) Strong brands, both for the organization and for its customers many advantages, strong brand names, perceived risk and reduce research costs for customers and also increases brand loyalty and a strong social identity is shaped (Shaheen et al., 2011). Brand a company as a marketing tool, plays an important role in companies and organizations, because strong brands increase trust in products and enable customers to better visuals and more tangible to them (Barry, 2000, Voeth and Herbst, 2008). According to Kotler and Keller (2006), brand "name, term, symbol, emblem or design or a combination of them, which tends to identify the goods or services of one seller or group of sellers and to differentiate them from the competition **showed**". The main asset of many businesses is their brand because the brand makes, consumer products and services for their special commitment do not recognize (Wilson and Gslyng, 2005). When your character or idea of a consumer brand with consistent, or when a unique brand and provide satisfying benefits, extend brand loyalty. The word loyalty, concepts like loyalty and obedience. However, when the discussion of the relationship between a brand and customer loyalty is the concept, it is believed that this loyalty if there sensational in the minds of consumers. Even today's savvy consumers demanding and some brands feel closer and more interest. The degree of connectivity between consumer and brand loyalty to the brand, which measures brand value forms the basis and by a variety of factors such as experience, detection, identification and perceived quality, is created. Knowing

the customers, a lot of research on what level of loyalty of any brand are marketing programs that include customer retention and helps to attract new customers is also developing a way to be more effective.

## 2. A REVIEW OF THE LITERATURE AND RESEARCH HYPOTHESES

### Brand equity

Over the past few decades, the brand concept is widely accepted as one of the principles of marketing (Kotler, Bevin and Makynz, 2013). The main purpose of brand strategy to create brand equity in the products and services offered. In order to gain strategic advantage for the construction, maintenance and use of the brand has attracted the attention of researchers and experts (Van Chua et al., 2016). There are different views on the value of brand equity (Keeler, 2003, Van Chua et al., 2016). This concept can be seen from the manufacturer, examined the retailer and the customer. While manufacturers and retailers to strategic functions tend to brand equity, investors are focusing more financial sense (Soltani et al., 2013). Defenders financial brand equity as the value of the brand express when sold or balance sheet Added an asset individually considered (Javadein and Shams, 2007).

Keeler (2004) brand equity of checks from a customer perspective, to have a brand value, should the customer be valued. In this way, the power of the brand is what customers towards the brand over time and experiences learned, felt, seen or heard lies (Soltani et al., 2013). A strong brand can be the most valuable asset of an organization, because it creates more profit margins, way better cooperation and also other advantages to be gained (Olsen, 2008). Brand equity can be found in all different assets used in parts of a brand, such as measuring brand performance in the past and predict the future performance (Peak et al., 2010). Brand equity is a complex phenomenon and it is seen from different perspectives (Tyrgan et al., 2005). According to Aaker (1991) brand equity, "a series of five groups of assets and liabilities that are linked to the name brand icon and the value of a product or service to a consumer or company added it or reduces it (Sardari et al., 2014). Acker (1991) argues that brand equity is a multi-dimensional concept of brand loyalty, brand awareness, perceived quality, and brand association.

In short: With regard to the stated hypotheses to be formulated as follows:

**Hypothesis 1:** brand equity influence on the previous experience of buying.

**Hypothesis 2:** brand equity influence on brand satisfaction.

**Hypothesis 3:** brand equity has an impact on brand trust.

**Hypothesis 4:** brand equity has an impact on brand loyalty.

### Brand experience:

Brand experience, consumers with a brand encounters (Line, 2015). Brand experience means a reaction language, internal (feeling, emotion, cognition) brand and customer behavior to stimuli.

This includes design, packaging, brand identity and concepts of this kind (Ivens, 2010, Shaheen et al., 2011).

Encompassing brand experience customer experience than the emotional aspects of experience, location, symbolic and non-utilitarian (Zarantonello and Schmitt, Holton, 2011).

Brand experience is created when consumers speak with others about the brand, looking for information, advertising and brand events and ... (Mohed Nadzary et al., 2016)

Brax et al (2009), brand experience suggests that a multi-dimensional structure of the customer resulting from exposure to stimuli associated with the brand.

According to them, this structure consists of sensory, emotional, cognitive, behavioral and social.

After therapy on the senses of touch, taste, smell and sight emphasized. Emotional dimension refers to the emotions and inner feelings consumers (Reesi Fard et al., 2013)



Conceptualization and development of criteria for understanding and managing the brand experience and brand loyalty is also important concepts (Borakos et al., 2009)

Brand experience can be positive or negative effects, short-term or long-term is, moreover, can be satisfying brand experience and brand loyalty and brand trust to lead (Ha and Perkes, 2005)

With regard to the issues raised, the following hypotheses can be formulated as follows:

**Hypothesis 5:** brand experience has an impact on the brand satisfaction

**Hypothesis 6:** brand experience brand has an impact on brand trust.

**Hypothesis 7:** brand experience has an impact on brand loyalty.

### **Brand satisfaction**

Satisfaction as an emotional response to the situation of purchase is defined (Bennett et al., 2005). Consent means the positive attitude of consumers as a result of the evaluation of the consumer experience of a particular product. Customer satisfaction, brand loyalty is a prerequisite (Ersis, 2015). Satisfaction comes when a person sees fulfilled the expectations of a brand (Ebrahimi et al., 2014). Satisfaction, loyalty is a necessary component, but it is not enough (Agustin and Singh, 2005). Satisfaction is examined from two perspectives, the first approach, brand loyalty based on the customer's brand attitude and mental state measure, based on this approach, loyalty from both cognitive and attitudinal checked. In the cognitive aspect, the customer's perspective to buy checked. The attitude of the brand preferences of the customer in the purchase process notes. In the second approach, which is more common to measure loyalty, brand loyalty through aspects such as repeat purchase behavior or operation check and the possibility of buying measured (Ebrahimi et al., 2014). Brand is one of the determinants of satisfaction with the brand. In summary, according to the cases mentioned, the following hypothesis is formulated as follows:

**Hypothesis 8:** brand satisfaction has a positive effect on brand loyalty.

### **Brand trust**

Brand trust is confidence in the market for all activities that are reliable if the person is unable to touch it, therefore, it can be a symbol of quality and guarantee stated in creating quality (Barrett et al., 2005). Trust as a prerequisite of marketing services to maintain customer and business relationships between known. Customers often before the actual experience of serving, decide to purchase (Shanks, 2011). Brand trust is gained from previous experiences and interactions, because its development is often a learning process over time are thought to be increasing. As a result of this knowledge and experience to the consumers towards the brand (Keeler, 1993). Trust can be as sure of one's beliefs that can rely on the seller or supplier to provide the services promised (Agustin and Singh, 2005).

Brand trust has two dimensions, the first dimension is brand trust, reliability which has a technical nature or jurisdiction based on the ability and willingness to deliver and meet the needs of consumers.

The second dimension is a good attitude towards the brand in relation to the interests and welfare of consumers (Delgado et al., 2003, Shaheen et al., 2011). Confidence in the brand relationship with consumers is essential (Sultan and Qolas, 2000), consumers, to trust a brand based on positive beliefs about their expectations for corporate behavior and product performance show (Ashley and Leonard, 2009). Trust represents the cumulative effects over time which leads to loyalty to (Chiu Dorg, 2006).

According to the reference, the following hypothesis is formulated:

**Hypothesis 9:** brand trust has a positive effect on brand loyalty.

### **Brand loyalty**

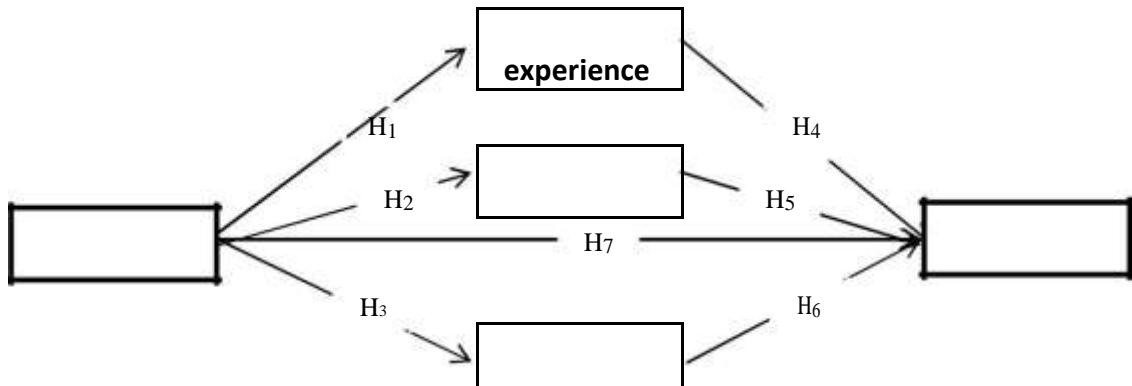
Positive attitudinal loyalty to a product which is caused by the frequent use of it because it's the psychological processes can be represented. In other words, repeat purchase is not merely a voluntary reaction, but rather the result of mental, emotional and norm (Miller, 2006).

Brand loyalty, brand management is the final destination and if the company wants to know if the product is still favorable compared to other competitors, you can measure the level of customer loyalty to be achieved this purpose (Aivanshtzki et al., 2006).

Customer brand loyalty, as long as that are frequently bought a brand and have a strong commitment to it (Arsis et al., 2012).

### Conceptual framework

According to the theoretical framework, conceptual model can be formulated as follows:



**Hypothesis 1:** brand equity influence on the previous experience of buying.

**Hypothesis 2:** brand equity influence on brand satisfaction.

**Hypothesis 3:** brand equity has an impact on brand trust.

**Hypothesis 4:** brand experience has an impact on brand loyalty.

**Hypothesis 5:** brand satisfaction has an impact on brand loyalty

**Hypothesis 6:** brand trust has an impact on brand loyalty

**Hypothesis 7:** brand equity has an impact on brand loyalty

### 3. RESEARCH METHODOLOGY

Study of the nature and gather information, descriptions and solidarity and the purpose is to focus on the relationship between brand equity, brand experience, brand satisfaction and brand trust on loyalty to the brand. The population of this research was customer of Bahman Motor Company in East Azerbaijan province that available sampling was used. The data available through standard questionnaires to randomly from among 196 clients were collected in Bahman Motor Company. Cochran has been selected on the basis of unlimited population sample and sampling was selected. In the present study to measure the variables under study questionnaires were used. The questionnaire included 32 questions about brand equity (Aaker, 1996)

12 questions about their experience (Shaheen et al., 2011); 9 question about satisfaction with the brand (Shaheen et al., 2011), 9 question about brand trust (Shaheen et al., 2011) and 13 question about brand loyalty (Shaheen et al., 2011) structures used by the whole five-item Likert (option 1 = strongly disagree and 5 = strongly agree options) is designed.

**Demographic characteristics:**

Questionnaire has been prepared in two parts; the first part includes demographic characteristics, including gender, age, education and marital status customers, the second part also contains questions related to test hypotheses that have been set in 5 episodes.

The demographic characteristics of the respondents were surveyed in Table 1 it has been shown:

**Table 1. Specification of subjects**

Variable		Frequency	Percent
Gender	Male	158	80.6
	Female	38	19.4
Education	Lower Diploma	34	17.3
	Diploma	43	21.9
	Associate Degree	19	9.7
	Bachelor	83	42.4
	Master's degree or higher	17	8.7
Age	Under 25 years	37	18.9
	25-35 years	61	31.1
	36-45 years	46	23.8
	46-55 years	20	10.2
	More than 55 years	32	16.3
Marital status	Married	124	63.3
	Single	72	36.7

Source: Author

**Validity of structures**

Factor model the expected outcomes, as measured by 75 indicators, as seen in Table 2, the index includes questions 1 to 32 on brand equity, questions 33 to 44 are experience, satisfaction from their 45-53; 54-62 brand trust and brand loyalty is 63-75. Standardized parameter estimates show due to the significant factor is that all indicators obtained that are greater than 96.1, statistically, the confidence level (0.05) are significant and again achieved high level (more than 0.5).

**Table 2. Factor analysis questions**

Brand loyalty	Brand trust	Brand satisfaction	Brand experience	Brand equity	No
				0.50	1
				0.73	2
				0.72	3
				0.62	4
				0.69	5
				0.57	6
				0.57	7
				0.66	8
				0.51	9
				0.71	10
				0.50	11
				0.79	12
				0.78	13
				0.58	14

Brand loyalty	Brand trust	Brand satisfaction	Brand experience	Brand equity	No
				0.55	15
				0.64	16
				0.71	17
				0.77	18
				0.56	19
				0.55	20
				0.52	21
				0.54	22
				0.54	23
				0.53	24
				0.64	25
				0.76	26
				0.72	27
				0.62	28
				0.63	29
				0.64	30
				0.70	31
				0.66	32
			0.66		33
			0.52		34
			0.87		35
			0.78		36
			0.54		37
			0.68		38
			0.57		39
			0.63		40
			0.87		41
			0.54		42
			0.52		43
			0.86		44
		0.64			45
		0.70			46
		0.78			47
		0.60			48
		0.88			49
		0.85			50
		0.61			51
		0.77			52
		0.77			53
	0.86				54
	0.68				55
	0.81				56
	0.88				57
	0.86				58
	0.74				59

Brand loyalty	Brand trust	Brand satisfaction	Brand experience	Brand equity	No
	0.64				60
	0.68				61
	0.54				62
0.67					63
0.82					64
0.71					65
0.78					66
0.68					67
0.59					68
0.57					69
0.91					70
0.61					71
0.58					72
0.61					73
0.62					74
0.59					75

Source: Author

**Correlation test**

After examining the mean and standard deviation of variables as well as the reliability (Cronbach's alpha) questionnaire, for testing correlation of variables, the correlation matrix outlining the results of which are shown in Table 3.

**Table 3. Mean, standard deviation, reliability and correlation analysis**

No	Variable	Average	Standard deviation	Reliability	1	2	3	4
1	Brand equity	3.62	0.523	0.916				
2	Brand experience	3.69	0.639	0.847	0.589			
3	Brand satisfaction	3.55	0.700	0.823	0.642	0.909		
4	Brand trust	3.55	0.690	0.861	0.539	0.627	0.719	
5	Brand loyalty	3.72	0.611	0.828	0.526	0.957	0.860	0.594

Source: Author

Based on the results from Table 3, the reliability of variables, respectively, 0.916, 0.847, 0.823, 0.861 and 0.828 so the question that was larger than 0.7 of adequate, the highest mean of brand loyalty (3.72). The correlation test showed that there was a significant relationship between them.

**Regression testing**

To test the hypotheses of five separate regressions through SPSS 17 software was used.

**Table 4: Regression testing hypotheses**

Hypothesis	Route 1 brand experience		Route 2 brand satisfaction		Route 3 brand trust		Route 4 Brand loyalty	
	Beta	sig	Beta	Sig	Beta	sig	Beta	Sig
Brand equity H <sub>1</sub> , H <sub>2</sub> , H <sub>3</sub> , H <sub>7</sub>	0.720	0.00	0.859	0.00	0.711	0.00	0.615	0.00
Brand	-	-	-	-	-	-	0.916	0.00

Hypothesis	Route 1 brand experience		Route 2 brand satisfaction		Route 3 brand trust		Route 4 Brand loyalty	
experience H <sub>4</sub>								
Brand satisfaction H <sub>5</sub>	-	-	-	-	-	-	0.751	0.00
Brand trust H <sub>6</sub>	-	-	-	-	-		0.527	0.00
R <sup>2</sup>	0.347		0.412		0.291		0.277	
F	103.14		136.18		79.53		74.20	

Source: Author

#### 4. RESEARCH FINDINGS

In reviewing the path 1 a brand equity as the independent variable and brand experience as the dependent variable was considered, logistic regression model showed that brand equity on brand experience affects ( $R^2 = .347$ ;  $F = 103.14$ ;  $sig = 0.000$ ).

The beta coefficient showed that brand equity increases brand experience is ( $Beta = .720$ ) Thus, the first hypothesis approved studies and research support. As a result, brand equity increases 0.720 unified brand experiences.

In examining the path 2, brand equity as the independent variable and the consent of the brand as the dependent variable was considered a regression model showed that brand equity on the consent of the impact ( $R^2 = .412$ ;  $F = 136.18$ ;  $sig = 0.000$ ).

Pre and post calving beta coefficient showed that brand equity increases the satisfaction of a brand is ( $Beta = .859$ ) Thus, we hypothesized case is confirmed. In the test path 3, brand equity as the independent variable and brand trust as the dependent variable was considered, logistic regression model showed that brand equity on the consent of the impact ( $R^2 = .291$ ;  $F = 79.53$ ;  $sig = 0.000$ ). The beta coefficient showed that brand equity increases confidence in the brand is ( $Beta = .711$ ) Thus, the third hypothesis is confirmed.

In tests the path 7, brand equity as the independent variable and brand loyalty as the dependent variable was considered a regression model showed that brand equity on brand loyalty affect ( $R^2 = .277$ ;  $F = 72.20$ ;  $sig = 0.000$ ).

The beta coefficient showed that brand equity increases brand loyalty is ( $Beta = .615$ ) Thus, seventh hypothesis is confirmed.

In case the path 4, brand experience as the independent variable and brand loyalty as the dependent variable was considered, logistic regression model showed that brand experience on brand loyalty affect ( $R^2 = .916$ ;  $F = 119.014$ ;  $sig = 0.000$ ).

The beta coefficient showed that brand experience increases brand loyalty is ( $Beta = .916$ ) Thus, fourth hypothesis is confirmed.

The test path 5, the consent of the brand as the independent variable and brand loyalty as the dependent variable was considered, logistic regression model showed that satisfaction with the brand on brand loyalty affect ( $R^2 = .740$ ;  $F = 551.718$ ;  $sig = 0.000$ ).

The beta coefficient showed that satisfaction with the brand, increase brand loyalty is ( $Beta = .751$ ) Thus, fifth hypothesis is confirmed.

In the test path 6, brand trust as the independent variable and brand loyalty as the dependent variable was considered, logistic regression model showed that brand trust on loyalty to the brand influence ( $R^2 = .353$ ;  $F = 105.853$ ;  $\text{sig} = 0.000$ ).

The beta coefficient showed that confidence in the brand, increase brand loyalty is ( $\text{Beta} = .615$ ) Thus, sixth hypothesis is confirmed.

Test research hypotheses showed that the brand experience has greatest impact on brand loyalty among customers of Bahman Motor Company.

## 5. CONCLUSION

In this paper, four variable brand equity, brand experience, brand satisfaction, brand trust was considered and what impact on brand loyalty among customers of Bahman Motor company, the results showed that all the four variables of brand equity, brand experience, brand satisfaction, brand trust have a positive impact on brand loyalty. On the other hand, the experience of the brand, brand satisfaction, brand trust has a positive effect on customer loyalty, thus improving customer loyalty increased. Loyalty is not something mysterious. Instead of asking loyalty incentives, we can go deeper layers and the concept of the unconscious. After this insight that can be applied to increase brand loyalty among customers. What marketing managers need specific knowledge of customer and respond to them in time for this would be the models that emphasize customer's brand equity and also create resources such as brand equity is the competitive advantage based on sustainability, in this regard, as well as improving the customer experience improve their Bahman Motor company following factors are among our customers, such as improving the quality of products, customer satisfaction, pricing, underwriting product advertising. Also, due to the positive impact of brand satisfaction to customer loyalty, it is suggested, with surveys of customers, with respect to their views known and provides products according to customer preferences. On the other hand, trust is the foundation of brand loyalty, so it is suggested, by responding to customers' expectations and fulfilling their expectations and promises made to customers, improve their confidence.

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# FACTORS AFFECTING THE INDUSTRIAL TOURISM (CASE STUDY: OIL REFINERY IN ABADAN AS A TOURISM AND INVESTMENT DESTINATION)

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## Abstract

*Nowadays, tourism is being considered as a progressing industry in many countries with growth faster than other economic sectors. Importance of this industry in economic and social development of countries is to an extent that economists have called it as "Invisible Export". Industrial tourism as one of the most important and special and also attractive branches of tourism industry has many fans. Main part of this tourism is possessed investors and program managers of investment companies, which follow their targets to identify profitable markets and complexes. In Iran, abundant tourism opportunities are available in this field, which have been less considered to the date. Macro management in tourism industry should identify these opportunities and use them in comprehensive tourism plan of Iran (n=36). Because of limited size of statistical population in the Abadan City oil industry Museum, all people are examined. Data collection instrument in this study is questionnaire. For purpose of data analysis, one-sample t-test is used in SPSS software. The results obtained from this study show that attracting investors to the project of Abadan Oil Industry Museum can naturally lead to development of industrial tourism in this zone. At the end of the research, some solutions and suggestions are presented for purpose of development of industrial tourism.*

JEL classification: L72, O25, L83

**Keywords:** tourism, industrial tourism, industrial tour, Abadan Oil Refinery, SPSS software development

## 1. INTRODUCTION

Over the decades, tourism has had considerable growth across the world, so that tourism is rapidly being changed into the greatest industry of the world. Moreover, the advancements gained in transportation system and information communication technology (ICT) have paved the way more than before to facilitate travelling and people access to far and unknown places. With the growth of this industry and possibility of interaction of people and societies with each other in context of tourism, some fields are provided for familiarity of nations with other cultures and gaining information about the way of thinking, beliefs, values and traditions of other nations. Hence, it is hope that peace could be provided among nations soon (Jahanian Nadalipoor, 2009).

At the current age, sustainable development has been considered as an important issue and Iran has also paid special attention to achievement to it. However, increase in oil price has made the economic system of Iran dependent on oil more than before and the revenue gained by oil Industry may be capable to meet current needs of the society, but it can't meet needs of next generations undoubtedly. On the other hand, Iran has many problems with the issue of employment and job and it seems that tourism as a complicated industry with wide dimensions can be a good way to meet the problems.

Tourism has been considered as a priority in agenda of Arvand Free Zone planners for more investment and prosperity of capital and labor market of the region. Also, the planners tend to use tourism in this zone to develop it.

## 2. PROBLEM STATEMENT

It should be noted that the process of tourism is formed in a context named society and is being constantly changed through following the context. Hence, survival and sustainability of product (attractions of the zone including investment and gaining investment) is impossible without identification of motivation and attraction factors in target markets. The researches should tend to identify the motivation of tourists, destination features, and type of trip, demographic, social, cultural and economic features of tourists.

Travelers and the tourists travel with various purposes and incentives. Tourism destinations – target markets – include elements combined to encourage tourists to get residence in a place. Brilliant attractions, existing monuments, type of architecture remained from presence of other nations in a zone, supply services, positive conditions dominated on the environment, climate and culture are the main factors attracting tourists in tourism destinations. However, in addition to these factors, considering incentives of tourists and providing tangible and intangible facilities required, comfort of travel, expansion of roads and paths, security, calmness, freedom and health and hygiene are the main marketing indices in target markets.

In individual terms, mental and physical security and self-actualization conditions and in social terms, use of favorable social policies, gaining public participations (in light of respecting individual freedom and originality of cultures), recognition and respect and mutual understanding of behaviors are the most important infrastructures of sustainability of tourism markets.

## 2. LITERATURE REVIEW

Qaderi I et al (2011) have conducted a study under the title of "The place policies and programs of development of tourism in Qeshm Free Zone" and have found that proper understanding of infrastructures is an essential issue and in most countries with successful free trade zones, the government first provides required infrastructures for activities of free zones and then, it compensates the expenditures and budget deficit using the revenue gained from exports and commodity processing in these zones. However, this process is reverse in Iran.

Ebrahimzadeh E et al (2010), has conducted a study to investigate the impact of Chabahar Free Zone on tourism development in the sphere of its influence using regression models and test T-test and has found that Chabahar Free Trade Zone has not been so successful in this field, so that the components of marine transport, advertising and marketing, health tourism services, entertainment and cultural facilities have the most negative impact and factors such as infrastructures related to gas, phone and management have the lowest negative impact on this field and the failure. To solve the shortcomings, factors such as development of advertisement and marketing, rail transportation, infrastructures related to wastewater and other factors and also, evolution in tourism management system and orientation towards unit and comprehensive community with the participation of native people in all steps can be helpful in this field and can have the most impact on development of tourism in Chabahar.

Rezvani, MR and Salah, HR (2011), have studied the role of free economic-industrial zones in the development of tourism in the Persian Gulf. The results obtained from the descriptive-analytical research showed that free zones can attract tourists and also can lead to development of tourism in a zone because of special conditions, access to international market and technology transfer. If tourism is considered as a goal in these zones, it can lead to development of tourism.

Nafezi Alamdari, MS (2011) has conducted a research to identify opportunities of tourism businesses in Aras Free Zone. In this descriptive study, it was found that job opportunities in field of health, trade, culture, residence, tourism and public transportation have gained highest to lowest ranks in terms of prediction of scholars. Among the job opportunities available in this zone, the highest ranks in terms of job opportunities are gained respectively by Arasbaran Forest, Kental Zone, Asiab Watershed and Stepanos Custom Church. Kamran H (2002) has conducted a study under the title of "the causes of underdevelopment of free zones of Iran" and found that this important issue has not been realized in Iran's Free Zones yet and on the contrary, import strategy has been replaced instead of it and has damaged

domestic industries, especially small industries. If free trade zones want to be successful in Islamic Republic of Iran, appropriate localization should be provided and the regulations should be observed.

Bagheri M et al (2012) have conducted a study under the title "assessing barriers to the development of tourism in the free trade zones using the SWOT model (case study: island)". They found that there is significant correlation between tourism development in this zone and advertisements. Also, in addition to assess the existing status and identify regional problems, some suggestions and solutions are provided.

## **2.1. RESEARCH PURPOSES**

The main purpose of this study is to investigate factors affecting attraction of industrial tourists to Abadan Oil Refinery as a tourism and investment destination.

1. Assessment of solutions for development of tourism in this zone due to capabilities of Abadan Oil Refinery.
2. Helping consideration of different types of tourism providing conditions to attract tourists.

### **Research hypotheses**

Hypotheses of the research are as follows:

1. It seems that there is significant correlation between attracting investment in Abadan Oil Industry Museums and development of industrial tourism.
2. It seems that there is significant correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities.
3. It seems that there is significant correlation between potentials of Abadan Oil Refinery and development of industrial tourism.

## **2.2. THEORETICAL FRAMEWORK**

According to the definition of World Tourism Organization (UNWTO) as the most well-known and the largest world organization active in field of travel and tourism, "Tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes."

Nowadays, tourism industry is considered as one of the most important and various industries of the world and has been developed with accelerated growth rate and has become income source for many governments and is currently being considered as the most expanded service industry of the world. Tourism plays vital role in World Economy and is a multidimensional activity and is called as "the most hopeful industry in third world countries" (Lee, 1999: 1).

The main purpose of tourists by traveling to different points of the world is taking benefit of attractions latent in these destinations. The more the tourists are interested in using the products of the destinations, the more the destinations try to enter to market through taking required measures. Construction of appropriate access roads, supplying residential facilities, food and security, training experiences leaders, development of hospitality culture among people and local firms and creating required infrastructures to construct tourism facilities are considered in this field.

Azkiya and Ghaffari (2002) have defined development as reduction of poverty, unemployment, inequality, more industrialization, better communications, creating social order based on justice and increasing public participation in current affairs.

Jomea Pour, M. (2005) has also defined development as attempting to have better life, equality and enhancement of quantitative and qualitative (material and spiritual) level. 3 fundamental interpretations related to development include economic growth, considering living criteria (reduction of poverty, revenue, food, life expectancy, education, job and housing) and potential capabilities and human talents. Development in macro and micro scale includes fundamental changes in the society in different dimensions including political, cultural, social, economic, industrial, managerial and agricultural

dimensions and any kind of planning for development should consider all of these dimensions (Paply Yazdi Ebrahimi, 2007).

Tourism is a complicated system affecting different dimensions of human life including social, cultural, economic, political, environmental and functional dimensions (both urban and rural areas). In fact, tourism is the industry of production and consumption and its development has always helped enhancement of employment and national revenue and has led to creation of demand for many products and services. Also, tourism is a resource to gain exchange and transfer capital and revenue from a zone to another with main portion in cultural exchanges, social growth and national agreement and has been recently considered by most countries of the world as a profitable industry with full exchange revenue (Dehestani, 2004: 25).

### 2.3. METHODOLOGY

As this study has investigated the strategies for development of tourism in Oil Industry Museum, it is applied research in terms of purpose and is also a descriptive-survey research and the data collection is done directly in person.

#### Introducing Abadan

According to historians and geography experts, Abadan has been important just because of shipping and journey. Clearly, the city was located in a barren ground (Sabkhah) according to some ancestors like Ibn Batutah (1377) and also, according to Ibn Jazi (quoted by Ibn Batutah), there was no rainfall in this land and no successful agricultural activity was existed. The statements of Lestrangle (p.49) and apparently, encyclopedia of Iran and Islam and Iranica about 441.000dinars as tax salary is wrong for 3 reasons:

First, the claims of this source according to Nezha Al-qolob Hamdollah Mostofi is not coordinated with the statements in this book. Mostofi has said about description of Basra: "there are many villages in Basra and the most important villages include Belas, zakiyah and Misan and Ebadadan (Abadan), which no place is higher than it". The court salary of Basra and Velayat was equal to 44toman and 1000dinars (p.40). In this report, the discussion is only on court salary of Basra and not taxes of Abadan giving to Basra.

Second, Mostofi reminds court salary of each city and village at the end of describing each of them. Hence, it is hardly possible that while talking of court salaries of each city and village, he reminds nothing of Basra.

Third, according to similar tax level of cities and villages and even larger than Ebadan, tax rate to 441000dinars by village or small city like Ebadan seems unreasonable, since the court salary of no one of these cities and villages reaches even to 100000dinars.

Additionally, it is clear from the evidences that Abadan has not been big city like big cities of that time.

The author of Hodud Al-Alam has called it as a small city and described Abadan on sea that all Ebadan fences and Samanid fences are raised from there and the salt of Basra and Vaset are raised from there (p.152). Shamsedin Mohammad Ansari (1327) has called Abadan as the last village in seashore (p.154); Ibn Batutah has called it as "a large village" (p.189) and Ibn Houghel has called it as "small rural castle in seashore" (p.6).

Geographers of past times have mentioned that city of Abadan is located in the end point of northwest of Persian Gulf and the place of join of Dejlal branches and the point that they pour in the sea (Ibn Khaldoun, 1/104) and beyond it, there is no village after the sea. Also, the adverb "there is village after Abadan" (Manuchehri) confirms this issue. However, as a result of high volume of sediments in the rivers and expansion of Arvandrood, Abadan that was far from coast to 3miles in time of Ibn Batutah today is located in ending point of northwest of Persian Gulf.

Some ancestors have attributed the construction of Abadan to Ardeshir, successor of Esfandiar Bin Gashtasp constructed beside Dejlal (Fakhr Modaber, 9) in the village of Kurah Bahman Ardeshir (Masudi, 35) or the current Bahmanshir.

The fame of Abadan in the early centuries A.H has been mainly depended on various ligaments, monasteries and mosques and also because of shrine attributed to Khizr and Elyas around Bahmanshir.

Ibn Batutah has described the story of meeting a wise pious in one of these monasteries (p.199-200). The shrine of Khizr is remained there to the date and because of this shrine, Abadan has been recently known as "Jazirat Al-Khizr" (Islamd of Khizr) among Arab people. Yaqoot has named some famous ascetics and narrators and has attributed them to Abadan. Abadan was gradually destroyed after 14<sup>th</sup> century and especially as a result of progress of its borders to the sea and as a result of extension of Basra and Khoramshahr, the city lost even the little business credit and was changed into a small village.

### **Studied population and sample**

Statistical population in this study consists of 36 experts working in Abadan Oil Industry Museums.

## **3. DATA COLLECTION METHOD**

Library method: in order to create scientific and rational backup, library study is used to collect theoretical framework of tourism and ecotourism and the data related to Arvand Free Trade Zone.

Questionnaire: in order to investigate the strategies of development of tourism in Abadan Oil Industry City Museums in this study, a researcher-made questionnaire is used containing closed items. And the questionnaire is arranged based on Likert scale.

The first step to provide Likert Scale is collection of some sentences about an issue. In this field, one can use sentences indicating belief of considerable number of people. It is important that each of these sentences could express desirability or undesirability level from such special point of view. Also, number of the desirable and undesirable sentences should be also equal. Second step is to consider a point for each answer (Sharifi, taleghani, 1992: 238).

### **Validity and reliability of measurement instrument**

Validity refers to this issue that a study or a series of questions should measure same issue considered in the study. In fact, validity or invalidity of an item don't return to the item, but also returns to its application to measure desired concept. Hence, validity of items is also depended on the way of operational definition of relevant concepts (Dewas, 1997: 63).

In order to make sure of validity of the questionnaire, all items were given to 5 experiences professors to leave their comments in field of each question in frame of one of the 5 pints of totally inadequate, relatively adequate, adequate and totally adequate. Hence, validity of the questionnaire was obtained to 92%.

Reliability refers to this issue that the concepts used in a question should have such unit level of explicitness and objectivity that can have common meaning and content for all respondents (Dewas, 1997: 63). To determine reliability of the questionnaire, retest is used. then, Spearman correlation coefficient is used (with varying range of 0-1) and the reliability is obtained to 94%.

## **3.1. DATA ANALYSIS METHOD**

In this study, after collection of questionnaires and extraction of responses to change the initial data obtained from questionnaires to applicable mode using SPSS software and entering the data in it, descriptive statistics are extracted through classification of information including changing the classified data to frequency and frequency percent tables, ratio and mean values and using tables and diagrams to show the research data. Moreover, one-sample t-test is used to test the hypotheses.

### **Results**

Hypothesis 1: It seems that there is significant correlation between attracting investment in Abadan Oil Industry Museums and development of industrial tourism.

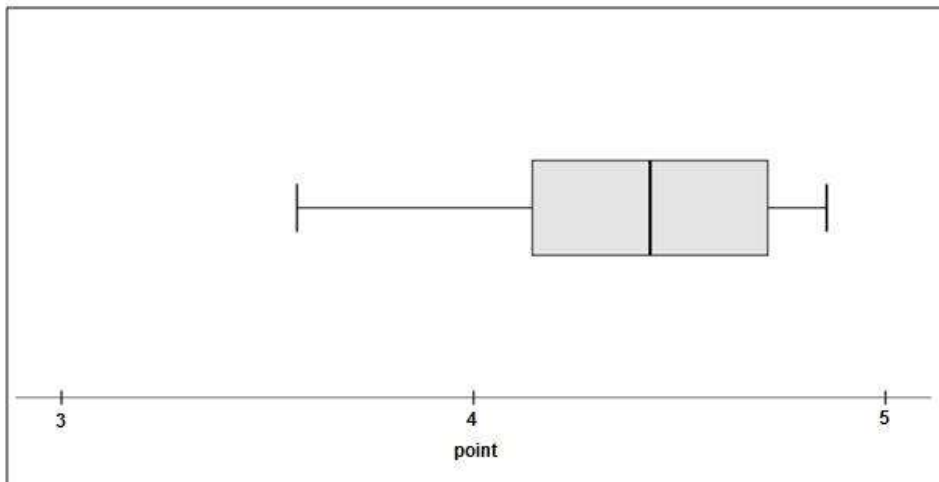
This hypothesis contains 7 items of the questionnaire. Considering variable score (mean value of 7 items), among 33 samples, the correlation between attracting investment in the Abadan Oil Industry City Museums and development of industrial tourism has been in high level according to 19 people (57.6%) and has been in very high level in according to 14 people (42.4%). Moreover, in the box plot, according to median level (the dash inside box), the range between box length and range of variances (box handles), and distribution of opinions of experts is considered in regard with the correlation between attraction of investment in the project of Abadan Oil Industry Museum and development of tourism (Figure 1).

Now, using one-sample t-test, mean value of opinions of experts about the correlation between attracting investment in the Abadan Oil Industry Museums and development of tourism is compared with desired value (>3.5). Considering calculated mean value (4.37) and as p-value (0.000) is below 0.05; the H0 (H0:  $\mu \leq 3.5$ ) is rejected and it means that mean value of opinion of experts is higher than 3.5 and as a result, it seems that there is significant correlation between attracting investment in Abadan Oil Industry Museums and development of industrial tourism (table 1).

**Table 1: t-Test to compare mean value of opinions of experts about the correlation between attracting investment in Abadan Oil Industry Museums and development of industrial tourism with mean value of 3.5 (source: research findings)**

Mean	SD	Mean diff	df	T	P
4.372	0.391	0.872	32	12.811	0.000

Source: Author



**Figure 1: Diagram of distribution of opinions of experts about the correlation between attracting investment in Abadan Oil Industry Museums and development of industrial tourism**

Hypothesis 2: It seems that there is significant correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities.

The hypothesis contains 6 items of the questionnaire. Considering variable score (mean value of 6 items), among 33 samples, the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities has been in average level according to 1 person (3.0%), in high level according to 21 people (66.6%) and in very high level according to 11 people (33.3%). Moreover, in the box plot, according to median level, the range between box length and range of variances and outliers (rounded points); distribution of opinions of experts is observed in regard with the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities (Figure 2).

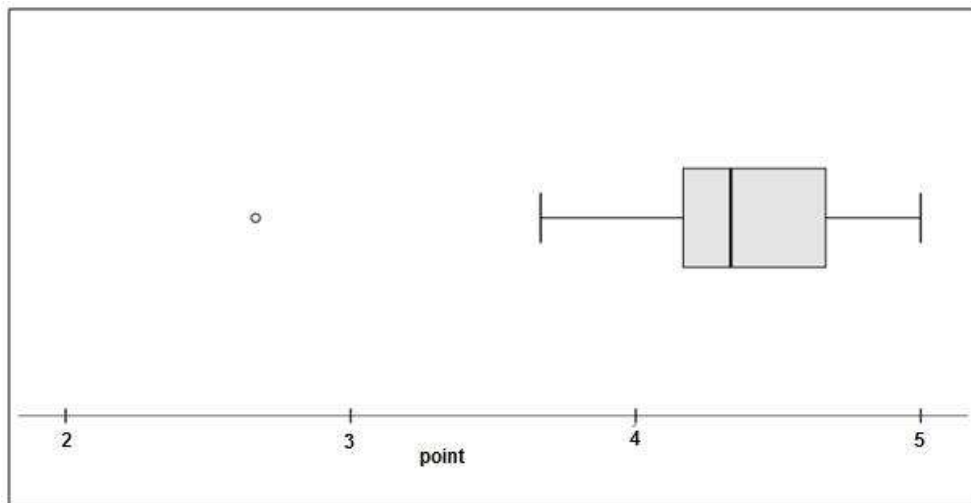
Now, using one-sample t-test, mean value of opinions of experts about the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities is compared with desired

value (>3.5). Considering calculated mean value (4.39) and as p-value (0.000) is below 0.05; the H0 (H0:  $\mu \leq 3.5$ ) is rejected and it means that mean value of opinion of experts is higher than 3.5 and as a result, it seems that there is significant correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities (table 2).

**Table 2: t-test to compare mean value of opinions of experts about the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities with mean value of 3.5 (source: research findings)**

Mean	SD	Mean diff	df	T	P
4.389	0.440	0.889	32	11.597	0.000

Source: Author



**Figure 2: diagram of distribution of opinions of experts about the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities**

**Hypothesis 3:** It seems that there is significant correlation between potentials of Abadan Oil Refinery and development of industrial tourism.

The hypothesis contains 17 items of the questionnaire. Considering variable score (mean value of 17 items), among 33 samples, the correlation between potentials of Abadan Oil Refinery and development of industrial tourism has been in average level according to 1 person (3.0%), in high level according to 25 people (75.8%) and in very high level according to 7 people (21.2%). Moreover, in the box plot, according to median level, the range between box length and range of variances and outliers; distribution of opinions of experts is observed in regard with the correlation between potentials of Abadan Oil Refinery and development of industrial tourism (Figure 3).

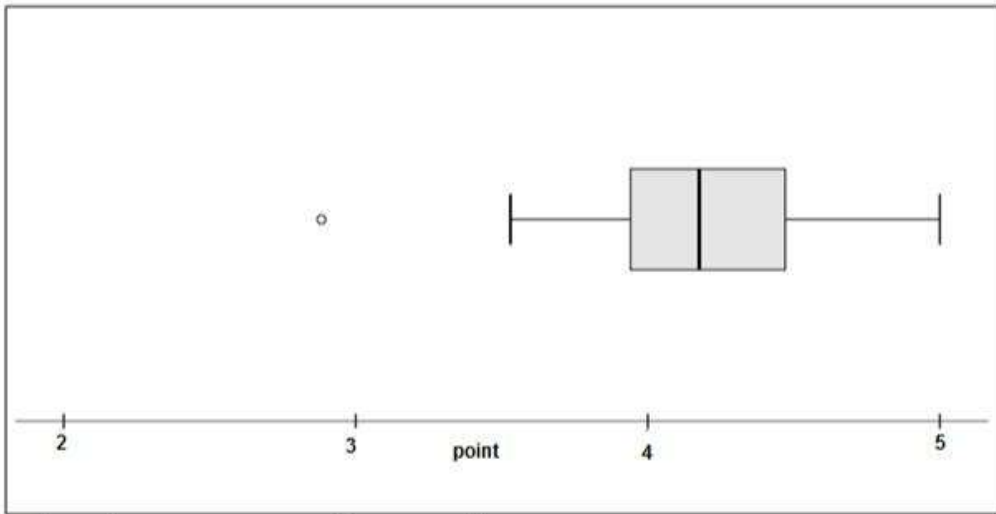
Now, using one-sample t-test, mean value of opinions of experts about the correlation between potentials of Abadan Oil Refinery and development of industrial tourism is compared with desired value (>3.5). Considering calculated mean value (4.16) and as p-value (0.000) is below 0.05; the H0 (H0:  $\mu \leq 3.5$ ) is rejected and it means that mean value of opinion of experts is higher than 3.5 and as a result, it seems that there is significant correlation between potentials of Abadan Oil Refinery and development of industrial tourism (table 3).

**Table 3: t-test to compare mean value of opinions of experts about the correlation between potentials of Abadan Oil Refinery and development of industrial tourism with mean value of 3.5 (source: research findings)**

Mean	SD	Mean diff	df	T	P
4.162	0.424	0.662	32	8.963	0.000

Source: Author





**Figure 3: diagram of distribution of opinions of experts about the correlation between potentials of Abadan Oil Refinery and development of industrial tourism**

#### 4. CONCLUSION

The main purpose of this study was to investigate factors affecting industrial tourism (case study: Abadan Oil Refinery as a tourism and investment destination) according to research hypotheses (private sector investment, infrastructures and welfare facilities and tourism potentials and capabilities).

The results obtained from the study show that in terms of frequency distribution of respondents based on gender, 66.7% of respondents are male and 33.3% are female. In terms of marital status, 75.8% are married and 24.2% are single and in terms of education level, 15.2% of respondents have post-diploma degree, 6.1% have BA degree, 45.5% have MA degree and 33.3% of respondents have PhD degree.

In terms of hypothesis 1 and considering variable value (mean value of 7 items), among 33 samples, the correlation between attracting investment in the Abadan Oil Industry City Museums and development of industrial tourism has been in high level according to 19 people (57.6%) and has been in very high level in according to 14 people (42.4%). Hence, it seems that there is significant correlation between attraction of investment in the project of Abadan Oil Industry Museum and development of tourism. One solution for development of tourism in the zone is introducing investment opportunities in this zone and advertising in national and international level for investors, which can play key role in attracting private sector investments in line with development of tourism.

In regard with hypothesis 2 and considering variable value (mean value of 6 items), among 33 samples, the correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities has been in average level according to 1 person (3.0%), in high level according to 21 people (66.6%) and in very high level according to 11 people (33.3%). As a result, it seems that there is significant correlation between infrastructures of Abadan Oil Refinery and welfare and residential facilities. Shahroki S et al (2012) have conducted a study under the title of "Factors affecting the development of tourism, free zones, using SWOT analysis case study of Qeshm Free Zone" and have assessed this hypothesis and the results obtained from their study are in consistence with the findings of the present study. According to this study, there are effective infrastructures at the zone, which still need providing required conditions for investment for improvement. Improvement of transportation facilities, hotels, residential places, healthcare and medical services are effective steps in this way. Although development of such infrastructures is time and cost consuming, it can provide comfort and welfare of tourists and increase quality of life and meet their expectations and provide required conditions for development of tourism and to attract tourists.

Finally, in regard with hypothesis 3 and considering variable value (mean value of 17 items), among 33 samples, the correlation between potentials of Abadan Oil Refinery and development of industrial tourism has been in average level according to 1 person (3.0%), in high level according to 25 people (75.8%) and in very high level according to 7 people (21.2%). As a result, it seems that there is significant correlation between potentials of Abadan Oil Refinery and development of industrial tourism. One requirement of tourism industry is existence of tourism potentials and attractions and the Oil Industry City Museums with such potentials can have significant development in types of tourism industry with a good and comprehensive plan. Considering each type of sport, health, natural, water entertainment, industrial, educational, city, business and rural tourisms is possible and can pave the way for attracting tourists and can pave the way for local people welfare, job creation and other advantages of tourism. According to lack of investment in such projects by public sector, industrial tourism has new nature in the country and the public sectors have no motivation to invest on such industry and may face fundamental challenges. Hence, there is tight relationship between presence of private sector investors due to freedom of action of this sector to attract tourists and attract capitals through this and development of industrial tourism; because in public sector, because of existing restrictions, this sector lacks required activity and mobility to accelerate completion of under-implementation projects of tourism industry.

It doesn't mean that public organizations have not been successful to develop the industry. In fact, private sector has the required mobility and has also sufficient experience to activate the industry; although public organizations are irrelevant to tourism industry in terms of nature and the public sector organizations lack required experience and reliability for such investments and have not the ability to take risks in this field. If losses are created as a result of investment in this industry, the losses would return directly to the managers of this sector and according to the mentioned, public sector can't act same as private sector in this field.

At least it is impossible to achieve such perspective in short-term; although existence of facilities, historical, sport, cultural and welfare facilities and documents in Abadan Oil Refinery in the zone as the origin of modernity in Iran like Abadan refinery docks and Akvan Crane can be the most effective instruments for success of Allies in World War II. Existence of Technical School as the third technical and professional education center of the world after England and America established in 1933 to provide required expert workforce is also another positive point. This was for the first time in Iran. After that in 1937, Razi High School as one of the cultural glories in Zone was established. The industry was established to train employees and after that, University of Oil Industry was established in 1939 after Tehran University to train experts and engineers to control facilities of refinery to provide required workforce. Due to this aspect, the distance of Iran to Casting Industries in source of UK technology and the costs of construction of casting workshop in Abadan Refinery could be an opportunity to eliminate additional costs by that time, which could be considered as the first industrial casting workshop in Iran.

Existence of metal metal-working and mold-making workshop and cemeteries remained from foreign nationals (Netherlands, UK, India, Pakistan, etc.) have also increased the potentials and capabilities of this zone according to dimensions of refinery docks and its potential capacities as an opportunity to create the largest Marine Museum Park of the history of Oil Industry in Iran and in international level as the border between Iran and Iraq.

The unique talents of this complex could be the houses belonged to officials of the country I Anex zone called under titles of "royal houses", "formality houses" and "special houses" as the residence for senior officials in Pahlavi Era, which can give more prosperity for tourism industry.

According to the documents in the history, approaches of Oil Industry workers in political, cultural and social fights resulting in historical evolutions in entire country could be considered as other potentials of the Abadan Oil City Museum to attract industrial tourism. These periods could be described as follows:

**First period:** construction of refinery and the training process of skilled and expert human resource and production

**Second period:** Oil Nationalization as a result of fights of South Oil Industry workers, especially Abadan Refinery, which could be recorded in the formal calendar of Iran, so that all people can perceive the position of iron men of oil industry and the industry can gain national and historical position

**Third period:** effective presence of oil industry workers in victory of Islamic Revolution in 1979, which can be a golden example of integrated cooperation of oil workers with other classes to adjudicate lost rights of Iranian people and in consistence with leader of Islamic Revolution (Imam Khomeini)

**Fourth period:** imposed war and its consequences for whole country of Iran, which could open new season in zone equations. Hence, paralysis of Oil Industry as the only revenue source in Iran that could gain budget could result in collapse of new emerged regime of Iran (Islamic Republic). If the efforts of men in oil industry to defend the country were fruitless and oil production were not conducted in oil fields to export oil to abroad, no weapon, equipment, medicine and wheat could be transited to Iran whether legally or through smuggling and this could result in failure of resistance of Iran Nation. The mission could possess new season in Imposed War whether from extraction of oil from depth of ground to exporting the oil by the Tankers of Oil Ministry. As the war of Oil Tankers, special attraction could be created for the historical, social and academic tourists. By that time, the consequences of war and attacks of enemies could be effective as Garden Museum of Holy Defense to attract tourists.

**Fifth period:** reconstruction, development and updating old equipment of Abadan with trained forces could be also caused by specialized and knowledge-based trainings institutionalized in the industry. Effective presence of these people could make them work with other experts in Refinery Industry after the war for reconstruction purpose and their day and night efforts in least time possible of 6 months and they could reconstruct the country in least time; although it was attacked by enemies for 1500 times (due to a narration) and this could challenge belief of all people around the world.

Needless to say, such reconstruction was not reaching to production ceiling, but it was a relief and a new birth created by the executive boards of Iran's Refinery with the domestic expertise and profession and no need to foreign countries due to the sanctions and no use of abroad knowledge for could return to production cycle of the country. Over the time, all forces, one after another, gather together in production axis and this was unbelievable for foreign nationals this time. Abadan Refinery has 2 types of technology in production (old technology of oil refinery and modern technology of crude oil refinery) and is one of the rare oil companies of the world working at the same time with two types of technologies. This issue is so important for people holding tourism of different points of the world and this can prove that abilities of every nation in terms of sociology are institutionalized in same nation and the nation can rely on its own potentials and also lead and maintain the technology that was outdated exactly like past decades.

#### 4.1. SUGGESTIONS

1. Direct correlation between Museum Projects and job creation is a bilateral correlation, since the more the industrial museums use attractive and beautiful elements to provide appropriate environment to have better perception of ancestors, the more the tourists and visitors would be attracted. The process happens when powerful companies with experienced and trained leaders are established to lead these tourists;
2. Other industries in this zone can use the created opportunities by the Oil Industry Museums to introduce their products in form of manual and promotional packages in industrial museums to attract tourists;
3. As Iran had no industrial technology in last times and industrial facilities were belonged to developed countries like England, Abadan Refinery has been one of the largest oil companies of the world in past century and has worldwide reputation and is also one of the establishments constructed by British Petroleum Company of UK and has led to political, social and cultural and economic prosperity of the zone. Currently, more than 100 years has passed from construction of this industry and the works remained from activities of B.P Foreign Company are still observable and this is attractive for foreign tourists and especially English, Indian and Pakistani and Burma, Bangladesh and Iraq tourists, which have been typically participated in development of this

industry in terms of knowledge, technology and workforce and left then this country and delivered the project to Iranian workers. Appropriate capacity for grandsons of these people and those who study history of their great grandparents through the world history and the current companies of the world can be effective to lead foreign tourists in this zone through stimulating their nostalgic emotions to see the performance of their great grandparents in one century ago

4. As the industry and industrial tourism is in direct relationship with investment, due to presence of different classes of industrial tourism (owners of industries could also attend), appropriate opportunity is created in field of introducing investment opportunities such as investment in field of export of sulfur extracted from oil derivatives of Abadan Oil refinery, which can create job for the zone;
5. Due to presence of different tourists in the project of industrial museums belonged to Oil Industry and through establishment of shops for cultural products, handicraft industries of the zone could be supplied to all tourists and visitors and this could be appropriate opportunity to introduce Abadan tourism zone;
6. According to the relationship between industry and university that was a strength of the industry and that the industry is fruit of experiences and academic performance of University and that the industrial museums can easily exhibit the academic evolutions led to development of industry over the past decades; the museums can also exhibit the outcomes of historical and social evolutions of human history tangibly;
7. Due to existence of different volumes remained from the industry existed as metal wastes in different areas of oil industry in Iran and are sold as waste materials, making statutes and different beautiful elements to create an exceptional space that is observed nowhere previously and that this city is an industrial city in the marine museum park can be significantly effective, since this place is a place for recreation and can create nice moments for industrial tourists of their times in Abadan.

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# THE IMPACT OF KEY INDICATORS OF RELATIONSHIP QUALITY ON COOPERATION, COORDINATION AND RELATIONSHIP CONTINUITY -NATIONAL IRANIAN SOUTH OIL COMPANY

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## Abstract

*It is evident that the performance of National Iranian South Oil Company in the production of oil and gas and Gross National Product is very important. Given the high impact of the quality of required products and materials on its performance, it is inevitable to attempt for creating sustainable relations based on recognizing the quality of the buyer-supplier relationship in order to reinforce the strengths and overcome the bottlenecks. In this regard, this research is to investigate the impact of key indicators of relationship quality (trust, commitment, satisfaction) on cooperation, coordination and relationship continuity in buyer-supplier relationship for the procurement of National Iranian South Oil Company domestic products purchase. This research is descriptive/survey and the sample size includes 66 industrial suppliers. The sampling error and confidence level are 0.05 and 95%, respectively. The data collected tool was a questionnaire consisting of 18 questions about trust, commitment, satisfaction, cooperation, coordination and continuity of the relationship extracted from the article by Rindle et al. published in the International Journal of Business Volume 7, Number 1, 2014. To analyze the data, descriptive and inferential statistics (single-sample T-test and Pearson correlation test) using SPSS software were used. Also, to analyze the relationships between hypotheses and research model, structural equation modeling, with the help of PLS software was used. The results show that trust on commitment, trust on satisfaction, and commitment on satisfaction have a significant positive impact. The positive and significant impact of satisfaction on three variables cooperation, coordination and continuity of relationship was confirmed.*

JEL classification: O24, L72

**Keywords:** *buyer-supplier relationships, relationship quality, trust, commitment, satisfaction, cooperation, coordination, continuity of relationship*

## 1. INTRODUCTION

Commitment, satisfaction and trust in the quality of the relationship have often been considered as key indicators. (Barry et al. 2008; Palmatier et al, 2006; Caceres and Pappas, 2007).

However, it seems that no consensus exists on the structural relationships between these variables (Ulaga and Eggert, 2006). In addition, there is no consensus over whether satisfaction is prior to trust and commitment or their output. Geyskens and Steenkamp (2000) and Moliner et al. (2007a, 2007b) argue that satisfaction is prior to trust and commitment.

Lack of consensus on the interrelationship of commitment, satisfaction and trust may be justified by the fact that previous researches have not adequate validity. Furthermore, the aim of this study was to test the findings of previous researches regarding the impact of trust and commitment on satisfaction, which leads

to the prediction of triple results (outputs), namely cooperation, coordination and continuity of relationship.

The main problem in this research is to investigate the impact of key indicators of relationship quality (trust, commitment, satisfaction) on cooperation, coordination and continuity in the buyer-supplier relationship for the procurement of domestic products purchase of National Iranian South Oil Company.

In this regard, due to increased competition among organizations, they are seeking to reduce costs and increase the quality of their products. Accordingly, they generally pay special attention to the product quality and coordination with customer requirements. That is why they seek to establish firm ties between suppliers and buyers. However, it should be noted that only establishing this connection does not matter, but more importantly, is the quality of this relationship under the buyer-supplier cooperation and coordination and ultimately the sustainability of this relationship. Relationship quality is achieved when trust, commitment and satisfaction form the basis of the buyer-supplier relationship. According to the study on the impact of key indicators of relationship quality (trust, commitment, satisfaction) on cooperation, coordination and continuity in the buyer-supplier relationship, the paper of Rindle et al., published in the *International Journal of Business*, Volume 7, Number 1, 2014 was used to compile the final model.

## 2. LITERATURE REVIEW

The study by Rindle et al. (2014) entitled "satisfaction as an intermediate between quality standards and producer-seller relationship", the impact of relationship quality and its key indicators, including satisfaction, trust and commitment, on cooperation, coordination and continuity of the producer-supplier relationship was evaluated. The dimensions of this research are derived from previous studies and the majority of researchers have confirmed these dimensions. Rindle et al. in this study showed that satisfaction plays a mediating role in the relationship of trust and commitment with coordination, continuity and cooperation for four reasons:

1. Previous studies suggest that trust and commitment are prerequisite for satisfaction (including, Meissen, et al., 2013; Hutchinson et al., 2012; Lee et al., 2010; Johnson et al., 2008; end and Svensson, 2007 and other researchers).
2. Satisfaction may have relationship with other consequences more than trust (including, Raeroen and Miller, 2007; Leonidou et al., 2006; Ulaga & Eggert, 2006), and a relationship with commitment greater than trust (including, Raeroen and Miller, 2007; Bansal et al., 2004; Lang and Colgate, 2003).
3. Satisfaction may be considered as the key aspect of relationship quality (Moliner et al., 2007).
4. Commitment and trust may emerge prior to the satisfaction perceived by the parties. Some researchers believe that trust can be prior to other aspects of the relationship quality (McKnight et al., 1998; Shapiro, 1987).

## 3. METHODOLOGY

The present research is an applied one that aims to investigate the impact of key indicators of relationship quality (trust, commitment, satisfaction) on cooperation, coordination and relationship continuity in buyer-supplier relationship for the procurement of National Iranian South Oil Company domestic products purchase. The study does not lead to the production of knowledge, but it can increase the quality of the buyer-supplier relations. As a result, it is neither development nor fundamental research and will be considered as an applied research.

On the other hand, this study is a descriptive survey in terms of nature, as it seeks to measure the impact of key quality indicators on the buyer-supplier relationships. In addition, causal relationship is a one-way relationship that may be direct or inverse. In this study, based on theoretical foundations, it is assumed that the effect of independent variable on dependent variable is positive and direct.



It should be noted that in this study the various sections of the procurement department of National Iranian South Oil Company domestic products purchases will be studied. These sections communicate with various suppliers according to the type of goods they purchase. Hence, in each purchase section, those suppliers who have higher communication with the experts were selected as the criteria suppliers. According to the specified number of experts in each sector, the questionnaires were distributed among them for census.

### 3.1. CONCEPTUAL RESEARCH MODEL

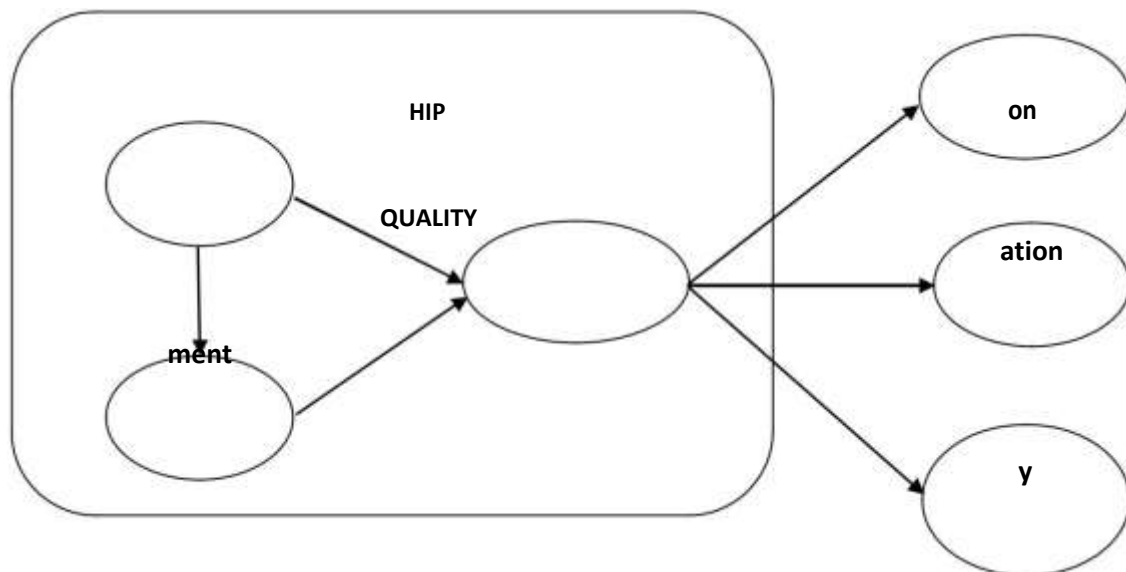


Figure 1. Conceptual research model derived from Sonson et al. (2010)

### 3.2. DATA ANALYSIS

In accordance with the data analysis algorithms in PLS method, after examining the measurement model, structural model and the overall model, researchers are allowed to investigate and test their hypotheses and obtain the research findings. This section also includes two parts:

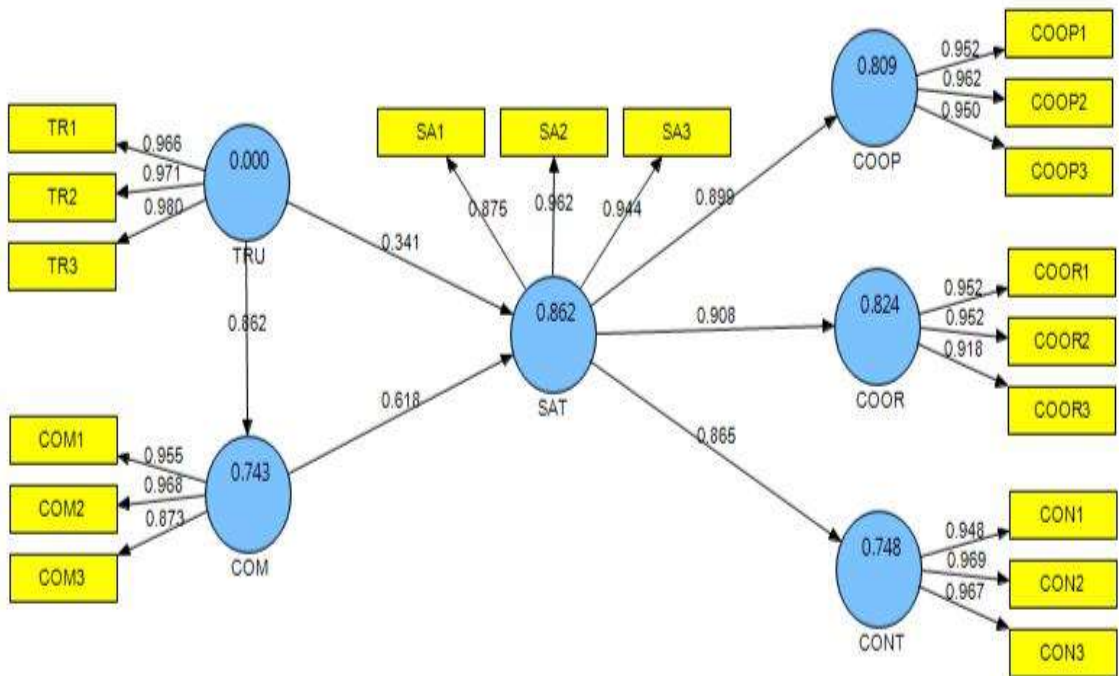
1. The significant coefficients (t-values) related to the research hypotheses

In order to examine the significance of research hypotheses, the significant coefficients of the paths in the main model are used. The significance coefficients of model show whether the hypotheses are meaningful or not? The results of the model indicate that the significance numbers obtained between hypotheses are all higher than 1.96. It indicates that the significance of hypotheses has been confirmed. It can be stated that hypotheses are significant and confirmed at the confidence level of 95%.

The next step is to determine the impact of variables on each other using standardized coefficients of the paths, be discussed below.

1. The standardized coefficients of the factor loading related to the hypotheses paths

Using significant coefficients of the path between latent variables, it was revealed that they have significant positive impact on each other. But how much of each **other's changes are** explained, will be discussed at this stage. Thus, the model with standardized coefficients of the factor loading can be seen in Figure 2:



**Figure 2. Factor Loading**

As it can be seen in the figure 2, the factor loading coefficients between variables are specified. For example, standardized path coefficient of trust on commitment (0.86) expresses that trust can explain 86% of the commitment variance. Finally, the summary of, the results of research hypotheses test in structural equation are shown on the table (1).

**Table 1. The results of the research hypotheses test in structural equation**

	Hypothesis	Standardized coefficient	t-value	Confirmed or rejected
1	Trust on commitment	0.86	39.521	Confirmed
2	Trust on satisfaction	0.34	4.036	Confirmed
3	Commitment on satisfaction	0.61	7.487	Confirmed
4	Satisfaction on cooperation	0.89	44.333	Confirmed
5	Satisfaction on coordination	0.90	47.078	Confirmed
6	Satisfaction on continuity of relationship	0.86	28.942	Confirmed

Source: Author

Finally, according to the outputs obtained, the other findings, such as the mediating role of satisfactions in the relationship between variables can be seen. In order to investigate the mediating role of variables, first the relationship between variables should be studied and then multiply them by each other. The calculated number shows the role of mediating variable (Davari and Reza Zadeh, 2013: 207).

**Table 2. Coefficient**

	Mediating role	Coefficients
1	The mediating role of satisfaction in the relationship between trust and cooperation	0.34 * 0.89-0.30
2	The mediating role of satisfaction in the relationship	0.34 * 0.90- 0.30

	Mediating role	Coefficients
	between trust and coordination	
3	The mediating role of satisfaction in the relationship between trust and continuity	0.34 * 0.86-0.29
4	The mediating role of satisfaction in the relationship between commitment and cooperation	0.61* 0.89- 0.54
5	The mediating role of satisfaction in the relationship between commitment and coordination	0.61* 0.90-0.54
6	The mediating role of satisfaction in the relationship between commitment and continuity	0.61*0.86- 0.52

Source: Author

#### 4. CONCLUSIONS

The data analysis results using SPSS and PLS showed that the research hypotheses are confirmed in the studied population. The hypotheses are discussed in the following:

**The first hypothesis: trust has a significant positive impact on commitment.**

The first hypothesis confirms that, in terms of the quality of relationship, trust has a significant positive impact on commitment. It means that trust as a key factor in all relationships, plays a decisive role in sustainability or unsustainability of a relationship. In other words, the high level of trust created each time in the buyer-supplier relationship ensures the continuity of relationship in the future. As mentioned in the research literature, in today's complex markets, establishing and maintaining relationship is more important than customer acquisition. In fact, the parties would be committed to a relationship and try to maintain it when there exists a high level of trust. In connection with this issue, Ford (1980) proposed the relationship life cycle in industrial marketing **and states that:** “when the relationship was created and both parties recognized each other, they should focus on reducing uncertainty and distance in order to improve the relationship by increasing trust and commitment. Hence, the relationship will be sustainable.” Redondo and Feiro (2008) also believe that trust will facilitate effectiveness and efficiency of industrial relations. As a result, satisfaction with the relationship reaches to the extent that brings commitment as well. Since the goal of commitment is continuing a course of action to maintain relationship with business partners, Fazli and Hooshangi (2014) state that trust makes customers less concerned about opportunistic behavior of the suppliers. On the other hand, it increases the transparency of economic exchanges essential to strengthen the buyer-supplier relations.

**The second hypothesis: trust has a significant positive impact on satisfaction.**

The second hypothesis confirms that trust has a positive and significant impact on relationship satisfaction. As mentioned in the research literature, trust means that each party act in the interests of both parties. High perception of the relationship quality occurs in the shadow of **one’s** trust to the other party. In fact, prevailing of trust between the buyer and supplier in excess of affecting the commitment and stability of the relation since each party act, in the interests of both parties and the relationship is a win-win, their satisfaction is also met. On the other hand, we can say that, the more is the buyer-supplier relationships and their experiences from each other, they better understand each other and hence trust between them will be increased and knowing that none of them is following only his own interests, satisfaction between them will be increased too. Bin and Blissa (2003) believe that satisfaction is the overall approval of communication channel members with the relationships in the channel. So, when the relations among channel members are formed based on mutual trust, satisfaction will be obtained as well. Accordingly, high trust will always bring high satisfaction. Fazli and Hooshang (2014) also believe that trust increases buyer satisfaction with supplier relationship that brings a competitive advantage for manufacturing companies.

**The third hypothesis: commitment has a significant positive impact on satisfaction.**

The third hypothesis confirms that commitment to the buyer-supplier relationship has positive and significant impact on their satisfaction. In the relationship marketing, commitment is known as a capital that can sustain a relationship. The higher is the degree of commitment in a relationship, the relationship quality increases. As a result, commitment to the relationship increases the satisfaction on both sides, and this leads to maintaining long-term relationships with customers. A high degree of commitment to the relationship increases satisfaction to the extent that the parties are willing to sacrifice their personal and short-term goals for maintaining the relation. On the other hand, we can say that commitment to the relationship determines the quality of information between the two parties. So, high quality information exchanged between the buyer-supplier can increase their satisfaction. Also, when the trade parties are committed to each other, they are willing to collaborate and meet the requirements of each other more than ever, and thus they try to satisfy each other in order to continue the relationship in the long run. In this regard, Morgan and Hunt (1994) stated that commitment occurs when the relationship matters for both sides and it will bring satisfaction and profitability for the parties. Oscarmis et al (2008) also argued that satisfaction is the main outcome of the buyer-seller relationships that does not develop in the absence of a commitment. In addition, Ryndle et al. (2014) believe that, given the importance of trust and satisfaction in business relationships, satisfaction is considered as a result of trust and commitment in the buyer-supplier relationship.

**The fourth hypothesis: satisfaction has a significant positive impact on cooperation.**

The fourth hypothesis confirms that satisfaction has a significant positive impact on cooperation. As mentioned before, the traditional confrontation of the buyer and supplier has been replaced by a close and long term relationship model based on cooperation and joint work. Cooperation is the measures both companies perform to achieve their ultimate goals. In cooperation, isolation turns into participation. Exchange of information on the production schedule, process / product and value analysis can reduce production costs and improve the product innovation / new process. It is clear that stakeholders in an industrial setting tend to collaborate with each other when they are sufficiently satisfied with communication. In fact, without satisfaction neither party tend to exchange information and cooperate in order to achieve common goals. Also, when there is satisfaction in industrial relations, empathy and cooperation increases because of a sense of trust and accountability between the parties. In this regard, Hsiao et al. (2002) believe that there is a close connection between cooperation and satisfaction, and the cooperation among communication channel members increases productivity and helps members to achieve mutual goals. Gira Ping et al (2013) and Meissen et al. (2015), also expressed that satisfaction is a suitable background for behavioral intentions and actual behavior. In other words, satisfaction among scholars is known as a strong predictor of the behavior variables such as going shopping, suggestions by word of mouth and loyalty. On the other hand, satisfaction is effective more than trust and commitment for a business to decide continuing the relationship with other businesses and it is prior to continuity and cooperation.

**The fifth hypothesis: satisfaction has a significant positive impact on coordination.**

The fifth hypothesis confirms that satisfaction has a significant positive impact on coordination. According to what was discussed, coordination includes accurate integration of joint processes between suppliers and buyers. Buyers and suppliers who work together to achieve common goals require coordination and integration in their activities. In fact, this order and harmony pave the way towards their goals. As mentioned in the fourth hypothesis, the contributing factor to the cooperation between the buyer and supplier is satisfaction. The same factors also affect the coordination of the buyer-supplier relations. In other words, coordination and integration, whether in personal or in industrial relationships, are bidirectional, and one side cannot create the coordination alone. So the relationship must have reached to a level that both parties tend to create integration and coordination in long term for continuing their cooperation. Goanaris (2005) states that satisfaction with previous relations causes behavioral integration and considered as a tool for coordination. Pingan Jira et al (2013) believe that satisfaction is the most powerful determinant of the buyer-supplier relationship quality, and satisfaction is known as a factor affecting the coordination in business relationships.

**The sixth hypothesis: satisfaction has a significant positive impact on the continuity of relationship.**

The sixth hypothesis confirms that satisfaction has a significant positive impact on the continuity of relationship. Continuity refers to the expectations of the parties regarding the duration of a relationship. Continuity in the relationship encourages the parties to act in favor of each other. Otherwise, there is a risk that the parties do not always act in the interests of each other. The degree at which the relationship continuity is perceived by one business party is the condition of predicting the continuity of relationship prolonged in the future. In fact, at the early stages, the parties tend to invest in the relationship in order to take advantage of close cooperation and continued relationship. Also, expecting a continued long-term relationship creates an incentive for cooperation in inter-organizational relationships. Satisfaction in any relationship will form the basis of its stability and durability. In this regard, Solgi et al (2014), also consider continuity as a reflection of the buyer-supplier satisfaction with the current relationship and long-term expectations of partnership. Therefore, both parties will maintain the trade until they are satisfied with the current trade. Morogava et al. (2010) also believe that satisfaction with the products and services received would affect the decision of buyers to continue the relationship. Also, according to Weldens (2015), satisfaction of both parties will increase the tendency to maintain the relationship on a long-term and reduce the conflicts.

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# THE EFFECT OF ECO-FRIENDLY EXPORT BUSINESS STRATEGY ON EXPORT PERFORMANCE RELYING ON THE FACTORS INFLUENCING COMPETITIVE ADVANTAGE (CASE STUDY: ZANJAN PROVINCE ZINC COMPANIES)

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## Abstract

*This study mainly aims at examining the effect of eco-friendly export business strategy on export performance relying on the factors influencing competitive advantage (a case study on Zanjan province zinc companies). This research was conducted using descriptive correlational method. The statistical population includes all of the middle and senior managers of Zanjan province zinc companies during 2015-2016 academic years. To select appropriate statistical samples, 142 managers were selected through simple random sampling and based on Morgan Table. The data was collected using a researcher-made questionnaire whose validity was estimated using face validity and its reliability was estimated 0.80 through the pilot implementation of the questionnaire using Cronbach's alpha. Correlation and regression analysis were used for data analysis. Research results indicated that the independent variables were capable of predicting approximately 61 percent of the dependent variable and the competitive advantage of the type of export goods and the competitive advantage of export cost leadership were appropriate variables for financial export performance.*

JEL classification: F14, O14

**Keywords:** strategy, business, export, competitive advantage

## 1. INTRODUCTION

The 20<sup>th</sup> century witnessed numerous social and human developments. With an unbalanced growth, the **world's population reached 6 billion**. The 20<sup>th</sup> century also witnessed the creation of mass markets to meet the demands of such a massive population. On the other hand, the major purpose of this period was to increase economic growth, as it was imagined that the wealth gained through this might be invested in improving the quality of the life of individuals in industrial and non-industrial societies. The environmental and social consequences of such a one-dimensional attitude toward economic growth became evident more than ever at the beginning of the 21<sup>st</sup> century. The increase of atmospheric greenhouse gasses, ozone hole formation, destruction of many forests and animal species, and extinct ecosystems are only a part of the detrimental effects of disregarding environment (Ashkan Nezhad *et al.*, 2007 p. 122).

Based on this, today's organizations need to take advantage of an appropriate model such as an eco-friendly export business management at the national and global arenas to reach an appropriate position and maintain it in order to **realize competitive advantage and customers' expectations**. Global competition intensification in a constantly changing environment has doubled the requirement of implementation of reactions in organizations and manufacturing and industrial companies; it has also enhanced their flexibility in competitive and uncertain foreign environments. Therefore, the managers of many industries realized within the past two decades that the improvement of internal processes and flexibility in company ability do not suffice for continued presence in the market, but export business is also compatible with the environment and products should be manufactured with optimum quality and the lowest production cost. Alternatively, distributors of products should have a close relationship with the market development policies of

manufacturers (Chitra, 2007). Taking advantage of opportunities and confronting the challenges ahead is discussed as the basic condition for success in this field. Therefore, it is necessary for the export strategies to pave the way for advancement through identifying new international conditions, determining its competitive priorities, and performing structural developments. The notion of export strategy has gained increasing acceptance among different researchers over the past years. Many papers have been written on production line strategy, marketing strategy, operation strategy, and sustainable business export strategy. Numerous studies have been conducted in this field in different countries among various statistical populations. The origin of this tendency is the recognition of the following items:

- A) Export needs a certain direction and outlook.
- B) Objectives do not merely meet this need.
- C) If export is supposed to have a regular and profitable growth, it will need further rules for decision-making. ANCEF defined such decision-making rules and regulations as “**strategy” or the concept of “institute business” (David, 2008)**. Export strategy can be defined at least from two perspectives: From the perspective of what an organization intends to do and from the perspective of what an organization will do ultimately.

From the first standpoint, strategy is a comprehensive plan for defining and achieving the objectives of an organization and accomplishing the mission. From the second standpoint, strategy is the pattern of responses of an organization to its environment over time (Verma, 2014). Queen defines strategy to be the pattern or the plan, which combines objectives, policies, and the operational chains in an organization as a general set interconnected with each other. If a strategy is regulated correctly, it will be effective in the allocation and direction of its resources in a unique and potential manner based on the relative interorganizational capabilities and deficiencies, predicted environmental changes, and the contingency movement of intelligent competitors (David, 2012). Hence, each organization formulates a set of long-term objectives to realize its ultimate mission and goal, and strategies are the tools by which a company may achieve its long-term objectives. With respect to the importance of the issue and competition intensity in an export business environment, the necessity of a strategy compatible with this issue is irrefutable and it needs the identification of the factors effective in competitive advantages and organization performance. In the hierarchical approach of strategy, business strategy is discussed after company strategy, and functional strategies, such as manufacturing strategy, are placed at the third level (David, 2012).

Export performance is the extent to which a firm's objectives (including strategic objectives and economic objectives) are realized for exporting a product through planning and executing export marketing strategy (CAVUSGIL and Zou); it has many aspects and only one index/factor is unable to explain it. Walker and Ruekert (2014) proposed that the relationship and importance of performance aspects among different beneficiaries (investors, employees, and customers) are different and it depends on focusing on short-term or long-term. The success of export plans depends on the ability of a whole position and authentic information on global markets (Morgan, 2004). A firm will be unable to develop effective and efficient export marketing programs without having a profound understanding of foreign markets. Therefore, they should build a marketing information system and take advantage of it. This includes 4 aspects of focus on determination, the right to use, dissemination, and use of information (Lee *et al.*, 2009).

Today, the main challenge of human is to find a more stable and equitable method for production, consumption, and life. Developing society and increasing attention to the environment have made many firms consider green concepts as the major source of a strategic change. One of the commercial fields frequently discussed in environmental issues is green supply chain management; it seems that all individual and industrial consumers have become more aware of and more interested in the environment (Afsordegan *et al.*, 2011). Therefore, governments attempt to make firms internalize environmental degradation costs through different political leverages. This way, the internal firms, which are looking for a sustainable development, take advantage of competitive advantage through a profound understanding of the key aspects of value throughout supply chain. Consequently, the establishment of a green supply chain leads to gaining competitive advantage through maintaining and improving efficiency and improving quality, optimization, and cost saving. It also causes sales increase, market share increase, achievement of further margin, and improvement of a firm through gaining new opportunities in the market (Nick Nezhad, 2011).

Meanwhile, environmental sustainability has already gained the attention of university students and industries considerably; customers have gained further knowledge on the environment and they purchase cautiously after looking into the environmentally friendly ingredients of items. Some instances include environment procurement (The products, which are displaced in the shortest distances.), the use of environmental-friendly procurement modes (such as inland waterways), and the selection of environmental-friendly packaging (Yang *et al.*, 2011; Sheu *et al.*, 2005). Despite the reports and expectations indicating that environmental issues are among the major concerns of society, the development of a market for green products has been declined disappointingly. Managers realized that the concerns of consumers about the environment and their tendency toward green goods had not appeared in their purchase behavior (Hillier *et al.*, 2005). The increased growth of concerns and following that the reports of conservationist on the incidence of several environmental problems in Zanjan province, increased emission of pollution resulting from the activities of factories such as foodstuff, lead and zinc factories, hospital and dental wastes, and even the manufacturers of disposable containers and following that the application of a growing volume of social and environmental rules, further knowledge of green customers about social responsibility, the concerns of companies about shortage of resources and increased costs and most importantly, the overall change in the values and attitudes of society and city have made many companies consider paying attention to environmental problems and manufacture products which impose less damage to the environment, as one of the fundamental components in formulating their sustainable strategy. This study mainly aims at discussing the effect of eco-friendly export business strategy on export performance relying on the factors influencing competitive advantage in Zanjan province zinc companies.

## 2. METHODOLOGY

### Population, Sample, and Sampling Method

As the research is aimed at discussing the effect of eco-friendly export business strategy on export performance relying on the factors influencing competitive advantage in Zanjan province zinc companies, this research was conducted using descriptive correlational method. The research statistical population included all of the middle and senior managers (237 individuals) of Zanjan province zinc companies (5 companies) during 2015-2016 academic years. To select appropriate statistical samples, 142 managers were selected through simple random sampling and based on Morgan Table.

### Research Tool and Data Collection Method

In this study, a questionnaire was used for data collection. It consisted three sections including *introduction*, *research demographic variables*, and *research questions* and it was prepared based on the 5-point Likert scale. It had 58 items with 9 components (external factors, foreign competition, professional management, organizational culture, business strategy, competitive advantage, competitive leadership, market performance, and financial performance). The validity of the questionnaire was estimated using face validity and factor analysis. Cronbach's alpha was used to ensure its reliability, which was estimated to be 0.80 ( $\alpha = 0.80$ ).

## 3. RESEARCH FINDINGS

**Table 1. The descriptive statistics of research components**

	No. of Individuals	Continuity	Skewness	Variance	SD	Mean of each Question	Total	Maximum Score	Minimum Score
External Factors	142	2.926	-1.151	5.188	2.27771	3.875	2201.00	20.00	9.00

	No. of Individuals	Continuity	Skewness	Variance	SD	Mean of each Question	Total	Maximum Score	Minimum Score
Foreign Competition	142	1.321	-.945	6.362	2.52238	3.735	2652.00	23.00	12.00
Professional Management	142	408	.501	15.207	3.89955	3.233	2755.00	29.00	13.00
Organizational Culture	142	379	-.312	15.829	3.97855	3.238	2299.00	24.00	7.00
Business Strategy	142	-.108	-.355	81.437	9.02427	3.368	8611.00	78.00	42.00
Competitive Advantage	142	-.590	.225	5.844	2.41739	3.503	1990.00	19.00	10.00
Leadership Competitive	142	-.008	-.385	5.979	2.44521	3.389	1925.00	18.00	8.00
Market Performance	142	-1.026	-.259	12.100	3.47853	3.400	2897.00	26.00	14.00
Financial Performance	142	-.452	-.588	13.275	3.64349	3.556	3030.00	27.00	14.00

Source: Author

The analysis of variance (ANOVA) test was used to examine research questions, the results of which are reported in the following table.

**Table 2. ANOVA test results for research variables**

Variables	Source of Changes	Total Degrees	P-value	Value of F Statistic	r	Mean Squares	Degree of Freedom
Public Concern about External Factors	Regression	4560.632	0.000	92.240	0.53	4560.632	1
	Balances	6922.051				19.443	140
	Total	11482.683					141
Intensity of Foreign Competition over Strategy	Regression	6100.959	0.000	157.710	0.649	6100.959	1
	Balances	5381.724				38.441	140
	Total	11482.683					141
Professional Management	Regression	2018.713	0.000	29.863	0.437	2018.713	1
	Balances	9463.970				67.600	140
	Total	11482.683					141
Organizational Culture	Regression	5728.663	0.000	139.383	0.632	5728.663	1

Variables	Source of Changes	Total Degrees	P-value	Value of F Statistic	r	Mean Squares	Degree of Freedom
	Balances	5745.020				41.100	140
	Total	11482.683					141
Business Strategy	Regression	456.185	0.000	173.650	0.694	456.185	
	Balances	367.787				2.627	
	Total	823.972					

Source: Author

**Table 3: ANOVA test results (Cont'd)**

Variables	Source of Changes	Total Degrees	P-value	Value of F Statistic	r	Mean Squares	Degree of Freedom
Eco-friendly Export Business Strategy vs. Competitive Advantage of Export Cost Leadership	Regression	490.143	0.000	194.442	0.720	490.143	1
	Balances	352.906				2.521	140
	Total	843.49					141
Competitive Advantage of Export Goods Variations and Export Market Performance	Regression	663.796	0.000	580.184	0.876	663.796	1
	Balances	160.176				1.144	140
	Total	823.972					141
Competitive Advantage of Export Cost Leadership and Export Market Performance	Regression	446.146	0.000	49.573	0.356	446.146	1
	Balances	1259.974				9.000	140
	Total	1706.120					141
Competitive Advantage of Export Goods Variation and Export Financial Performance	Regression	816.692	0.000	108.368	0.660	816.692	1
	Balances	1055.082				7.536	140
	Total	181.775					141

Source: Author

Table (3) shows the coefficient of determination for the fitted model and the estimated coefficients of the linear regression of the research variables. Research findings indicate that 39.7% of the changes of the variable of eco-friendly export business strategy are explained by the independent variable of public concern about external factors; 53.1% of the changes of the dependent variable of eco-friendly export business strategy are explained by the independent variable of foreign competition intensity; 17.6% of the changes

of the dependent variable of eco-friendly export business strategy are explained by the independent variable of professional management; 49.9 percent of the changes of the dependent variable of eco-friendly export

business strategy are explained by the independent variable of organizational culture using electronic factors; 54.4% of the changes of the dependent variable of competitive advantage of export goods variation are explained by the independent variable of eco-friendly export business strategy; 58% of the changes of the dependent variable of competitive advantage of export cost leadership are explained by the independent variable of eco-friendly export business strategy; 80.6% of the changes of the dependent variable of export market performance is explained by the independent variable of competitive advantage of export goods variation; 26.1% of the changes of the dependent variable of export market performance are expressed by the independent variable of competitive advantage of export cost leadership, and 43.6% of the changes of the dependent variable of export financial performance are explained by the independent variable of competitive advantage of export goods variation. The Friedman test was used for ranking the variables affecting export performance by relying on the factors effective in competitive advantage in Zanjan province zinc companies. The results indicated that the competitive advantage of the type of export goods and the competitive advantage of the type of export goods has the maximum and minimum scores. That is, the competitive advantage of the type of export goods has the maximum impact on export market performance and export financial performance and the competitive advantage of the type of export goods has the minimum impact on export market performance and export financial performance. Moreover, professional management and external factors have respectively the highest and the lowest scores. That is, professional management has the maximum impact on eco-friendly export business strategy and external factors have the minimum impact on eco-friendly business strategy.

#### 4. CONCLUSION

This study mainly aimed at discussing the effect of eco-friendly export business strategy on export performance relying on the factors influencing competitive advantage. It shows that there is a positive and significant relationship among public concern about external factors, foreign competition intensity, professional management, organizational culture, and eco-friendly export business strategy. It also shows a positive and significant relationship among eco-friendly export business strategy, the competitive advantage of export goods variation, the competitive advantage of export cost leadership and the competitive advantage of export goods variation and export financial performance. The results are compatible with the results of Lee *et al.* (2009) who proved that the implementation of eco-friendly export business strategy facilitates the achievement of competitive advantage in terms of product difference instead of cost leadership and confirms them.

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# THE EFFECT OF UNEXPECTED ACCRUALS ON ACCOUNTING PROFIT VALUE IN THE TEHRAN STOCK EXCHANGE

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## Abstract

*Unexpected accruals are part of the accruals that reflect the management's discretion in the company's economic environment. In this research, the relationship between unexpected accruals and profitability is evaluated. The current research is applied in terms of purpose and in terms of collecting descriptive information and in terms of data analysis is correlation type. In this research, data on 104 companies from listed companies in Tehran Stock Exchange during the years 2012 to 2015 were statistically analyzed. The results showed that unexpected accruals figures have a positive correlation with accounting profit, means that the unexpected accruals figures lead to increasing the profits. This is in line with the studies of Sloan (1996), which states that the returning the profits that can be attributed to the accruals of profits.*

JEL classification: M41, D53

**Keywords:** *Unexpected Accruals, Profit, Multivariate Regression*

## 1. INTRODUCTION

The turbulent events caused by global financial crisis over the past few decades have revealed the vital importance of high quality and credible financial reporting to the world more than ever. These events show the importance and attention to the role of quality financial reporting. Achieving high-quality financial reporting depends on the integrity of the links in the financial reporting chain. In this regard, the increase in profits that is result of the increase in accruals is of great importance. Increasing the quality of profits and accruals to make optimal economic decisions and maximizing the credibility of the global community. After the recent crises for the accounting profession, it is of special importance to investors. Increasing the quality of accruals that increases the quality of profit and financial reporting can reduce the risk of investments and help investors to optimize their investment in optimal allocation of resources. Calculating the quality of profits and accruals appears to be a simple matter but, in practice, it is very difficult, complicated and time-consuming to calculate. The reason is that profits has been consisted of important elements such as income or sales, finished cost, other profits and operational and non-operational costs that each of them can also be influenced by various methods of accounting, estimates, varied judgments, or even operational decisions such as postponing certain costs such as advertising costs, reduction in research and development funding, or a delay in registering incomes and expenses. More importantly, there are different models and approaches for calculating the quality of accruals that can lead to various results, and some of these models are not able to implement in the Iranian economy due to lack of information resources. (Saqafi, 89)

Accruals are classified into two unexpected (optional or abnormal) and expected (uncritical or normal) categories. Unexpected accruals are items that management can control them. In other words, unexpected accruals are those that are controlled by the management and can delay, delete them or can accelerate their registration and identification.

Expected or ordinary accruals are items that are estimated based on changes in the company's core economic performance, and management cannot control them. Since unexpected accruals are managed by



the management, these significant items are used in the discovery of profits management; hence, it is expected management to be not led to symmetry of time in identifying losses in relation to profits, or in other words conservative behavior in accounting through disregard the expected accruals. Therefore, in the present study, it has been tried to evaluate the relationship between unexpected accruals and accounting profit in Tehran Stock Exchange as the main research question (Hesami, 89).

## 2. RESEARCH HISTORY

The study of Peter Wilson (1986) on informational increasing content of unexpected accruals profit and cash benefits components is one of the most well-known researches that won the award for the best article in year of 1986. According to Wilson, this study examines that are the components of unexpected and cash-generating profits having an increase in information content on their own information content or not? According to Wilson, this makes it possible to directly measure the increasing content of information of accrual and cash benefits elements and components. Such a possibility would not exist if the company's corporate information was published and posted on the Wall Street Journal.

Wilson in his research found that there is an alignment between the non-cash and cash accrual components of benefits. According to Wilson, the result of his research suggests that at least one of these accrual components is related to the flow of cash with informational load.

Study of (Sloan, 1996) is the first study to directly analyze the effects of relative stability of cash flow and accrual components of current profits on predicting future profits. Sloan studies, therefore, contribute to predictive profits studies that he provides a simple prediction model that only relies on the required accounting process without using the tricky statistics. Using the coefficients in the profits prediction equations, Sloan concludes that the components of the cash flow of current profits are more stable than accruals components. Sloan's research is interesting because without using sophisticated predictive models of profit time series, he calculates this issue that to what extent the market reacts to the relative volume of the components of profits. He proves that the market is unable to effectively or completely react to the information of the components of existing profits.

(Bowen, Burgstahler & Daley, 1987) investigated the informational increasing content of the accruals and cash flow. The results of this study indicate that cash flow information has an informational increasing content compared to profit. Also, information about cash flows has additional information content compared to the combined information of profits and operating capital and information on accruals flows (profit and operation capital from operations) separately and also simultaneously, they have additional information content compared to cash flows. Dechow et al. (Dechow et al., 2005) examined the sustainability and pricing of cash components of profits. They split the cash components of the profit into three components, cash balances, cash payments to creditors and cash payments to shareholders, and found that the more stable components of profits, which in this research is payments to shareholders, has a meaningful relationship with stock prices.

Francis et al. (2005) by evaluating pricing the quality of accruals as a risk information for profit showed that whatever quality of accruals (which is defined as the standard deviation of the regression error for accruals flow and cash flow) is low the cost of debt and capital costs of those companies are higher. This issue somehow reflects the impact of the quality of accruals in the decision.

Dicho and Ross 2005 showed that profit sustainability was affected by the amount and value of accruals by comparing the profit sustainability in terms of the balance sheet approach and the profit and loss account approach. Accruals improve profit sustainability over cash flows with accruals, but sustainability decreases in companies with low commitment items.

Chen (2005), in a research entitled "Quality of Profit", describes the relationship between profit quality through the level of accruals and its relationship with fixed assets and changes in assets. His research results showed that when the quality of profit is high, investment is strongly influenced by the profit of the beginning of the period. In addition, the strong correlation between high profit and investment quality leads not only to our attention to cash and profit components, but also leads to accruals and its

components. All of these provide us with strong evidence based on that managers rely more on basic accounting signs for investment decisions. In addition, monopolists in the market have a higher profitability than small financiers because they can better control their production, distribution, supply and sale of products, and therefore, they can better apply accounting accuracy when accounting estimates, because they have fewer accruals than other industries.

Bhattacharya and Desailly (2013) have commented about the quality of profits and accruals and the impact on such investment: "One of the fundamental accounting information in the financial markets is providing essential information for optimum allocation of resources to investments. One of the important features of accounting information quality is the profits quality that leads us to operating cash flows. If data obtained from profit or accruals had been inadequate or ineffective in financial reporting and they are fail to leading us to the operating cash flow this process will lead to a reduction in reporting quality and ultimately reduce the quality of profit. In this regard, it is expected that negative accruals increase the profits quality.

The history of most of the research carried out in Iran related to the subject of this research is as follows: Hosseini (2006) examined the effect of the quality of accruals on the capital cost of companies listed on stock exchange. In this research, accruals are defined as the difference between accounting profit and cash flows. The results of the research show that the cost of capital of the companies is not affected by the quality of accruals and its related components. In other words, it cannot be accepted that there is a significant difference between the cost of capital of companies with low accruals compared to companies with high and good accruals.

Arab Mazar Yazdi (2006) reviewed the informational increasing content of the companies' accruals flows and cash flows. The results show that cash flow data does not have any informational increasing content compared to accruals flows data and there is no significant relationship between unexpected changes in cash flow from operations and unexpected stock market changes.

Dastgir and Rastegar Pouyani (2011) examined the relationship between profits quality (profits sustainability), accruals amount and stock returns on the quality of accruals. The results of this study showed that profits quality (profits sustainability) has a direct relationship with the quality of accruals, while also increasing the accruals of stock returns increases by decreasing quality of accruals.

Mehrzad (2016); examines a study on the relationship between accruals and accounting returns in the stock market exchange. The results of fitting the model indicate that there is a positive and significant relationship between accruals variable and variable of accounting return.

Jamalianpour (2016); examined the relationship between the financial crisis, unexpected accruals, and the quality of profits. His results showed that in most cases of the financial crisis has been significant with the characteristics of profit features.

### **3. METHODOLOGY OF RESEARCH**

The statistical population and statistical sample of this research is all companies listed on the Tehran Stock Exchange. In order to select a sample circumstances have been considered as the following:

1. Companies that end of the financial period is ending to the March of 29th of each year
2. Companies that have been accepted at the Stock Exchange by the end of 2016.
3. Companies that have not stopped in activity and has not been changed their financial period during this period.
4. Companies that the number of their transactions during years of 2011 and 2017 to be not lower than 40 times.
5. The information required in these companies to be available for research.
6. Financial intermediation companies should be excluded. As a result, 104 companies were selected from all listed companies.

### 3.1. RESEARCH VARIABLES

The dependent variable in this study is accounting profit. The purpose of accounting profit or commercial profit is the difference between the proceeds from the sale of goods and services produced and sold by a firm as recorded and are the sum of all the figures of the costs incurred by the company (Hashemi, 2006).

**In this study, the accounting profit is extracted from profit and loss accounts of statistical companies' sample.**

#### Independent Variables

What is considered in the definition of the independent variables of the present research is that these variables can be considered from two aspects. First, identifying the fundamental independent variable of the research, and the second, defining the independent variable used in the hypotheses model.

**The basic variables of this research are unexpected accruals**

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \alpha_0 \left( \frac{1}{A_{i,t-1}} \right) + \alpha_1 \left[ \frac{(\Delta REN_{i,t} - \Delta AR_{i,t})}{A_{i,t-1}} \right] + \alpha_2 \frac{(PPE_{i,t})}{A_{i,t-1}} + \varepsilon_{i,t}$$

In this regard, the TAC is the total of the accruals, A is the total assets of the company at the beginning of the year,  $\Delta REN$  is changes in sales revenue;  $\Delta AR$  is changes in accounts receivable, PPE is fixed assets are evident. The remaining values ( $\varepsilon_{i,t}$ ) represent the amount of an accruals that are measured as follows.

$$AA = TA - TAC$$

Where AA is an optional accruals, actual accruals,  $TAC^-$  and TAC is estimated accruals, by using model 01.

After estimating the parameters of model (1), Unexpected Accruals (UEA), the difference in expected accruals (EA) of all accruals is calculated as follows for the estimation period using the model (1):

$$UEA_{i,t} = TAC_{i,t} - \left[ \alpha_1 + \alpha_2 \left( REN_{i,t} - \Delta R_{i,t} \right) + \alpha_3 PPE_{i,t} \right]$$

Model (2) **In this regard,  $\alpha_1$  is changes in receivables and  $\alpha_1$  and  $\alpha_2$  and  $\alpha_3$  and  $\alpha_4$  are estimated parameters of Jones modified model (2).** Independent controlling variables in this research include various symbols of risk affecting accounting profit based on our research including:

- Beta coefficient (Beta): This is a systematic risk variable and it is calculated from the contrast between changes in market returns and changes in company returns. Evidences show that there is a significant relationship between risk and accounting profit.
- Sales Growth Rate (SGR): The ratio of difference in current sales period with previous period to previous period sales. One of the characteristics of profitable companies is the positive growth rate of sales revenue, so there is expecting a positive and significant relationship between this variable and the dependent variable of the research.

#### Regression models

The following regression model is used in order to test the effect of unexpected items on accounting profit:

$$\text{Earnin} = \alpha_0 + \alpha_1 \text{UEA}_{i,t} + \alpha_2 \text{Beta}_{i,t} + \alpha_3 \text{SGR}_{i,t} + \epsilon_{i,t}$$

In which Earnin accounting profit and UEA unexpected accruals and Beta is a systematic risk coefficient and SGR is the selling rate.

#### 4. RESULTS

In this section, the results of estimating parameters, models, and assumptions are presented. In the first section, descriptive statistics of research and in the second part, the results of model estimation of the result of the testing hypotheses are presented.

The descriptive statistics of the variables used in the research has been presented in Table (1). Accounting profits that has been measured using Peter Wilson's model. It has an average of 0.113. In this study, the mean for unexpected accruals was 0.107, for systematic risk was 0.230, for selling rate was 0.067.

**Table 1. Descriptive statistics of research**

Variable	Mean	Sd	Maximum	Minimum
Accounting profit	0.113	0.125	0.570	-0.312
Unexpected accruals	0.107	0.098	0.012	0.077
Beta coefficient (systematic approach)	0.230	1.31	8.350	-5.100
Selling rate	0.067	0.275	1.58	-1.30

*Source: Author*

Table 2 shows the results of the correlation between the variables. The table shows that the relationship between profits accounting as a dependent variable and the unexpected accruals, beta coefficients and sales growth rates are significant and direct.

**Table 2. The results of the correlation between the variables**

Variable	Accounting profit	Unexpected items	Beta coefficient	Selling rate
Accounting profit	1	0.672(**)	0.133	0.275
Unexpected items	0.056)**(	1	0.054	0.027
Beta coefficient	0.133 (**)	0.036	1	0.019
Selling rate	0.275(**)	0.149	0.019	1

*Source: Author*

\* Correlation is significant at 95% confidence level.

\*\* Correlation is significant at 99% confidence level.

#### Estimation of models and testing hypotheses

The tables show the results of the regression model estimation. In this model, the dependent variable is the accounting profit and the independent variable is unexpected accruals. Also, two variables of the beta coefficient, sales rate as a control variable are present in the model. All four estimation models are statistically significant at 95% confidence level. The coefficient of determination adjusted of these models is also in the range of 0.51%.

### 4.1. TESTING THE RESULTS HYPOTHESIS

#### Research hypothesis

Hypothesis of this research is as “there is an inverse and meaningful relationship between unexpected accruals and accounting profit”.

Table 3 shows the results of the estimation of profits regression over unexpected accruals, along with the two beta coefficient control variables, the sales rate for profit checking. As the results show, the estimated coefficient for profit is statistically significant. In the sense that unexpected accruals have a significant effect on accounting profit, the corresponding coefficient of unexpected accruals is equal to 0.82, which is significant at 95% confidence level. Therefore, research hypothesis that has a positive and significant relationship with accounting profit. In this way, the research hypothesis that was predicted direct and significant relationship between accounting profit and unexpected accruals is confirmed.

The coefficient corresponding by two beta coefficient control variables, the sales rate is also significant at 95% confidence level. Linear statistics for variables in the last two columns are presented in Table (3). Theoretically, if these two statistics are close to 1, it shows that there is not a strong linear relationship between independent variables. The results of the Watson Camera statistic which is the criterion for assessing the correlation between the residuals of the regression model, shows that this statistic in this model is higher than 1.5, means that, there is no correlation between the regression remains.

**Table 3. Results of the first hypothesis test**

$\epsilon_{i,t} + \alpha_2 \text{Beta}_{i,t} + \alpha_3 \text{SGR}_{i,t} + \alpha_1 \text{UEA}_{i,t} \text{EARN}_{i,t} = \alpha_0$					
Linearity		Significant level	Statistics t	The size of the coefficient $\beta$ (Standardized)	independent variable
Tolerance	vif				
1.019	0.958	0.000	22.21	0.82	EA
1.023	0.977	0.043	2.031	0.062	Beta
					SGR
$R^2 \quad 0.516$					
$R^2 \quad 0.51$					
<b>F statistics 189.629</b>					
<b>Significant level F</b>				<b>0.000</b>	
<b>Watson Camera Statistics</b>				<b>1.558</b>	

Source: Author

### 5. CONCLUSION

The purpose of this study has been to investigate the effect of unexpected items on stock return profits. Based on this objective, research hypotheses were developed and were tested using appropriate statistical models. The results showed that there is a significant relationship between unexpected items and accounting profit.

Similar to the present study, Dastgir and Rastgar Puyani also reported the relationship of accruals with the quality of profit (sustainability), and Mehrzad also examined the relationship between accruals and accounting returns in the stock exchange, and the results of the fitting of the model indicated there is a positive and significant relationship between the accruals variable and the accounting return variable.

Among the similar studies conducted in other countries, the studies of Francis et al. 2008 and 2005 by Peter Wilson are closer to the present study.

However, according to results obtained suggestions are presented as follows:

### **Suggestion**

1. Accounting profit is strongly influenced by the accrual method, estimates and accounting judgments. Therefore, it is suggested to investors that in the prediction of accounting profit, should be taken into account the other cash items.
2. As a result of the analysis of the data used, a multivariate regression model has been used in this research. In this model, only quantitative data were involved and the effect of qualitative (non-quantitative) factors on profits changes has not been investigated. Therefore, accounting profits are affected by many qualitative factors in some cases, such as Divorce policies, macroeconomic and macropolitical factors of society and the massive political community, external restrictions imposed on the business unit, etc., which have not been investigated in this study, therefore, investors are encouraged to consider qualitative factors in predicting stock returns.

### **Suggestions for future research**

The results of this study showed that there is a relationship between the various dimensions of profit and unexpected accruals. According to the research literature, in addition to the quality of financial reporting, other factors also affect the profit, and the influences of some of these factors were considered as control variables. However, the results also showed that the independent and controlled variables did not include all factors affecting profit.

The research suggestions below are based on the demands of the theoretical and research findings:

Based on theoretical foundations, one of the factors influencing the relationship between profit and reported quality of information is the impact of the industry's activity on business units. It is suggested that future research the impact of industry on the relationship between capital cost and information quality be investigated.

The impact of unexpected accruals quality on profits can be interpreted in terms of the economic outcomes of financial reporting. Studies that can approve informational content of result of the economic outcomes of financial reporting quality will be additional evidence in confirming the findings of the present study. It is suggested that in future studies, we examine these economic consequences by examining the impact of the quality of the content of Stock returns and accruals on the company's profits.

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Investigating the relationship between profits quality (profits sustainability), accruals and stock returns, accrual quality, quarterly financial accounting research, third year, first issue, successive issue

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# THE EFFECT OF APPROACH TO TIME (IN ORGANIZATIONAL CULTURE) AND MANAGERS' WILLINGNESS TO PLAN ON EMPLOYEES' JOB CREATIVITY WITH THE MEDIATING ROLE OF TIME MANAGEMENT IN THE MINISTRY OF COOPERATIVES, LABOR AND SOCIAL WELFARE

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## Abstract

*The purpose of this study was to investigate the effect of approach to time (in organizational culture) and managers' willingness to plan on employees' job creativity with the mediating role of time management in the Ministry of Cooperatives, Labor and Social Welfare. Data collection was performed via surveys and the data were collected with the integration and distribution of five questionnaires among 300 employees of the Ministry of Cooperatives, Labor and Social Welfare. Data analysis was performed using Structural Equation Modeling and the SPSS22 and Lisrel8.8 software. Based on the results of structural equations there was a strong structural relationship (greater than 0.60) between all paths. Indicators for this model were:  $\chi^2 = 83.16$ ,  $df=27$ ,  $P\text{-value}=0.01$ ,  $RMSEA=0.06$ ,  $GFI=0.93$ ,  $AGFI=0.92$ . The Sobel's test statistic at the probability level of 0.001 was 5.756 which shows that time management plays a mediating role in the relationship between long-term approach to time and job creativity. Moreover, Sobel's test statistic at the probability level of 0.001 was 8.669 which shows that time management plays a mediating role in the relationship between managers' willingness to plan and job creativity. Results shows that managers' long-term approach to time and willingness to plan affect employees' job creativity and time management plays a mediating role in this relationship.*

JEL classification: M12

**Keywords:** Creativity, approach to time, willingness to plan, time management.

## 1. INTRODUCTION

Today's world is called "the age of creativity, innovation and entrepreneurship". In this age, the importance and role of creativity, innovation and entrepreneurship are so great that humans' life and civilization are not possible without them. Job creativity is based on the modern science of "creatology" which studies the processes and phenomena of creativity, innovation and inventions from different aspects. The main message of job creativity is that anyone can fulfill a need with creativity and innovation and in fact create a new job and individuals can create new jobs instead of looking for them (Hon et al. 2016). It is evident that the realization of a high amount of success and effectiveness in all organizations largely depends on the expert, efficient workforce with job creativity (Amabile, 1997; Amabile et al. 2002). Leonidas et al. (2010) believe that time management is closely related with the job creativity of employees and here what affects the ability to provide creative ideas by employees is the organizational culture and atmosphere. **Dău-Gaspar** believes that correct time management by high managements and creation of enough motivation in employees for making use of their maximum ability are the two factors that largely guarantee the success of public and private organizations. Macan (1994) states that managers

by strengthening time management techniques, can prevent the conflict of tasks and consequently destroy the stress caused by the lack of not achieving long term objectives. Lin et al. (2016) also by confirming the opinion of Macan believe that the feeling of having great control on time by a person (perceived time control) is very related to job creativities. In the opinion of Mackenzie (2005) and Macan et al. (2016), one of the most important of successful employees and of the factors distinguishing them from others is their domination over different time management techniques. Time management includes: goal setting, goal prioritization and use of existing resources to achieve short and long term goals (Hofstede, 2008; Ferner & Deans 1998). In the majority of definitions of time management, mostly the components of planning, time control, time prioritization and goal setting are focused on. In fact, one of the most important dimensions of time management is planning (Klassen & Menor, 2007). Planning includes actions such as goal prediction, setting policies, introducing procedures, methods of doing work, stating regulations and rules of work (Golden, 2002). Fayol (1917) also considers planning to be the most fundamental task among management tasks. It should be noted that since the approach of managers and employees of any organization towards facts, location, nature, and human relations and their approach towards time and time management are rooted in the culture of their organization (Schein, 2004), it is evident that all the leadership and management tasks including planning will also be affected by the culture of any organization and this is while the culture of an organization is also affected by the national culture of the employees and managers of these organizations (Hofstede 2011). One of the dimensions introduced in national culture – and following that in organizational culture- is the short or long term approach towards time. Cultures with a long term approach towards time (Confucian approach) are more concerned about the future and value saving, stubbornness and resistance Hofstede (1980, 2001). These societies continuously consider how their current action will affect their future generations and they always plan for all their members (Francesco & Gold, 1998). In countries like Japan with a time term approach to time the managers of companies are very willing to plan especially strategic planning. Whereas in countries with a short term approach to time, people like to live in the present and the managers of companies have little willingness to plan especially long term planning (Martin et al. 1992).

What has been said so far shows an especial focus that researchers showed to the subject of creativity over different years. In fact, the importance of job creativity and the great amount of emphasis placed on the identification of variables affecting job creativity in today's organizations (Pirola and Mann 2004; Leonidas et al. 2010) made many studies be performed in this field in different countries which will be mentioned in the following;

Tagger (2002) in a research performed on the identifications of methods to improve creativity, considers the development of the factor of creativity in today's organizations to depend on the formation of workgroups and support of long term plans. The study by Marriner (2004) showed that planning is the key to time management. In a study performed by Born in 1976, the results of the research suggested that most managers waste time on unimportant matters (like friendly chats, etc.) and do not appropriately plan and ignore time management. Osburn and Mumford (2006) investigates the relationship between creativity and planning and showed that the planning of managers and their intervention for the development of creativity and problem solving skills in employees will yield especial benefits for the organization.

Leonidas et al. (2010) and Darini et al. (2011) in their studies showed that creativity is positively related to short and long term planning and time control. **Dău-Gaşpar** (2011) in his research showed that the ability to correctly manage time by high managers and creation of sufficient motivation in employees to use their maximum abilities are the two factors that largely guarantee the development of creativity and innovation in employees and the success of organizations. The research of Fooladvand et al. (2015) showed that the relationship between time management and creativity is positive and significant in the components of attention to work and type of focus. Rezayo Soufi et al. (2016) in their research concluded that there is a close relationship between time efficiency and planning and creativity and the planning of work times and personal affairs plays an important role in the willingness to plan and creativity. The results of the research of Badri & Hasani (2014) showed that the imaginary time control and time management behavior are essential for the effective production of creative ideas. Seyedi et al. (2014) in their studies showed that there is a significant relationship between the dimensions of organizational culture and creativity. Noori and Salehi (2012) in their research concluded that there is a significant difference regarding long term planning, time management, perseverance and persistence in implementing a plan, amount of disruption

and irregularity in plans between two creative and uncreative employees and also the time management ability and long term planning ability of employees have the greatest effect on the amount of their creativity. This finding is in alignment with the research results of Esfehni (2011) and Heidari et al. (2011). Sabouri et al. (2013) in their study showed that appropriate time management increases decision making quality and decreases errors.

In the present research the main goal is to investigate the effect of approach to time and managers' willingness to plan on the job creativity of employees based on the mediating role of time management in

of Cooperatives, Labor and Social Welfare and the following questions were answered in this regard:

- Does approach to time (in organizational culture) affect the job creativity of employees?
- Does time management affect the relationship between approach to time and the job creativity of employees?
- Does the willingness of managers to plan affect the job creativity of employees?

The time management affect the relationship between the willingness of managers to plan and the job creativity of employees?

## 2. METHODOLOGY

In terms of the objective, the present research is descriptive, and in terms of data collection, it was a survey, and it was done in a staged method in 2016. The statistical population of this research consists of 900 individuals consisting of all the managers, experts and support forces of the Ministry of Cooperatives, Labor and Social Welfare which using the Morgan's table, 269 individuals were selected using stratified sampling. The data collection tools included four questionnaires as follows whose reliability was investigated through Cronbach's alpha. The questionnaire of job creativity of Jazani and Kamkari (2003) with a reliability of ( $\alpha=0.82$ ), the researcher-made questionnaire of approach to time in organizational culture based on Hofstede's model, whose validity was confirmed by three experts and whose reliability was ( $\alpha=0.88$ ). The standard questionnaire of time management of Nazem (2007) and its reliability was ( $\alpha=0.89$ ), the questionnaire of willingness to plan of Koein et al. (1990) localized in the country of Iran by Moghimi (2006) whose reliability is ( $\alpha=0.84$ ). The data analysis was performed using Structural Equation Modeling (SEM) and the SPSS22 and Lisrel8.8 software.

## 3. RESEARCH FINDINGS

In this research, first the normality of data distribution was tested using the Kolmogorov-Smirnov test. Job creativity ( $z=0.987$ , probability=0.110), approach to time ( $z=0.865$ , probability=0.109), willingness to plan ( $z=1.313$ , probability=0.198), time management ( $z=1.433$ , probability=0.113). As is seen the results above, the assumption of the normality of the variable distribution has not been rejected and parametric tests were used for data analysis. First, the descriptive statistics related to the variables was extracted as shown in table 1.

**Table 1: Descriptive statistics related to variables**

Component	Average	Standard deviation	Minimum	Maximum
Creativity	3.673	0.317	2.941	4.5
Approach to time in organizational culture	3.699	0.847	1.18	4.87
Total score of willingness to plan	3.836	0.571	2.2	5

Component	Average	Standard deviation	Minimum	Maximum
Total score of time management	3.361	0.47	2.318	4.318

Source: Author

Based on the results in the table it is clear that the average score of the job creativity of individuals and the scores of approach to time in organizational culture are above average. In this regard, based on the questionnaire designed, it can be assumed that in the organizational culture of the research population, the approach of employees and managers to time is long term. The average scores of willingness to plan and its components is above average and represents the overall willingness of managers to plan. In addition to that, the average scores of time management and its components are above average.

In the next stage, statistical analyses were performed based on structural equations. The output of the Lisrel software is given in diagram 1 and based on that, in the following, each of the research questions are answered.

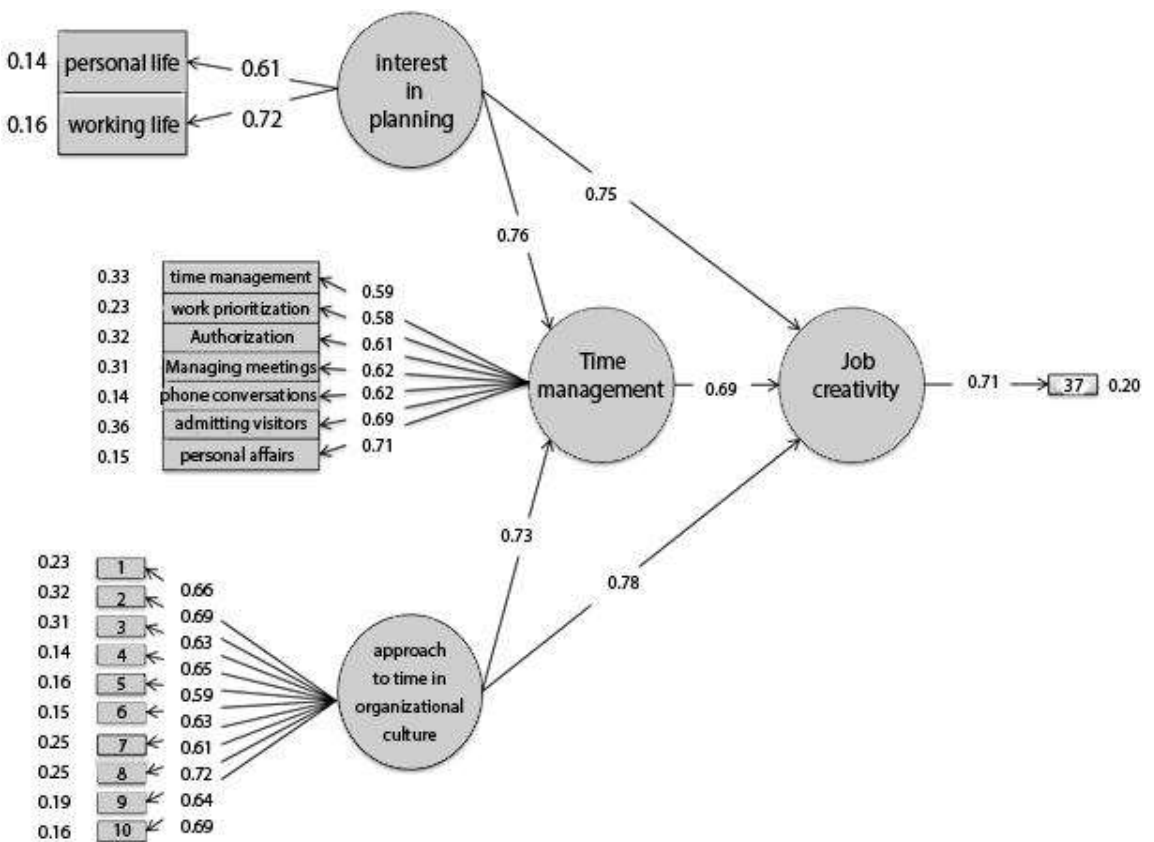


Diagram 1: The Lisrel software's output

(In the above diagram, the numbers shown on the arrows represent load factor. The closer the number is to 1, the more the variable can determine the independent variable. If the load factor is below 0.3, the existence of a relationship will be disregarded.)

Question 1: does approach to time (in organizational culture) affect the job creativity of employees?

As is seen in the diagram, there is a strong structural relationship between approach to time in organizational culture and job creativity (R=0.78). The indicators of the model are  $\chi^2=39.28$ ,  $df=19$ , P-

value=0.01, RMSEA=0.07, GFI=0.95, AGFI=0.90. Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9, it can be stated that this model enjoys a good fit. According to the analysis of the results it was discovered that in the organizational culture of the Ministry of Cooperatives, Labor and Social Welfare, there is a long term approach to time and also the results show that approach to time affects the job creativity of the employees of this organization. Moreover, since the structural relation is positive, the effect of the long term approach to time in organizational culture on the job creativity of employees is positive.

Question 2: Does time management affect the relationship between the approach to time (in organizational culture) and job creativity of employees?

First, we have investigated the path of the effect of time management on job creativity (time management → **job creativity**):

As is seen in the diagram, there is a relatively strong structural relationship between time management and job creativity ( $R=0.69$ ). The indicators of the model are  $\chi^2=33.42$ ,  $df=13$ ,  $P\text{-value}=0.01$ ,  $RMSEA = 0.09$ ,  $GFI=0.92$ ,  $AGFI=0.93$ . Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9 and it enjoys a good fit, it can be concluded that time management affected job creativity. Moreover, since the structural relation is positive, the effect of time management on the job creativity of employees is positive.

Next the path of the effect of long term approach to time in organizational culture on time management (**approach to time in organizational culture** → **time management**) has been investigated:

As is seen in the diagram, there is a strong structural relationship between approach to time (in organizational culture) and time management ( $R=0.73$ ). The indicators of the model are  $\chi^2=34.19$ ,  $df=12$ ,  $P\text{-value}=0.01$ ,  $RMSEA = 0.07$ ,  $GFI=0.901$ ,  $AGFI=0.92$ . Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9 and it can be said that it enjoys a good fit, it can be concluded that long term approach to time in organizational culture affected time management. Moreover, since the structural relation is positive, the effect of long term approach to time in organizational culture on time management is positive.

In answering the first question it was revealed that the long term approach to time (in organizational culture) affects the job creativity of employees. Also in diagram 1 it was discovered that time management affects job creativity. In the following, we will investigate the effect and role of time management in the relationship between job creativity and long term approach to time:

By definition, the variable of time management has a mediating role in this research. There are different methods to investigate a mediating role. Based on the opinion of many experts, the best method to investigate a mediating role is the Sobel's test statistic (Sobel, 1982, Soper, 2016). The Sobel's test statistic obtained at this stage of the research at the significance degree of 0.001 is 5.756 which reveals a significant relationship between the variables. Therefore, a significant effect was seen between the paths of long term approach to time (**in organizational culture**) → **time management** → **job creativity**. **This result** shows that time management plays a mediating role in the relationship between long term approach to time and job creativity of employees.

Question 3: does the willingness of managers to plan affect the job creativity of employees?

As is seen in the diagram, there is a strong structural relationship between managers' willingness to plan and job creativity ( $R=0.75$ ). The indicators of the model are  $\chi^2=38.35$ ,  $df=11$ ,  $P\text{-value}=0.01$ ,  $RMSEA = 0.08$ ,  $GFI=0.93$ ,  $AGFI=0.91$ . Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9 and it can be said that it enjoys a good fit, it can be concluded that managers' willingness to plan affects job creativity. Moreover, since the structural relation is positive, the effect of managers' willingness to plan on the job creativity of employees is positive.

Question 4: does time management affect the relationship between managers' willingness to plan and the job creativity of employees?

First we have investigated the path of the effect of managers' willingness to plan on time management (managers' willingness to plan → **time management**):

As is seen in the diagram, there is a strong structural relationship between managers' willingness to plan and time management ( $R=0.76$ ). The indicators of the model are  $\chi^2=38.75$ ,  $df=11$ ,  $P\text{-value}=0.01$ ,  $RMSEA = 0.07$ ,  $GFI=0.92$ ,  $AGFI=0.91$ . Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9 and it can be said that it enjoys a good fit, it can be concluded that managers' willingness to plan affects time management. Moreover, since the structural relation is positive, the effect of managers' willingness to plan on time management is positive.

In the third question, it was discovered that managers' willingness to plan affects job creativity. In the following diagram, it was discovered that time management affect job creativity. In the following, we will investigate the effect of time management in the relationship between managers' willingness to plan and job creativity in employees:

By definition, the variable of time management has a mediating role in this research. The Sobel's test statistic was used in this question as well. The Sobel's test statistic obtained at this stage of the research at the significance degree of 0.001 is 8.669 which reveals a significant relationship between the variables. Therefore, a significant effect was seen between the paths of managers' willingness to plan → **time management** → **job creativity**. **This result shows that time management plays a mediating role in the relationship between long term approach to time and job creativity of employees.**

Ultimately, based on the findings, it can be concluded that: long term approach to time (in organizational culture) and managers' willingness to plan affects the job creativity of employees with the mediating role of time management. In the following, for more assurance, we have investigated its effect in a general model:

As is seen in the diagram, there is a strong structural relationship (greater than 0.60) between all paths. The indicators of the model are  $\chi^2=83.16$ ,  $df=27$ ,  $P\text{-value}=0.01$ ,  $RMSEA = 0.06$ ,  $GFI=0.93$ ,  $AGFI=0.92$ . Since the ratio of Chi-square to degrees of freedom is less than 3, the probability value is less than 0.05, the Goodness of Fit Index and Adjusted Goodness of Fit Index (AGFI) is greater than 0.9, in general it can be said that this model enjoys a good fit and it can be stated that:

Long term approach to time (in organizational culture) and managers' willingness to plan, affects the job creativity of employees with the mediating role the Ministry of Cooperatives, Labor and Social Welfare.

#### 4. CONCLUSION

The main purpose of performing this research was to investigate the effect of approach to time (in organizational culture) and managers' willingness to plan on the job creativity of employees with the mediating role of time management in the Ministry of Cooperatives, Labor and Social Welfare. The results from investigating the questions showed that:

1. Long term approach to time (in organizational culture) affects the job creativity of employees.
2. Time management affects the relationship between long term approach to time and job creativity of employees.
3. Managers' willingness to plan affects the job creativity of employees.
4. Time management affects the relationship between managers' willingness to plan and employees' job creativity.

The first conclusion from this result is the effect of approach to time (long term approach) in organizational culture on job creativity. These results are in alignment with the findings of Seyedi et al.

(2014), Jafari et al. (2012), Heidari et al. (2011), Tagger (2002), Leonidas et al. (2010). In said studies, all the researchers concluded that organizational culture and creativity are related to each other and the type of organizational culture affect job creativity. Hofstede believes that no valuable thought coming from the void, therefore creation of new thoughts and ideas requires an appropriate cultural space. In his opinion, the most important factor for creativity and innovation and implementation of an improvement and transformation plan is attention to organizational culture. In other words, recognition and reevaluation of organizational culture and use of its strengths, are the key to the improvement of job and organizational creativity (Hofstede, 2008).

The other results of this research showed that there is a significant relationship between time management and creativity. Also, the existence of a relationship between willingness to plan and job creativity was also confirmed. These results are also in alignment with the results of Fooladvand et al. (2015), Badri & Hasani (2014), Seyedi et al. (2014), Jafari et al. (2012), Noori & Salehi (2012), Esfehiani (2011), Heidari et al. (2011), Tagger (2002), Marriner (2004), Osburn & Mumford (2006) Zimpetkis et al. (2010), Darini et al. (2011), and Saboui et al. (2013). In all said studies the researchers accepted the importance of time management and its effect in creating creativity including individual and job creativity. The results of the majority of the studies performed in successful and effective organizations shows the fact that time management and correct use of communicational skills as well as use of expert, efficient and creative human work force are of the main factors for the success of these organizations (Noori & Salehi, 2012).

Through directing all the efforts and focus on the desired objective, planning leads to the creation of energy and more mental activity for the emergence of new ideas. In other words, planning, through the discovery and use of strategies matching the type of the task increases the probability to achieve success through creation of creativity (Higgins & Morgan, 2000; Woerkum et al. 2007). Finally, based on the research results it can be said that having creative employees in an organization requires the existence of a long term approach to time among the employees and managers of that organization. Moreover, managers' willingness to plan and appropriate guidance of employees to predetermined objectives plays a determining role in leading employees towards creativity. Here, the position of management as a mediating factor in said relations must not be disregarded. In fact, without time management, the possibility to train creative employees via the use of the natural creativities of employees seems difficult.

#### **This research had some limitations which include:**

In this research, all the aspects of natural culture and organizational culture were not investigated. Also, out of all managerial duties, only the subject of managers' willingness to plan was investigated. Finally, this research was merely performed at the staff level of a ministry of Iran. Therefore, future researchers are recommended to perform this research again by considering more extensive dimensions and all the aspects of national and organizational culture and also other managerial tasks at a more extensive level.

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# THE CORRELATION BETWEEN IMPLANTATION OF THE COMPONENTS OF TOTAL QUALITY MANAGEMENT AND INTERNAL MARKETING IN MELLAT BANK IN FARS PROVINCE

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## Abstract

*This study was aimed to investigate the correlation between implantation of the components of Total Quality Management and Internal Marketing in Mellat bank in Fars Province conducted in 2016. The research purpose is applied and the research method is descriptive-survey and correlational. The statistical population of the study is 1300 staff of Mellat Bank in Fars Province. Using Morgan Table, a sample of 297 people was considered. Using a two-stage cluster sample and randomly, the standard questionnaire of TQM (Moghimi, 2006) and a modified questionnaire of Internal Marketing (Ghoneim and El-Tabi, 2014) were distributed among the employees. To analyze the data, SPSS software was used and the results of the research were studied by Kolmogorov-Smirnov test and Spearman's correlation coefficient. The results showed that there is a positive and significant correlation between components of TQM and dimensions of Internal Marketing. For more examination, Confirmatory Factor Analysis was used that showed the greatest regression weight belonged to Vision Awareness. Finally, according to the results, practical suggestions were presented to be used in Mellat Bank.*

JEL classification: M31, G21

**Keywords:** Total Quality Management, Internal Marketing, Spearman's correlation, Confirmatory Factor Analysis.

## 1. INTRODUCTION

In today's competitive environment, delay in the deployment of the latest technologies requires heavy price to be paid. As Japanese companies move slowly but firmly in the path of progress, in other countries there are great companies that aim to create new standards for quality of products and services. These differences **don't** result from differences of nationality, but **they're** subject to the difference in morale and attitude. Using Kaizen and innovation, countries are stepping with the highest growth rate in the industrial development now (Shinder, 1999).

In addition, Norton and Kaplan (2005) stated that human capital of the organization carries a sustainable competitive advantage (Kaplan et al., 2005). Hill et al. (2006) stated that in **today's** competitive world if organizations want to antecede by environmental changes and create a sustainable competitive advantage in this environment, the only alternative is to invest in human resources. So concentrating on human resources and meeting their needs and wants is the first rule of the competition in today's competitive era. As long as the needs and wants of the organization's human resources (internal customers) are not met, the acquisition of external customers' satisfaction and loyalty will be impossible. The most important approach that can help organizations in this regard is Internal Marketing. Internal Marketing is an approach that considers employees as internal customers. (Karchi, 2010)

Gronroos stated that services require three types of marketing: external, internal and interactive marketing (Gronroos, 2000). External marketing involves provision, pricing, distribution, and promotion of customer services. Interactive marketing describes skills of employees in customer service and deals with behaviors of employees towards customers. Internal marketing considers employee training and motivation in providing services. Kotler states that internal marketing must overtake external marketing (Kotler & Armstrong, 2005). So marketing services is the most important component of internal marketing.

Combining TQM with marketing through internal marketing can lead to optimal co-ordination and integration of operation, activities and efforts for aligned strategy implementation. Combined, the three lead to an integration between quality, employee loyalty, productivity and profits. Internal **marketing's** co-ordination or integration of operations, activities and efforts is merely an operational means to an end: customer orientation. Internal marketing helps focus the organization toward a customer orientation, which works internally by facilitating the process and behaviors to deliver a quality orientation. Internal marketing, TQM and marketing, when used together, result in greater customer satisfaction and allow the company to sustain a competitive edge. Thus, the success of a quality program is mediated by the partnership between the employee and company (Ahmed & Rafiq, 2002).

## **2. RESEARCH HYPOTHESES**

### **The main hypothesis**

There is a significant correlation between implementation of the components of Total Quality Management (TQM) and Internal Marketing in Mellat Bank in Fars province.

### **Secondary research hypotheses**

1. There is a significant correlation between TQM and marketing philosophy in Mellat Bank in Fars province.
2. There is a significant correlation between TQM and application of marketing tools in Mellat Bank in Fars province.
3. There is a significant correlation between TQM and customer-orientation in Mellat Bank in Fars province.
4. There is a significant correlation between TQM and strategic reward in Mellat Bank in Fars province.
5. There is a significant correlation between TQM and senior leadership in Mellat Bank in Fars province.
6. There is a significant correlation between TQM and internal communications in Mellat Bank in Fars province.
7. There is a significant correlation between TQM and vision awareness in Mellat Bank in Fars province.
8. There is a significant correlation between TQM and employee training and development in Mellat Bank in Fars province
9. There is a significant correlation between TQM and management commitment to service quality in Mellat bank in Fars province.
10. There is a significant correlation between TQM and inter-functional coordination in Mellat Bank in Fars province.
11. There is a significant correlation between TQM and empowerment in Mellat Bank in Fars province.
12. There is a significant correlation between TQM and employee motivation in Mellat Bank in Fars province.



Figure 1. The conceptual model of the research

### 3. METHODOLOGY

This research is descriptive-survey and the tools for data collection is questionnaires. This study is descriptive because in this research we describe the current status and relationships between variables selected in the sample, and we do not apply manipulation, and control to variables. The instrument used to conduct descriptive researches in most cases is survey. This research is quantitative. Staff of Mellat Bank in Fars province are considered as the statistical population of the study. The research data are collected from 296 people working in these branches. In this research, two-stage cluster sampling and simple random sampling were used. Here branches of Mellat Bank in Fars province are considered as clusters. Then by simple random sampling, some people are selected among the selected clusters.

#### Questionnaire:

For collecting the data needed to test the hypotheses, two questionnaires were used. The first questionnaire is the questionnaire of Total Quality Management in Mohammad **Moghimi's** book (2006) called organization and management and research approaches which is composed of two parts as follows:

- 1) Demographic questions (gender, age, education, marital status, work experience) which contain five questions.
- 2) Questions related to Total Quality Management which is designed based on Deming model and include the first 8 questions of the questionnaire that examined the components of Total Quality Management. (question1: support and leadership of top management, question 2: strategic planning, question 3: customer-orientation, question 4: employee identification and training, question 5: employee empowerment and teamwork, question 6: quality measurement and analysis, question 7: quality insurance, question 8: consequences of quality and efficiency improvement.

The second questionnaire related to Internal Marketing is designed based on Ghoneim & El-Tabi (2014) and includes 41 questions (questions 9-11: marketing philosophy, questions 12-14: application of marketing tools, questions 15- 18: customer-orientation, questions 19-22: strategic reward, questions 23-

24: senior leadership, questions 25-27: internal communications, questions 28 - 31: vision awareness, questions 32- 35: employee training and development, questions 36-38 : management commitment to service quality, questions 39 – 42: inter-functional coordination, questions 43-46: empowerment, questions 47 - 49 questions : employee motivation).

It should be noted that the initial questionnaire of Ghoneim and El-Tabi (2014) had 72 questions that in consultation with the bank officials and professors the number of questions was reduced to 41 questions and after collecting 58 questionnaires from employees of Bank Mellat in Fars province, Cronbach's alpha was calculated (%93) which showed the reliability of the questionnaire. Then the final distribution of questionnaires among 296 employees of Mellat Bank in Fars province began.

The questionnaires were anonymous and closed. In our questionnaire, eight criteria were considered to assess Total Quality Management and for each criterion 6 choices have been proposed. To evaluate 12 dimensions of Internal Marketing, Likert scale was used, too. In this case, for each question 7 choices were considered as following: Not at all, to a very small extent, to a small extent, to a moderate extent, to a fairly great extent, to a great extent and to a very great extent.

Total quality management and marketing aspects of domestic and question number on each of them are shown in the following table:

**Table 2: Breakdown of the questionnaire.**

<b>Total Quality Management</b>	
<b>Dimensions</b>	<b>Questions</b>
Support and leadership of top management	1
strategic planning	2
Customer-orientation	3
Employee Identification and training	4
Employee empowerment and teamwork	5
Quality measurement and analysis	6
Quality Insurance	7
Consequences of quality and efficiency improvement	8
<b>Internal Marketing</b>	
<b>Dimensions</b>	<b>Questions</b>
Marketing philosophy	9, 10, 11
Application of marketing tools	12, 13, 14
Customer-orientation	15, 16, 17, 18
Strategic reward	19, 20, 21, 22
Senior leadership	23, 24
Internal Communications	25, 26, 27
Vision awareness	28, 29, 30, 31
Employee training and development	32, 33, 34, 35
Management commitment to service quality	36, 37, 38
Inter-functional coordination	39, 40, 41, 42
Empowerment	43, 44, 45, 46
Employee Motivation	47, 48, 49

*Source: Author*

### **Reliability**

In this study, Cronbach's Alpha coefficient is used for the questionnaire of Internal Marketing. To calculate Cronbach's Alpha coefficient, first the variance of scores of each sub-question in the questionnaire and the total variance must be calculated. Then, using following formula, their coefficient should be calculated.

$$\alpha = \frac{k}{k-1} \left( 1 - \frac{\sum_{i=1}^k S_i^2}{\sigma^2} \right)$$

The reliability of the questionnaire was determined by SPSS software Version 22 and Cronbach's alpha. Cronbach's Alpha coefficient for the questionnaire is 93 percent. For measuring the reliability of the questionnaire, Cronbach's alpha coefficient must be above 70 percent. So, this questionnaire is reliable.

**Table 2.1. Statistics of reliability for Internal Marketing**

The number of items	Cronbach's alpha based on standardized items	Cronbach's alpha
58	0/933	0/939

Source: Author

**Table 2.2. Summary of statistics of items for Internal Marketing**

The number of items	Variance	Maximum/Minimum	Range	Maximum	Minimum	Average	
58	1/280	5/819	5/000	6/038	1/038	4/249	Mean of items
58	0/612	117/344	4/237	4/273	0/036	2/113	Variance of items

Source: Author

#### 4. FINDINGS OF RESEARCH

##### Gender:

Table 3 shows the participants' gender. It shows that 278 people, i.e. 93.9% of the participants are men.

**Table 3. Participants' gender**

Participants' gender			
		Frequency	Percent
Gender	Male	278	93/9
	Female	18	6/1
	Total	296	100

Source: Author

##### Age group

Table 4 shows Frequency of participants in different age groups. According to this table it can be seen that the 35-45 age group had the highest frequency. Also, none of the participants were younger than 25 or older than 55 years.

**Table 4. Participants' age**

Participants' age		Frequency	Percent
Age	Under 25 years	0	0
	25-35 years	52	17/6
	35-45 years	176	59/5

	45-55 years	68	23
	Over 55 years	0	0
	Total	296	100

Source: Author

### Level of Education

Table 5 shows the **participants'** level of education. This table shows almost half of the participants had a bachelor. Also, none of the participants had lower than diploma or higher than master.

**Table 5. Participants' level of education**

Participants' level of education			
		Frequency	Percent
Education	High school graduate	0	0
	Diploma	75	25/3
	Associate	33	11/1
	Bachelor	145	49
	Master	43	14/5
	PhD and post-doctoral	0	0
	Total	296	100

Source: Author

### Marital status:

Table 6 shows the participants' marital status. This table shows that more than 95 percent of respondents to the questionnaire were married and only 4.7% of them were single.

**Table 6. Participants' marital status**

Participants' marital status			
		Frequency	Percent
Marital status	Single	14	7/4
	Married	282	3/95
	Total	296	0/100

Source: Author

### Work Experience

Table 7 shows the status of participants based on work experience. According to the table, none of the participants had under 5 years or over 25 years work experience. More than half of the people had 10-15 years work experience and nearly 35 percent of the participants had 15-20 years work experience.

**Table 7. Participants' work experience**

Participants' work experience			
		Frequency	Percent
Work Experience	Under 5 years	0	0
	5-10 years	8	2/7
	10-15 years	156	52/7
	15-20 years	103	34/8
	20-25 years	29	9/8
	Over 25 years	0	0
	Total	296	100

Source: Author

In this study, the correlation between implementation of the components of TQM and Internal Marketing in Mellat Bank in Fars province was examined and all hypotheses were confirmed as follows: All



components of Total Quality Management had significant and positive correlation with all aspects of Internal Marketing.

Spearman correlation coefficient between TQM and marketing philosophy was 0/233 (p-value <0/001), TQM and application of marketing tools: 0/457 (p-value <0/001), TQM and customer-orientation: 0/380 (p-value <0/001), TQM and strategic reward: 0/336 (p-value <0/001), TQM and senior leadership: 0/403 (p-value <0/001), TQM and internal communications: 0/403 (p-value <0/001), TQM and vision awareness: 0/488 (p-value <0/001), TQM and employee training and development: 0/451 (p-value <0/001), TQM and management commitment to service quality: 0/346 (p-value <0/001), TQM and inter-functional coordination: 0/421 (p-value <0/001), TQM and empowerment: 0/383 (p-value <0/001), TQM and employee motivation: 0/355 (p-value <0/001).

To further investigation, confirmatory factor analysis was used. The figure below shows the conceptual model with unstandardized coefficients. The numbers near the oval show the variant variance. The numbers on the arrows indicate regression weight of each dimension with latent variable of Total Quality Management.

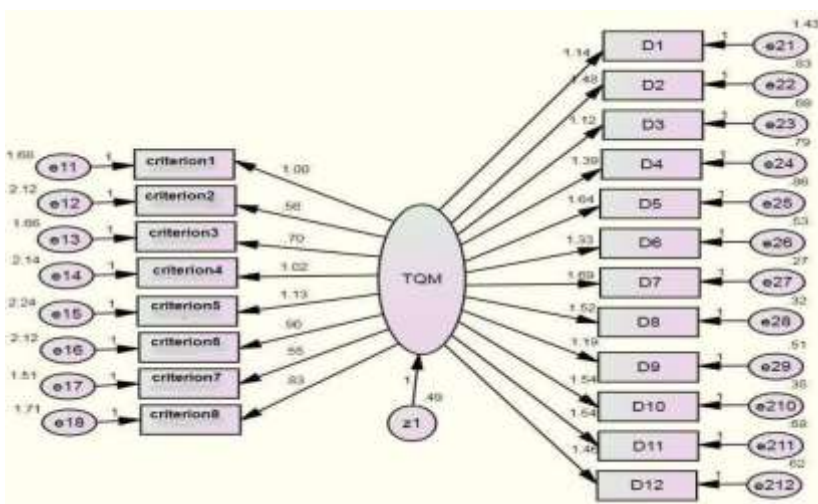


Figure 2. Unstandardized coefficients of the conceptual model

Standardized coefficients can be seen in the table below.

Table 8. The standardized regression weights

Bootstrap					Estimation		
Standard deviation of bias	Bias	Mean	SE-SE	Standard Deviation (SE)			
0/002	-0/002	0/474	0/002	0/055	0/476	Criterion 1	<--- TQM
0/003	0/002	0/262	0/002	0/058	0/260	Criterion 2	<--- TQM
0/003	0/003	0/358	0/002	0/057	0/355	Criterion 3	<--- TQM
0/002	0/001	0/439	0/002	0/051	0/438	Criterion 4	<--- TQM
0/002	0/003	0/470	0/002	0/049	0/467	Criterion 5	<--- TQM
0/003	0/002	0/399	0/002	0/058	0/397	Criterion 6	<--- TQM
0/003	0/002	0/300	0/002	0/059	0/298	Criterion 7	<--- TQM
0/003	<0/001	0/409	0/002	0/059	0/409	Criterion 8	<--- TQM
0/002	-0/003	0/554	0/001	0/046	0/557	D1	<--- TQM
0/002	-0/003	0/749	0/001	0/036	0/752	D2	<--- TQM
0/002	<0/001	0/687	0/002	0/052	0/687	D3	<--- TQM
0/001	-0/004	0/735	0/001	0/033	0/739	D4	<--- TQM

Bootstrap					Estimation		
Standard deviation of bias	Bias	Mean	SE-SE	Standard Deviation (SE)			
0/002	-0/004	0/775	0/001	0/038	0/779	D5	<--- TQM
0/001	-0/001	0/785	0/001	0/032	0/786	D6	<--- TQM
0/001	-0/001	0/914	<0/001	0/013	0/915	D7	<--- TQM
0/001	-0/001	0/881	0/001	0/018	0/882	D8	<--- TQM
0/001	-0/001	0/761	0/001	0/030	0/762	D9	<--- TQM
0/001	<0/001	0/877	0/001	0/017	0/877	D10	<--- TQM
0/001	<0/001	0/795	0/001	0/027	0/795	D11	<--- TQM
0/001	-0/001	0/794	0/001	0/026	0/794	D12	<--- TQM

Source: Author

In the table above, values that can be seen in the mean column are the average of regression weight in 500 repeated sampling. Standardized regression coefficients can be seen in the figure below:

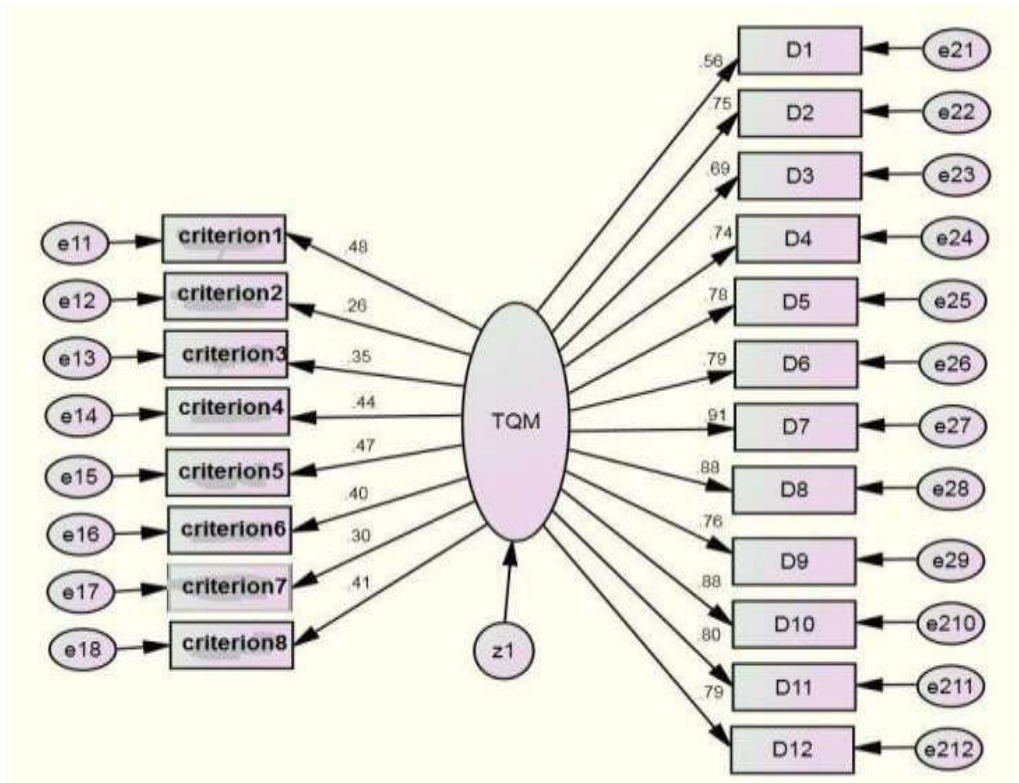


Figure 3. Standardized regression coefficients of the conceptual model

**Goodness of Fit Indices**

The following table shows absolute fit indices for the confirmatory factor model.

Chi-square index of fitted model can be seen in the table above. The value of this index is 878/243 and the p-value is less than 0/001. Significance of Chi-Square index is not appropriate for the model, but since this index is very sensitive to the sample size and the number of parameters in the model, instead of Chi-Square we use relative Chi-Square index. The value of relative Chi-Square for fitted model is obtained 5/166. We know if the value of relative Chi-Square is in the range of 1-5, the model will be acceptable and

if the index is between 2-3, it will be a good model. On this basis, we can say that the fitted model is fairly acceptable.

**Table 9. The absolute fit indices**

Relative Chi-Square (CMIN/DF)	Probability (P)	Degree of freedom (DF)	Chi-Square (CMIN)	The number of parameter (NPAR)	Model
5/166	<0/001	170	878/243	40	Fitted model
-	-	0	<0/001	210	Saturated model
20/583	<0/001	190	3910/824	20	Independence model

Source: Author

The following table shows comparative fit indices for the fitted confirmatory factor analysis. Note that in this table, the saturated model is a model that all possible relationships between variables exist in the model. Also, the independence model is a model that none of the relationships between variables exist. Since the comparative indices are achieved by comparing the fitted model with both saturated and independence models, a fitted model is appropriate when its fitting indices are near the saturated model. In fact, if the fitted model indices are far from the independence model and close to the saturated model, the model will be better.

**Table 10. Comparative fit index**

CFI	TLI rho2	IFI Delta2	RFI rho1	NFI Delta1	Model
0/810	0/787	0/811	0/749	0/775	The fitted model
1/00		00/1		1/00	Saturated model
<0/001	<0/001	<0/001	<0/001	<0/001	Independence model

Source: Author

If fitting of the model is good, comparative indices will have values more than 0/9. All indices presented in the table above have values less than 0/9. So, it can be seen that these indices show the model is incompetent. However, since the values of these indices aren't far from the ideal level, it can be concluded that the fitted model is close to the ideal one.

The following table shows parsimonious indices for the fitted model. In this table saturated model and the fitted model are similar to the previous table. The difference is that parsimonious fit indices aren't for comparing the fitted model with the saturated model and the independence model. But for examining goodness of fit model, it considers the number of free and fixed parameters.

**Table 11. Parsimonious fit indices**

PCFI	PNFI	PRATIO	Model
0/895	0/694	0/895	The fitted model
<0/001	<0/001	<0/001	Saturated model
<0/001	<0/001	1/00	Independence model

Source: Author

In the case of parsimonious, values greater than 0/5 indicate goodness fit of the model. With reference to the above table, it can be seen that all parsimonious indices have greater value than 0/5. So we can see that the fitting model is appropriate for the number of free parameters.

The following table shows RMSEA index i.e. Root Mean Square Error of Approximation. The values less than 0/05 for this index, which is one of the overall fitting model indices, show the goodness of fit. However, the values near 0/05 are acceptable for this index, too. Some references have considered this threshold 0/1. 0/119 value for RMSEA index is slightly larger than 0/1. It's not far from the threshold, but

it is far from 0/05. Accordingly, if we consider the threshold value 0/1, the model cannot be considered as a desirable model, too. However, the model **doesn't** differ enormously from the desirable one.

**Table 12. Overall fitting model indices**

PCLOSE	HI 90	LO 90	RMSEA	Model
<0/001	0/127	0/111	0/119	The fitted model
<0/001	0/265	0/251	0/258	Independence model

Source: Author

## 5. CONCLUSION

In this study, the correlation between implementation of the components of TQM and Internal Marketing in Mellat Bank in Fars province was examined and all hypotheses were confirmed as follows: All components of Total Quality Management had significant and positive correlation with all aspects of Internal Marketing.

Spearman correlation coefficient between TQM and marketing philosophy was 0/233 (p-value <0/001), TQM and application of marketing tools: 0/457 (p-value <0/001), TQM and customer-orientation: 0/380 (p-value <0/001), TQM and strategic reward: 0/336 (p-value <0/001), TQM and senior leadership: 0/403 (p-value <0/001), TQM and internal communications: 0/403 (p-value <0/001), TQM and vision awareness: 0/488 (p-value <0/001), TQM and employee training and development: 0/451 (p-value <0/001), TQM and management commitment to service quality: 0/346 (p-value <0/001), TQM and inter-functional coordination: 0/421 (p-value <0/001), TQM and empowerment: 0/383 (p-value <0/001), TQM and employee motivation: 0/355 (p-value <0/001).

To further investigation, confirmatory factor analysis was used in which the standardized regression coefficients of the model were calculated as follows: TQM and marketing philosophy:0/56, TQM and application of marketing tools: 0/75, TQM and customer-orientation: 0/69, TQM and strategic reward: 0/74, TQM and senior leadership: 0/78, TQM and internal communications: 0/79, TQM and vision awareness: 0/91, TQM and employee training and development: 0/88, TQM and management commitment to service quality: 0/76, TQM and inter-functional coordination: 0/88, TQM and empowerment: 0/80, TQM and employee motivation: 0/79. As it can be seen in this study vision awareness had the most correlation with TQM and marketing philosophy had the least correlation with TQM.

## Suggestions

According to the conducted research and the results of the hypotheses, the following are recommended:

**Table 13. Suggested solutions**

Row	Hypothesis	Rank		Offers	Executor	Practical solutions
1	First	10	TQM has a positive and significant correlation with marketing philosophy.	If employees are considered as internal customers of the bank, the implementation of Total Quality Management will be more successful.	Bank managers	- Positioning - Mixture of Internal Marketing

Row	Hypothesis	Rank		Offerings	Executors	Crucial solutions
2	Second	7	TQM has a positive and significant correlation with application of marketing tool.	If banks place major emphasis on understanding their <b>employees'</b> needs and then adapt their internal services to meet them, TQM will be implemented more successfully.	Bank managers	<ul style="list-style-type: none"> <li>- Using market research</li> <li>- Formulating strategies based on employees segmentation</li> </ul>
3	Third	9	TQM has a positive and significant correlation with customer- orientation	If banks strategy is driven by the goal of increasing customer value and they are given total commitment, TQM will be run more successfully.	Bank Policymakers	<ul style="list-style-type: none"> <li>- Eliminating flaws of the organization by checking <b>customers'</b> complaints</li> <li>- Establishing good relationships with customers</li> <li>- Assuring of existing adequate communicative channels to hear wants of customers</li> </ul>
4	Fourth	8	TQM has a positive and significant correlation with strategic reward.	If the bank reward system is linked to the objectives of the bank and employees are informed about how and why they are rewarded, it will notified and help to the successful implementation of TQM.	Bank executives	-Encouraging and rewarding able employees and appreciating them
5	Fifth	5	TQM has a positive and significant correlation with senior leadership.	If bank managers possesses the moral and intellectual ability to encourage the	Bank managers	<ul style="list-style-type: none"> <li>- The availability of top management and having an intimate relationship with employees</li> <li>- Concentrating on abilities and expertise</li> </ul>

Row	Hypothesis	Rank		Offers	Executor	Practical solutions
				employees in the right direction, the implementation of TQM will be more successful.		of employees and empowering them. - Organizing a steering committee or the council on quality
6	Sixth	4	TQM has a significant and positive correlation with internal communications.	Internal communications are for obtaining information in banks. If these communications are consistent with our external public relations, it will help to better implementation of TQM.	Managers and employees of banks	- Creating an atmosphere of warmth and camaraderie among employees - Holding joint meetings in each department and consulting and dialoguing on issues of jobs and organization
7	Seventh	1	TQM has a positive and significant correlation with vision awareness.	If banks offer a vision that employees can believe it and realize the importance of their service roles, they will act better in running TQM.	Bank policymakers	-Retelling the bank vision and setting appropriate explanatory and training plans for staff
8	Eighth	2	TQM has a positive and significant correlation with employee training and development.	Banks must view the development of skills and knowledge of employees as an investment rather than a cost to implement TQM successfully.	Bank managers	-Creating necessary opportunities for staff development and learning. -Holding continuous and systematic training courses for delegated tasks of individuals.
9	ninth	6	TQM has a positive and significant correlation with management commitment to	If providing high quality services to customers is the first priority of	Bank managers	- Providing infrastructures for Total Quality Management - Regular monitoring

Row	Hypothesis	Rank		Offer s	Execu tor	C u t i c a l s o l u t i o n s
			service.	banks and managers put a lot of efforts beyond that normally expected, it will have a significant role in the successful implementation of TQM.		of processes - Total support of quality advancement activities - Evaluating promotion activities and then giving the feedback to staff
10	Tenth	2	TQM has a positive and significant correlation with inter-functional coordination.	If all departments of bank understand their interdependence in achieving organization goals and all information is shared freely among the departments and branches, it will help the successful implementation of TQM.	Bank managers	- Clarifying the roles and tasks assigned to employees - the removal of obstacles to the cooperation between units and employees
11	Eleventh	3	TQM has a positive and significant correlation with empowerment.	If employees have complete freedom in doing their works and their initiatives are encouraged, total quality management will be more successful.	Managers and employees of banks	- Delegation of authority - Creating a competitive environment - Holding training courses - Implementing suggestion systems - Providing the suitable condition for development and promotion of staff
12	Twelfth	4	TQM has a positive and significant correlation with employee motivation.	If banks provide job security to all of their employees and pay good wages relative to competitors, it	Policymakers of banks	- Creating motivational facilities - Job enrichment - Attending to teaching and delegation of authority

Row	Hypothesis	Rank		Offers Executive	Practical solutions
				will help to the successful implementation of TQM.	

*Source: Author*



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# THE EFFECT OF PERSONALITY CHARACTERISTICS ON THE SALES PERFORMANCE OF IRAN INSURANCE SALES REPRESENTATIVES

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## Abstract

*One of the main topics of marketing and management is sales performance that influenced by various factors such as cultural, social, personal and psychological. Hence, the aim of this study is to investigate the influence of personality characteristics on the performance of sales representatives selling insurance in Iran. Conceptual model adapted from the Yakasy and Jean (2015) and Achieve (2006) model. This research is a survey method and purpose of an investigation is applied. The study population is active representatives selling Iran insurance under the Azadi branches, that number was 349. For data collection, the library of resources and papers in professional journals and books and scientific publications and research, as well as online resources were used. The navigation of a standardized questionnaire assessing five personality traits McCrae and Costa to measure personality and a questionnaire was used to measure sales performance. To analyze the data, descriptive and inferential statistics were used. The descriptive statistics method for introducing the demographic characteristics of sample were used. Inferential statistics to test hypotheses of correlation and regression tests were used. LISREL and SPSS software was used for statistical analysis. Data analysis showed that neuroticism does not affect the performance of sales representatives selling insurance. But the extroversion, conscientiousness features, compliance features and characteristics of openness to accepting Iran's experiences affect the performance of sales representatives selling insurance.*

JEL classification: G22, L23, M11

**Keywords:** *personality features, functionality, performance, sales, insurance*

## 1. INTRODUCTION

The importance of personality has been nowadays acknowledged as one of the predictors of job performance. It is also obvious that an **individual's personality plays an** important role in their job performance since it determines motivation and attitudes of a person towards a job and the manner they deal with job requirements. According to Witt, personality can be utilized for the prediction of work-related behaviors and performance.

Accordingly, personality can have an impact on the process interpreting the organizational environment for employees and shape behaviors highlighted by such an environment. In fact, personality is taken into account as one of the factors determining the types of perception associated with environment and reactions towards it. Personality is similarly one of the significant factors affecting compatibility of an individual with a job because each personality trait has conditions specified for a job. In this respect, understanding the relationship between a personality trait and a job can assist organizations to augment their productivity, increase job satisfaction among their employees, prevent losses due to probably inappropriate selections, and save huge economic costs imposed by improper selections through right selection of their workforce.

One of the most important goals of for-profit organizations is to have earnings through selling products and providing services in market which are mostly conducted by sales personnel in a company; therefore, they play an unquestionable role in this respect. Given the importance of this issue over the past century, numerous research studies have been focused on the factors determining the performance of sales personnel (Azizi et al., 2012: 62).

It seems that special attention to personality traits of sales and marketing personnel and their impacts on sales performance in this industry would be a good solution to deal with this issue. The present study was to investigate the effect of personality traits on sales performance of Iran Insurance Company (Co.) agencies in the city of Tehran based on the theory of five broad personality traits. The main research question addressed whether personality traits of Iran Insurance Co. agents had an effect on sales performance of Iran Insurance Co. agencies or not?

## 2. THEORETICAL FOUNDATIONS

Today, the importance of personality has been accepted as one of the factors predicting job performance. Besides, it is obvious that an **individual's personality** in this respect has a significant effect in their job performance as it establishes motivation and attitudes of a person to a job and the manner they cope with job requirements. According to Witt, personality can be employed for the forecast of work-related behaviors and performance. As a matter of fact, personality is taken into account as one of the factors determining the types of perception of environment and reactions to it. Personality is likewise one of the decisive factors affecting the compatibility of an individual with a job because personality trait has conditions specified for a job. In this regard, considering the relationship between a personality trait and a job can help organizations to increase their productivity, augment job satisfaction among their personnel, avoid losses due to probably improper selections, and prevent huge economic costs incurred by inappropriate selections through right selection of their employees.

In this line; Chatham, Caldwell, and O'Reilly (1999) examined the relationship between personality and career success in order to predict **individuals' performance in managerial positions** through obtaining information about their personality traits (Cited in Martina, 2008). They developed a personality model of a successful young manager using specific personality traits prioritized on the basis of their relative importance for managerial positions (Cited in Martina, 2008). Comparing the personality traits of students enrolled in the field of MBA, Chatham and others (1999) successfully predicted career success in these students based on the given model (Cited in Martina, 2008). Five years following this preliminary study, it was concluded that graduates in the field of MBA whose personality traits were identical to the personality model of an ideal manager were more likely to work full-time and earn higher salaries (Cited in Martina, 2008). The results of the given study showed the need for further investigations into special fields such as the importance of personality traits in dealers (Cited in Martina, 2008).

Among professionals with high public relations, self-esteem is also another personality trait associated with personal success (Martina, 2008). Holenk and Weitz (1988) investigated the mutual impact of self-esteem on talent in terms of sales performance forecast (Cited by Martina, 2008). Dey and Badyan (1991) put forward the theory that self-esteem is likely to have a reverse effect on the variables of environmental conditions in terms of job performance (Cited in Martina, 2008). It was argued that a good work environment was more likely to compensate for lower levels of self-esteem and high self-esteem could make amends for a negative work environment (Martina, 2008). Eventually, people with high self-esteem compared with those with lower levels of self-esteem at the same stressful work environment had greater tendency to perform more tasks (Martina, 2008).

Moreover; findings by Chatham, Caldwell, and O'Reilly (1999) revealed that personality traits were highly correlated with job performance forecast; thus, researchers paid more attention to specific jobs in terms of investigations into behaviors related to personality (Cited in Martina, 2008). Chatham and others (1999) emphasized that research studies on the relationship between personality and job performance were required to involve a variety of behaviors, assessment of the relative importance of such behaviors in

individuals, and consideration of the relationship between such behaviors and special conditions (Cited in Martina, 2008).

Relationship between personality and performance has been a widely investigated issue in the field of industrial psychology over the past century (Barrick, Mount, and Judge, 2001; Cited in Rothman and Kortz, 2003). Job performance is in this regard a multidimensional concept that shows how employees do their duties, what initiatives they consider, and what measures they take to resolve problems (Rothman and Kortz, 2003). Moreover, such a performance indicates the extent employees perform their tasks as well as the manner they make use of the resources available, as well as the time and energy spent for their activities (Boshoff and Arnolds, 1995; Schepers, 1994; Cited in Rothman and Kortz, 2003).

Karimi (2009) in a study entitled “**Examining the relationship between personality traits and job performance in police forces**” checked the correlation between several personality traits and job performance in a group of police forces. In the given study, the theory of major basic personality traits including extraversion, work conscientiousness, emotional stability, agreeableness, and compatibility were used. The findings revealed that work conscientiousness was highly correlated with job performance among the five factors considered although extroversion and emotional stability led to a better job performance in police forces. However, various research studies found that the two factors of agreeableness and compatibility were not correlated with job performance in employees.

White, Kamker, Carlson, and Zynovska (2002) examined the interactive relationship between personality traits, organizational policies, and underlying functions using a sample size of 540 employees in an organization. The data collection instrument was comprised of the Traits Personality Questionnaire (major five factors) and Underlying Function Data Questionnaire (job sacrifice and inter-personal relieving). The results of the given study demonstrated that conscientiousness was significantly correlated with job sacrifice and compatibility had a significant relationship with inter-personal relieving. Furthermore, extraversion was correlated with inter-personal relieving (Wright, 2002).

Barrick, Mount, and Perkins recruiting three sample groups (1- the first group included 146 individuals from middle managers of the American army; 2- the second group involved 103 sales agents in an industrial organization; 3- the third group was comprised of 121 people from local press institution managers) showed a significant relationship between the personality trait of conscientiousness, cognitive ability, and job performance among all the study groups. The results also revealed that the values for the correlation and variance of performance and conscientiousness were higher than those of performance and cognitive ability. In other words, conscientiousness could explain more ratio of the variance of job performance compared to that of cognitive ability. Furthermore, increased variance when these two factors (cognitive ability and conscientiousness) interactively entered into the equation was not significant (Barrick, Mount, and Perkins, 1999).

Furthermore; Barrick and Mount conducted a meta-analysis in order to review the credibility of the dimensions of the major five factors of personality (extraversion, conscientiousness, emotional stability, agreeableness, openness to experience) for job performance forecast. The results of their meta-analysis demonstrated that conscientiousness was a credible predictor of performance among all job groups as well as all job components. The other personality factors had the required validity only in some jobs and some work-related criteria for performance forecast. Barrick and Mount also found that extraversion was a valid predictor of job performance in managers and emotional stability was a trustworthy predictor of job performance in police forces. Agreeableness was also a valid predictor of job performance for both job groups; however, openness to experience showed no validity for the prediction of job performance in job groups. Extraversion was also a valid predictor of training efficiency and emotional stability, agreeableness, and openness to experience were reliable predictors of training efficiency.

Achakoy (2013) in a study entitled “**Personality traits and performance: the intermediary role of compromise at call centers**” supported a proposition in a Canadian call center for five personality factors. The results revealed that all the five personality traits had a positive effect on employee performance in terms of customer relationship. Moreover; conscientiousness, agreeableness, extraversion, emotional stability, and openness to experience were significantly correlated with performance in terms of customer relationship. Thus, the five major personality traits were predictors of employee performance in terms of

customer relationship in call centers. Given the t-value, the findings of the study indicated that agreeableness was the most important predictor of employee performance considering customer relationship and openness to experience, agreeableness, emotional stability, and extraversion were the subsequent predictors in this respect.

Likewise; Nicholay and Andrey (2013) conducted a study entitled “**Academic performance forecast: relationship between five major personality factors and academic performance**” using a statistical sample of students in the faculty of Psychology and Educational Sciences (mostly enrolled in the field of Psychology) in the University of Bucharest in Romania. According to the results of the given study, only conscientiousness was significantly correlated with academic performance which could be generalized as a predictor out of the five major personality factors. The other factors had an approximately 2% correlation with academic performance.

Mokhtar and Taheer (2015) investigated the effect of five major personality factors on sales personnel performance in terms of the moderating role of culture. It was noted that research on sales personnel performance was a continuous process which had drawn different stakeholders to obtain profits through a combination of factors for an effective sales personnel performance. The results of this study showed that no special collection of factors could lead to effective performance of sales personnel in all conditions because performance was considered as an output based on backgrounds, contents, and conditions. It was concluded that the five major personality factors could not effectively explain the performance of sales personnel. Customer-orientation by these individuals could also have a significantly intermediary role in predicting their performance within the framework of five major personality factors. As well, the moderating impact of culture in sales personnel was illustrated in the provided model to help in determining the likely unusual differences in their performance.

Parhizkari (2012) **in a master’s thesis entitled “Investigating the impact of personality traits in principals on their performance from the attitudes of schoolteachers in the city of Chalus” examined** the impact of personality traits of principals through obtaining the attitudes of schoolteachers in the city of Chalus in the academic year 2012-2013. The findings of the study indicated a reverse relationship between introversion in principals and their performance based on the attitudes of teachers. There was no relationship between extraversion in principals and their performance. A reverse and negative correlation was also observed between neuroticism in principals and their performance. In terms of gender, no significant difference was found between the attitudes of male and female teachers towards **principals’** performance.

Khakpoor (2004) **in a master’s thesis entitled “Examining the relationship between personality traits and job performance (underlying/task-based) of principals in lower-secondary schools in the city of Hamedan in the academic year 2003-2004”** checked the relationship between personality traits and job performance of the given principals. The results of the study showed a significant and positive relationship between the personality traits of principals and their levels of underlying as well as task-based performance.

### **3. RESEARCH MODEL**

To measure the variable of personality in the present study, FFM: Five-Factor Model of Personality developed by Robert McCrae and Paul Costa in 1998 was used. This model has a comprehensive view towards human and it encompasses nearly all the personality traits known by the public as well as the scientific theories of personality (McCrae and Costa, 1999).

To check the performance of an insurance company affiliated agencies, a researcher-designed questionnaire was used in this respect that was also a tool for the measurement of all the dimensions of sales performance.

Given the review of the related literature and the variables used to fulfill the objectives of the present study, the conceptual research model was illustrated as follows:

### 3.1. RESEARCH METHODOLOGY

In terms of the research method, this study was survey-based and it was in the form of an applied research considering the research objectives. The statistical population of the present study included active agencies of Iran Insurance Co. affiliated with the Azadi branch. According to the data and statistics released by the Vice-Chancellor Office for Resources in Iran Insurance Co., the total numbers of active agencies of the given company affiliated with the Azadi branch were equal to 349. Due to the limited population size; following the determination of the sample size, the questionnaires were distributed randomly among active agencies of Iran Insurance Co. Given the limited number of members of the population, Cochran’s Formula was used in order to determine the sample size. Using the sample size (349 individuals) in Cochran’s Formula, the sample size was determined as 183 individuals.

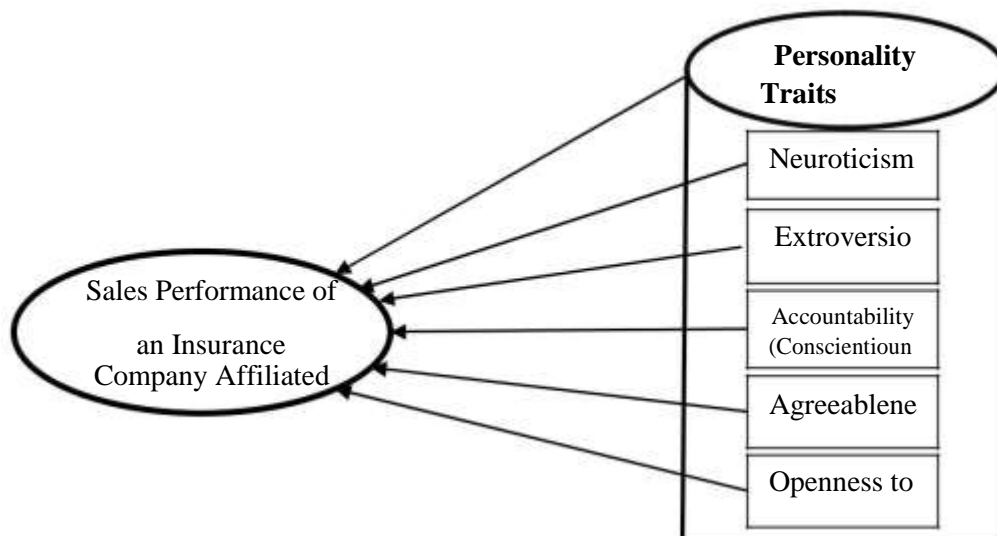


Figure 1. Conceptual model of the study - Extracted from the models presented by Yakasy and Jean (2015) and Achieve (2006)

Moreover, simple random sampling method was used in order to distribute the questionnaires.

$$n = \frac{\frac{(1.96)^2 (0.5)(0.5)}{0.05^2}}{1 + \frac{1}{349} \left( \frac{(1.96)^2 (0.5)(0.5)}{0.05^2} - 1 \right)} = 183$$

In terms of the library method, prominent resources and research papers published in professional journals as well as books and scientific and research-oriented publications and online resources were used.

Using Cronbach’s alpha test in the SPSS software, the reliability of the standard Questionnaire of Five-Factor Personality Measurement by McCrae and Costa was obtained equal to 0.853. The reliability coefficient of the researcher-designed questionnaire for the measurement of sales performance with the initial distribution of 30 questionnaires was also 0.842.

### 4. DATA ANALYSIS

In this section, the normality of data was obtained in order to conduct data analysis through parametric or non-parametric tests. The Kolmogorov-Smirnov test was similarly used to determine the normality of the research data. Considering the results of the given test through the calculations in the SPSS software summarized in Table 1, all the data associated with this study were normal.

Considering that the distribution of dependent variables in the present study was normal and met the conditions for linear regression in which dependent variables should be normal and given that the present

study was to investigate the effectiveness of one independent variable on a dependent variable; the examination of the research hypotheses was conducted through linear regression analysis.

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

Row	Research variables	Kolmogorov-Smirnov test	Level of accepted error
1	Neuroticism	0.677	0.748
2	Extroversion	1.102	0.177
3	Accountability (Conscientiousness)	0.820	0.512
4	Agreeableness	0.836	0.487
5	Openness to experience	0.682	0.742
6	Sales performance	0.753	0.624

*Source: Author*

**Hypothesis 1:** Neuroticism had an effect on sales performance of Iran Insurance Co. agencies. The regression analysis test was also conducted for the first hypothesis.

**Table 2. Results of regression analysis for the model in the first hypothesis**

Model	Non-standardized coefficients		Standardized coefficient	T	Significance
	B	error criterion estimate	Beta		
Constant value	3.202	0.321	-0.025	9.979	0.000
Neuroticism	-0.031	0.095		-0.324	0.747

*Source: Author*

It was found that the constant value was significant; however, the variable of neuroticism in the given model was not so. Thus, it was concluded that the variable of neuroticism had no significant effect on the performance of Iran Insurance Co. agencies.

**Sub-Hypothesis 2:** Extroversion had an impact on sales performance of Iran Insurance Co. agencies. The regression analysis test was also conducted for the second sub-hypothesis. The results for the correlation between the two variables of extroversion and sales performance were illustrated in Table 3.

**Table 3. Results of regression analysis for the model in the second hypothesis**

Model	Non-standardized coefficients		Standardized coefficient	T	Significance
	B	Error criterion estimate	Beta		
Constant value	34.301	4.721	0.047	7.266	0.000
Extroversion	0.826	1.358		0.608	0.000

*Source: Author*

According to Table 3, the constant value and the variable of extroversion were significant in both models. Following the determination of the significance of the constant value and extroversion, the standardized coefficients represented a standardized regression coefficient or constant value. Standardized regression coefficient or beta in the second hypothesis was equal to 0.047 indicating the positive effect of the variable of extroversion on sales performance.

**Sub-Hypothesis 3:** Accountability (Conscientiousness) had an effect on sales performance of Iran Insurance Co. agencies. The regression analysis was also conducted for the third hypothesis.

**Table 4. Results of regression analysis for the model in the third hypothesis**

Model	Non-standardized coefficients		Standardized coefficient	T	Significance
	B	Error criterion estimate	Beta		
Constant value	31.603	5.117	0.084	6.176	0.000
Accountability (Conscientiousness)	1.616	1.480		1.092	0.000

*Source: Author*

As illustrated in Table 4, the constant value and the variable of accountability (Conscientiousness) were significant in both models. Following the determination of the significance of the constant value and accountability (Conscientiousness), the standardized coefficients indicated a standardized regression coefficient or beta. The standardized regression coefficient or beta in the third hypothesis was also equal to 0.084 revealing the positive impact of the variable of accountability (Conscientiousness) on sales performance.

**Sub-Hypothesis 4:** Agreeableness had an impact on sales performance of Iran Insurance Co. agencies. The regression analysis was also conducted for the fourth hypothesis

According to Table 5, the constant value and the variable of agreeableness were significant in both models. Following the determination of the significance of the constant value and the variable of agreeableness, the standardized coefficients showed a standardized regression coefficient or beta. The standardized regression coefficient or beta in the fourth hypothesis was equal to 0.059 representing the positive effect of the variable of agreeableness on sales performance.

**Table 5. Results of regression analysis for the model in the fourth hypothesis**

Model	Non-standardized coefficients		Standardized coefficient	T	Significance
	B	Error criterion estimate	Beta		
Constant value	33.646	4.624	0.059	7.277	0.000
Agreeableness	1.208	1.345		0.754	0.000

*Source: Author*

**Sub-Hypothesis 5:** Openness to experience had an effect on sales performance of Iran Insurance Co. agencies. The regression analysis was also conducted for the fourth hypothesis.

**Table 6. Results of regression analysis for the model in the fifth hypothesis**

Model	Non-standardized coefficients		Standardized coefficient	T	Significance
	B	Error criterion estimate	Beta		
Constant value	32.336	4.124	0.091	7.842	0.000
Openness to experience	1.419	1.201		1.182	0.000

*Source: Author*

As shown in Table 6, the constant value and the variable of openness to experience were significant in both models. Following the determination of the significance of the constant value and the variable of openness to experience, the standardized coefficients represented a standardized regression coefficient or Beta. The standardized regression coefficient or beta in the fifth hypothesis was equal to 0.091 indicating the positive effect of the variable of openness to experience on sales performance.



## 5. CONCLUSION

Sales performance is taken into account as one of the main issues in marketing and management which is affected by various cultural, social, personal, and psychological factors. Understanding sales-related behavior and performance is not a simple task, however. In order to achieve success in this respect, marketers should go beyond different factors affecting sales performance and investigate the ones determining sales performance. Accordingly, there is no doubt that better recognition of the factors affecting sales performance and more likely the prediction of behavior and personality of sales personnel and eventually effectiveness on their performance requires the recognition of sales personnel personality traits that are considered as one of the most important and effective factors. The Trait and Factor Theory is also one of the most practical theories in recognizing personality traits in the field of marketing and NEO Personality Inventory is among the various tests used to check personality traits and frequently employed in various marketing research studies.

Given the results obtained, the following suggestions were put forward to managers and authorities of Iran Insurance Co. in order to promote sales.

Considering the results of the research hypotheses in terms of the positive effect of extraversion, openness to experience, accountability (Conscientiousness), and agreeableness on sales performance; it became obvious that sales performance was not affected by intellectual behavior and it was mainly on the basis of entertainment, emotions, and feelings in sales personnel. Most of the sales were accidental and instantaneous and the results actually indicated that more sociable, imaginative, cultured, curious, original, open-minded, intelligent, artistic, and sensitive sales personnel were more likely to have an effect on sales performance. Given the results obtained, the following practical suggestions were presented to managers and authorities of Iran Insurance Co.:

1. According to the results of the first hypothesis, managers of companies and service-oriented institutions particularly insurance companies ought to check personality traits in sales personnel precisely prior to their recruitment and prevent the employment of individuals with the given type of personality traits.

2. Considering the results of the second hypothesis, it was recommended to recruit extroverted individuals as sales personnel and move the introverted individuals towards extroversion through training. The training courses need to be held in different areas. In terms of problem-solving, such behaviors in individuals are required to be reinforced: inclination to speak loudly, use of the best solutions crossing mind during speaking, inattention to others' comments, and interest to participate in group discussions in order to solve the problems. Given the communications, it was suggested to enhance such behaviors in sales personnel: preference to have face-to-face relationships if possible, inclination to see non-verbal reactions and behaviors, need for instantaneous feedback, lack of interest to write daily memories, and search to find opportunities for conversations and social activities. Reinforcement of several other behaviors was also recommended in terms of decision-making: reception of information from others prior to decision-making and inclination to show quick reactions in critical conditions. In terms of inter-personal interactions, such behaviors were suggested to be promoted in sales personnel: use of the energy obtained from interactions with others, feeling of energy discharge due to long-time loneliness tolerance, and having numerous friends and acquaintances. Given the area of attention and concentration in individuals, such behaviors were recommended to be enhanced: much focus on surrounding people and items, inability to focus at the time of silence, exhaustion due to coercion to sit and long-term attention to one item or issue, and indifference to interfering factors. Considering natural strengths, such behaviors were suggested to be improved: giving energy to people and groups, ability to react quickly, feelings of passion and thrill, and making individuals get to know each other. In terms of natural weaknesses, it was recommended to enhance such behaviors in individuals: not giving space to others to speak, inattention to others' information, no writing about difficulties, and reactions before thought. In order to help people to move away from introversion and to recover extroversion among sales personnel, it was suggested to reinforce such behaviors mentioned in different areas.

3. Given the results of the third hypothesis, it was recommended to boost accountability (Conscientiousness) in sales personnel and recruit only responsible individuals. The structure of the

company should be designed in such a way that only accountable employees are able to have access to high-ranking managerial positions. This is an obvious fact that managerial skills and knowledge can be acquired in the working process, but accountability as the most basic factor affecting work progress cannot be easily obtained. Although we can demand accountability in the personnel of an organization through an optimistic strategy to change oneself to a practical model for other employees and expect them to follow us and acquire accountability, this fact should be considered that adopting this strategy can only make us hopeful that the spirit of accountability will emerge in the work environment. In this respect, some psychoanalysts believe that accountability is a personality trait which originates from a major decision in one stage of human life. In other words, humans become accountable due to the effect of various social and educational factors and maintain such a personality trait during their lifetime and also show it at their work environment. However, those who have not experienced this stage always evade such a responsibility. Therefore, the element of accountability should be taken into account as the most basic selection criterion at the time of assigning managers. On the other hand, control systems in an organization must form up in a way that the accountability of employees is inevitable. In other words, supervisory systems ought to be in a form that managers and the staff cannot ignore accountability. To achieve this objective, the first condition in order to have access to managerial positions should be accountability. Persuasion and control of employees and managers towards accountability have two valuable consequences in this respect: a. changes in the selection methods of managers; and b. transformations in supervisory institutions.

4. According to the results of the fourth hypothesis, it was suggested to reinforce sociability in sales personnel and recruit social individuals. In order to enhance social and cordial behavior in a salesperson, they should be suggested to have such behaviors: use of different facial and bodily gestures in order to show their interests in the issues and use of gentle handshakes. These behaviors would indicate confidence, warmth, openness, and honesty. They should also use body language (signs and gestures), strongly avoid smoking, never take off their jackets or loosen their ties if they have worn one for being formal provided that the host has shown the same behavior before, prevent excessive approaching and standing to someone; speak less loudly, and allow customers to finish their talks before responses.

5. Given the positive effect of openness to experience on sales performance and the important role of experiences by sales personnel, it was recommended to reinforce openness to experience in sales personnel and recruit individuals with higher levels of experience who are interested in accepting new experiences. To encourage sales agencies to acquire new experiences, there is a need to motivate them and provide incentives for them in order to share their new experiences. This can be fulfilled through holding monthly meetings for sales agencies and sharing such experiences among all.

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# INVESTIGATING THE RELATIONSHIP BETWEEN RISK AND STOCK RETURN IN ACCEPTED VALUE AND GROWTH COMPANIES IN TEHRAN STOCK EXCHANGE

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## Abstract

*The study attempts to investigate the relationship between risk and stock return in accepted value and growth companies in Tehran stock exchange. In this study, data of 249 active companies in Tehran stock exchange is used that 121 companies have growth stock and 128 companies have value stock during 2007-2015. To analyze data, panel data regression model with the approach of fixed effects was used. In this study, criteria of total risk, systematic and nonsystematic risks are selected as independent variables in order to measure the impact of independent variables as indexes of risk individually in the form of 6 hypotheses on stock return in growth and value companies. Achieved results from analyses of research models indicate that there is positive and significant relationship among total risk, systematic and nonsystematic risk and stock return in value and growth companies.*

JEL classification: G32

**Keywords:** return, stock risk, value and growth stock

## 1. INTRODUCTION

The main purpose of financial reporting is to help users especially investors in economic decision-making. According to economic aspects of information, financial reporting and accounting system have critical role in capital market. According to this case, regulators of accounting standards try to increase adaptation of information of accounting system with required appropriate data of investors. They express the main purpose of accounting as supplying information needs of capital market. Therefore, evaluation of relating accounting information to prediction of stock return and/or stock evaluation is considered as a main pattern in researches of financial accounting that is addressed in recent studies (Kordestani and Roodneshin, 2006).

One of most important used data of investors in capital markets for gaining return and evaluation of companies is stock risk of the company. Return basic paradigm and value and growth stock risk is a hypothesis that based on it, capital market should be efficient in front of publication of related data that is provided for people. The hypothesis of efficient market indicates to reaction speed of securities of capital market about declaration of new data. Definition of efficiency of market is: 1. Capital market reflects available data completely, 2. Prices of the market react to new data quickly. In other words, new data affect price of securities quickly. The concepts of efficient market hypothesis enable authors to consider this matter that is there any relationship between return and value and growth stock risk? And does reflected data in accounting profit is suitable for investors? (Yaghobnezahad, 2007)

Nowadays, companies try to maximize the value of company to attract investors. Growth in return and reduction of stock risk is one of addressed approaches for this purpose. In Tehran stock exchange, companies also try to encourage investors for usual stock by increasing their annual profit. On the other hand, investors, in stock market, try to direct their resources to a way that provides maximum profitability for them by using financial data of companies (Gorgizadeh, 2010).

## 2. THEORETICAL FOUNDATIONS

Growth stock is stock its price relative to cash flows, earnings, dividends and book value is higher than the average market. Growth stocks belong to companies that still have not reached maturity and as far as possible refrain from the distribution of profits. (Tehrani and Noorbakhsh, 2007, 123)

Value stock is stock its price relative to cash flows, earnings, dividends and book values are less than the average for the market.

Investors to invest in value stocks, the market value of the company due to, without any expected significant growth or major changes in profitability participate. For this reason, the investments of the investors in growth stocks higher safety margin (Tehrani and Noorbakhsh, 2007, 123)

Nonsystematic risk is part of the variability in yields of securities that does not depend on the variability of the overall market, such as business risk, financial, liquidity and ... (Tehrani and Noorbakhsh, 2007, 123).

Systematic risk is the deviation in returns expected by factors outside the company (market economic factors) is relevant and is not under the control of company management, we define systemic risk as a major risk (Rahnamaee Roodposhti and Hemmati, 2009, 171).

About the concept of return, Markowitz believes that it may be possible that the definition of return is different from one investment to another. However, investors prefer to achieve maximum amount rather than minimum amount of it. In the same way, Francis also believes that if we consider investment as a kind of money transfer and it is expected that more money is achieved, then, each investment has a degree of risk that requires losing money presently for achieving future return (Moradzadeh Fard, 2004, p. 25).

Growth stock advocates believe that the main reason for investing in this kind of stock is investment in future growth in the profits of company. Therefore, the best kind of stock for possession is a stock that its profit grows with high speed. Therefore, economic analyzers try to recognize companies that do not reach to their maturity stage because they have more powerful development and research plans. Growth investors follow the stock of companies that have faster growth than average limit during history and they have high growth ability. The growth is measured by some factors like profit increase or sale amount of a company. Managers of growth stock tend to accumulate any profit and avoid profit pay because they want to invest available cash in the institution. Therefore, growth investors achieve return of their investment from increasing in prices of stocks generally (Ivani, Farzad, 1999).

### 2.1. LITERATURE REVIEW

Today, companies try to attract investors to maximize the value of their company. Return growth and reduction of stock risk is one of addressed approaches for this purpose. In Tehran stock exchange, companies also try to encourage investors for usual stock by increasing their annual profit. On the other hand, investors, in stock market, try to direct their resources to a way that provides maximum profitability for them by using financial data of companies (Fakhari and Yosefnejad, 2006).

Hou et al (2014), in a research entitled “prediction of cash processes, investment cost and expected return”, investigating the relationship between three variables. They emphasized on cost of investment based on predictions of profit of companies with respect to related models and indexes to predicted cash and estimated flows and addressed huge samples of companies during 2000-2013. They concluded that profit predictions based on other predictions related to predictions of cash flows and achieved from related coefficients to predictions of the profit. Indeed, in the field of investment cost and its relationship with expected return of stock, they concluded that related index to expected returns was the same predictions about stock return.

Arab Mazar Yazdi and Talebian (2013) examine the impact of the quality of financial reporting and data risk on capital cost. Findings of this research show that cost of capital of the companies with low quality accruals is more than capital cost of companies with high quality accruals.

Tavangar and Khosraiani (2011) in a study investigating the examination of ability of D-CAPM model in comparison with CAPM model in description of relationship between risk and stock return. The results of research showed that D-beta based on D-CAPM had more ability in measuring risk and prediction of stock return rather beta and traditional CAPM model.

Bixia Xu (2011) examined the impact of life cycle of business unit in determination of expected stock return. The main findings of the research show significant effect of life cycle. The results indicated that relation of the value of risk factors is conditional to levels of life cycle of business unit.

Brimble and Hodgson (2010) investigated the relationship among accounting variables and systematic risk. In their research, they concluded that accounting beta variables, profit changes, growth, and dividend payout ratio, current ratio, financial leverage, interest coverage ratio and operational leverage described more than 57% of changes of systematic risk.

Brimble (2009) examined the role of accounting data in estimation of systematic risk. He selected 123 companies as sample size during 2000-2008. The variables in his research consisted of accounting-beta, profit changes, growth, size, and dividend payout ratio, current ratio, financial leverage, interest coverage ratio and operational leverage. The results showed that mentioned accounting variables described more than 57% of systematic risk changes.

### 3. METHODOLOGY

The present study in term of purpose is applied research. Indeed, it is descriptive in term of data collection. Statistical population includes all accepted companies in Tehran stock exchange during 2007-2015. In addition, we used systematic massive sampling. The scale of data measurement is relative scale. It presents most accurate and highest level of measurement. Theoretical information and findings of previous researches and required data of the research are collected from secondary resources exactly. To collect information about literature of the subject and history of the research and extraction formulas of research variables, desk study is used. Therefore, required data of this research will be gathered through computer databases, reference to library of stock exchange organization, use of Rahavard Novin software and reference to [www.rdis.ir](http://www.rdis.ir) website that belongs to stock exchange organization (management of research, development and Islamic studies). Moreover, financial statements of companies including balance sheet, cash flow statement and notes along financial statements in end of each financial year (March, 20) are used as tools of the research. To analyze data, collected data is transferred to Excel spreadsheet initially and after organization and execution of necessary calculations, Eviews8 econometrics software is used for analyzing data.

## 4. RESULTS

### 4.1. DESCRIPTIVE STATISTICS

In a summarized using descriptive methods can be properly represented exactly the characteristics of a bunch of information. Descriptive statistics always are used to determine the expression and properties of research data.

Initially, descriptive statistics were calculated under study. Table 1 shows the descriptive statistics of variables, which include information about the mean, median, standard deviation, coefficient of skewness and kurtosis coefficient.

The main central index is average that shows balance point and it is center of distribution and appropriate index for showing centrality of data. For instance, average value for variable of stock return in growth stock companies is equal to 3.911129 that show most of data is gathered around this point. Moreover, dispersion parameters are a criterion for determination of the amount of dispersion from each other or their dispersion rather than average. From most important dispersion parameters is standard deviation. Among

research variables, systematic risk has minimum dispersion amount in companies with growth stock and maximum dispersion in companies with value stock.

**Table 1. Descriptive statistics for variables**

Variables		Variable s	Symbol	Central index		Diffusio n index	Distribution Index		
				Mean	Middle		Skewness coefficient t	Kurtosis coefficient t	
Company h h k	<b>Dependent</b>	Stock return	R	3.911129	2.680000	5.703355	1.111616	4.477382	
	<b>Indepen dent</b>	Total risk	RISK	3.540124	2.587273	5.423575	0.781649	3.647272	
		Systemat ic risk	SRISK	-0.00289	-0.0107	0.078956	1.517367	13.07426	
		Nonsyste matic risk	NSRISK	3.543018	2.593389	5.426765	0.783808	3.651063	
	<b>Control</b>	Size of the company	SIZE	5.738651	5.677716	0.874381	0.559749	3.640780	
		Financial Leverage	LEV	0.474089	0.532666	0.306837	-0.185605	1.696676	
		Return on assets	ROA	0.071720	0.037874	0.239286	0.201357	5.662596	
	Company h a e k	<b>Dependent</b>	Stock return	R	3.973550	2.825000	5.793462	1.168390	4.757877
		<b>Indepen dent</b>	Total risk	RISK	3.589883	2.717283	5.782072	-0.107107	9.721059
Systemat ic risk			SRISK	3.27E-05	-0.0061	0.082969	1.374351	13.83818	
Nonsyste matic risk			NSRISK	3.589851	2.731432	5.780850	-0.107492	9.723270	
<b>Control</b>		Size of the company	SIZE	5.956612	5.874599	0.764124	0.799545	4.212556	
		Financial Leverage	LEV	0.574043	0.619624	0.244540	-0.509573	2.503540	
		Return on assets	ROA	0.068865	0.034325	0.225524	0.106216	5.157056	

Source: Author

## 4.2. INFERENCE STATISTICS

### 4.2.1. Review of variance heterogeneity

In all hypotheses according to the statistics of this test is significant at the 5% level, so assuming homogeneity of variance was rejected and heteroscedasticity of variance will be accepted.



This is because of violations

$$Var(U_i) = \delta^2 I$$

. Such problems may cause the results of OLS regression

is not the most efficient. To fix the problem of generalized method of least squares is used.

**Table 2. Results of White heteroskedasticity test**

Hypothesis	Description	Static value	Possibility	P-value	Result
Main hypothesis 1	F-statistic	16.84565	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	196.0766	0.0000		
Subsidiary hypothesis 1	F-statistic	29.14928	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	447.2866	0.0000		
Subsidiary hypothesis 2	F-statistic	29.12231	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	213.1132	0.0000		
Main hypothesis 2	F-statistic	40.66274	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	960.2188	0.0000		
Subsidiary hypothesis 1	F-statistic	29.13269	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	447.0828	0.0000		
Subsidiary hypothesis 2	F-statistic	28.75910	0.0000	P<0.05	heteroscedastic
	Obs*R-squared	106.7032	0.0000		

Source: Author

**4.2.2. Chow test (F Limer) and Hausman test**

In all hypotheses with regard to the value derived from the F-Limer test p-value is smaller than 0.05, the null hypothesis is rejected (p-value <0.05) and panel data methods accepted. Also according to the amount p-value obtained is greater than Hausman test that is 0.05, so the null hypothesis of Hausman test is confirmed and the random effects is accepted.

**Table 3 Chow test (F Limer) and Hausman test**

Hypothesis	Chow test (F Limer)	Possibility	P-Value	Results	Hausman static	Possibility	P-Value	Results
Main hypothesis 1	2.946543	0.000	P<0.05	Panel data	0.861701	0.9300	P≥0.05	Random effects
Subsidiary hypothesis 1	2.101328	0.000	P<0.05	Panel data	7.261131	0.1227	P≥0.05	Random effects
Subsidiary hypothesis 2	2.946845	0.000	P<0.05	Panel data	0.873369	0.9284	P≥0.05	Random effects
Main hypothesis 2	1.626541	0.000	P<0.05	Panel data	5.040972	0.2831	P≥0.05	Random effects
Subsidiary hypothesis 1	2.232008	0.000	P<0.05	Panel data	5.489516	0.2407	P≥0.05	Random effects
Subsidiary hypothesis 2	2.621854	0.000	P<0.05	Panel data	5.164472	0.2708	P≥0.05	Random effects

Source: Author

### 4.3. HYPOTHESIS TESTING

#### 4.3.1. First main hypothesis:

There is significant relationship between total risk and stock return in growth companies.

**Table 4. Analysis of data to test the first main hypothesis**

Dependent variable: stock return in value companies				
Variable	Coefficient	Standard deviation	T-statistic	p-value
C	0.538966	0.136842	3.938598	0.0001
RISK	0.953849	0.003344	285.2098	0.0000
SIZE	-0.003244	0.025476	-0.127330	0.8987
LEV	0.036660	0.046176	0.793921	0.4274
ROA	0.081073	0.041745	1.942092	0.0524
Durbin-Watson statistic		2.218826	F-statistic	765.7578
Adjusted R-squared		0.288657	Prob(F-statistic)	0.00000
<b>Estimation Command:</b>				
=====				
<b>LS(CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C RISK SIZE LEV ROA</b>				
<b>Estimation Equation:</b>				
=====				
<b>R = C (1) + C (2)*RISK + C (3)*SIZE + C (4)*LEV + C (5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 0.538966149156 + 0.95384887137*RISK + 0.00324382892607*SIZE - 0.0366600284546*LEV - 0.0810734547839*ROA + [CX=F]</b>				
<i>[CX=F] Source: Author</i>				

According to table 4, the results of regression model test showed that P-Value of F-statistic that means significance of all regression is equal to 0.001347 and the model is significant in confidence level of 95%. Modified determination coefficient of  $R^2$  is equal to 0.288657 and shows that about 29% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-Watson is equal to 2.218826 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed from table 4, total risk variable coefficient is equal to 0.953849 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among total risk and stock return in growth companies.

#### 4.3.2. First subsidiary hypothesis

There is significant relationship between systematic risk and stock return in growth companies.

According to table 5, the results of regression model test showed that P-Value of F-statistic that means significance of all regression is equal to 0.001347 and the model is significant in confidence level of 95%. Modified determination coefficient of  $R^2$  is equal to 0.168931 and shows that about 17% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-Watson is equal to 2.286003 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed from table 5, total risk variable coefficient is equal to 1.022099 and its significance value is 0.0037. According to t statistic and P-value of this variable, the results show significance of this

coefficient in error level of 5%. These findings show that there is positive and significant relationship among systematic risk and stock return in growth companies.

**Table 5. Analysis of data to test the first subsidiary hypothesis** Dependent variable: stock return in value companies

Variable	Coefficient	Standard deviation	T-statistic	p-value
C	1.528564	0.189459	8.068047	0.0000
SRISK	1.022099	0.350733	2.914178	0.0037
SIZE	-0.043639	0.039062	-1.117158	0.2643
LEV	0.007819	0.144550	0.054089	0.9569
ROA	0.298390	0.070886	4.209431	0.0000
Durbin-Watson statistic		2.286003	F-statistic	1.480625
Adjusted R-squared		0.168931	Prob (F-statistic)	0.001347
<b>Estimation Command:</b>				
=====				
LS(CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C SRISK SIZE LEV ROA				
<b>Estimation Equation:</b>				
=====				
<b>R = C (1) + C (2)*SRISK+ C (3)*SIZE + C (4)*LEV + C (5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 1.52856355834 + 1.02209919903*SRISK+ 0.298390203814*ROA + [CX=F]</b>				

Source: Author

**4.3.3. Second subsidiary hypothesis:**

There is significant relationship between nonsystematic risk and stock return in growth companies.

**Table 6: Analysis of data to test the second subsidiary hypothesis** Dependent variable: stock return in value companies

Variable	Coefficient	Standard deviation	T-statistic	p-value
C	0.524595	0.139877	3.750396	0.0002
NRISK	0.953320	0.003158	301.8873	0.0000
SIZE	0.003901	0.025887	0.150708	0.8802
LEV	-0.016028	0.045115	-0.355261	0.7225
ROA	-0.082048	0.047387	-1.731451	0.0837
Durbin-Watson statistic		2.205125	F-statistic	722.5240
Adjusted R-squared		0.787985	Prob(F-statistic)	0.000
<b>Estimation Command:</b>				
=====				
LS (CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C NRISK SIZE LEV ROA				
<b>Estimation Equation:</b>				
=====				
<b>R = C (1) + C(2)*NRISK + C(3)*SIZE + C(4)*LEV + C(5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 0.5245951488 + 0.953319741225*NRISK + [CX=F]</b>				

Source: Author

According to table 6, the results of regression model test showed that P-Value of F-statistic that means significance of all regression is equal to 0.0000 and the model is significant in confidence level of 95%. Modified determination coefficient of R<sup>2</sup> is equal to 0.787985 and shows that about 79% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-

Watson is equal to 2.205125 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed in table 6, nonsystematic risk variable coefficient is equal to 0.953320 and its significance value is 0.0000. According to t statistic and P-Value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship between nonsystematic risk and stock return in growth companies.

#### 4.3.4. Second main hypothesis

There is significant relationship between total risk and stock return in value companies.

**Table 7. Analysis of data to test the second main hypothesis**

Dependent variable: stock return in value companies				
Variable	Coefficient	Standard deviation	T-statistic	p-value
C	0.277159	0.115236	2.405143	0.0163
RISK	0.943786	0.003016	312.9778	0.0000
SIZE	0.044461	0.019616	2.266543	0.0236
LEV	0.077003	0.063055	1.221198	0.2223
ROA	-0.010619	0.095205	-0.111539	0.9112
Durbin-Watson statistic		2.225992	F-statistic	1.452552
Adjusted R-squared		0.276922	Prob(F-statistic)	0.001283
<b>Estimation Command:</b>				
=====				
<b>LS (CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C RISK SIZE LEV ROA</b>				
<b>Estimation Equation:</b>				
=====				
<b>R = C (1) + C (2)*RISK + C (3)*SIZE + C (4)*LEV + C (5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 0.277159282634 + 0.94378586263*RISK + 0.0444612118781*SIZE + 0.077002907003*LEV - 0.010619091245*ROA + [CX=F]</b>				

*Source: Author*

According to table 7, the results of regression model test showed that P-value of F-statistic that means significance of all regression is equal to 0.0000 and the model is significant in confidence level of 95%. Modified determination coefficient of  $R^2$  is equal to 0.276922 and shows that about 28% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-Watson is equal to 2.225992 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed in table 7, total risk variable coefficient is equal to 0.943786 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among total risk and stock return in value companies.

#### 4.3.5. First subsidiary hypothesis

There is significant relationship between systematic risk and stock return in value companies.

According to table 8, the results of regression model test showed that P-value of F-statistic that means significance of all regression is equal to 0.0000 and the model is significant in confidence level of 95%. Modified determination coefficient of  $R^2$  is equal to 0.148984 and shows that about 15% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-Watson is equal to 2.263331 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed in table 8, systematic risk variable coefficient is equal to 3.640913 and its significance value is 0.0079. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among systematic risk and stock return in value companies.

**Table 8. Analysis of data to test the first subsidiary hypothesis**

Dependent variable: stock return in value companies				
Variable	Coefficient	Standard deviation	T-statistic	p-value
C	3.657614	1.181962	3.094528	0.0020
SRISK	3.640913	1.366915	2.663599	0.0079
SIZE	0.083580	0.185370	0.450882	0.6522
LEV	-0.163838	0.647394	-0.253073	0.8003
ROA	-1.277674	0.563038	-2.269250	0.0235
Durbin-Watson statistic		2.263331	F-statistic	1.452552
Adjusted R-squared		0.148984	Prob(F-statistic)	0.001283
<b>Estimation Command:</b>				
=====				
<b>LS(CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C SRISK SIZE LEV ROA</b>				
<b>Estimation Equation:</b>				
=====				
<b>R = C(1) + C(2)*SRISK+ C(3)*SIZE + C(4)*LEV + C(5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 3.65762009173 + 3.64091252767*SRISK- 1.27767444617*ROA + [CX=F]</b>				

*Source: Author*

**4.3.6. Second subsidiary hypothesis:**

There is significant relationship between nonsystematic risk and stock return in value companies.

**Table 9. Analysis of data to test the second subsidiary hypothesis**

Dependent variable: stock return in value companies				
Variable	Coefficient	standard deviation	T-statistic	p-value
C	0.312607	0.106153	2.944864	0.0033
NRISK	0.944763	0.002953	319.9528	0.0000
SIZE	0.039022	0.018322	2.129799	0.0334
LEV	0.066327	0.056839	1.166924	0.2435
ROA	-0.016389	0.105163	-0.155841	0.8762
Durbin-Watson statistic		2.224275	F-statistic	365.4988
Adjusted R-squared		0.776462	Prob(F-statistic)	0.00000
<b>Estimation Command:</b>				
=====				
<b>LS(CX=F, WGT=CXDIAG, COV=CXWHITE, NODF) R C NRISK SIZE LEV ROA</b>				
<b>Estimation Equation:</b>				
=====				
<b>R = C(1) + C(2)*NRISK + C(3)*SIZE + C(4)*LEV + C(5)*ROA + [CX=F]</b>				
<b>Substituted Coefficients:</b>				
=====				
<b>R = 0.312606542746 + 0.944763390835*NRISK + 0.039021925764*SIZE + [CX=F]</b>				

*Source: Author*

According to table 9, the results of regression model test showed that P-value of F-statistic that means significance of all regression is equal to 0.0000 and the model is significant in confidence level of 95%. Modified determination coefficient of  $R^2$  is equal to 0.776462 and shows that about 78% of changes of dependent variable with independent variables of the model can be described. Indeed, statistic of Durbin-Watson is equal to 2.224275 and this value is between 1.5 and 2.5 and shows lack of autocorrelation among variables.

As it is observed in table 9, nonsystematic risk variable coefficient is equal to 0.944763 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship between nonsystematic risk and stock return in value companies.

## 5. CONCLUSION

**The result of testing first main hypothesis:** There is significant relationship between total risk and stock return in growth companies.

As it is observed from table 4, total risk variable coefficient is equal to 0.953849 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among total risk and stock return in growth companies.

**The result of testing first subsidiary hypothesis:** There is significant relationship between systematic risk and stock return in growth companies.

As it is observed from table 5, systematic risk variable coefficient is equal to 1.022099 and its significance value is 0.0037. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among systematic risk and stock return in growth companies.

**The result of testing second subsidiary hypothesis:** There is significant relationship between nonsystematic risk and stock return in growth companies.

As it is observed in table 6, nonsystematic risk variable coefficient is equal to 0.953320 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among nonsystematic risk and stock return in growth companies.

**The result of testing second main hypothesis:** There is significant relationship between total risk and stock return in value companies.

As it is observed in table 7, total risk variable coefficient is equal to 0.943786 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among total risk and stock return in value companies.

**The result of testing first subsidiary hypothesis:** There is significant relationship between systematic risk and stock return in value companies.

As it is observed in table 8, systematic risk variable coefficient is equal to 3.640913 and its significance value is 0.0079. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship among systematic risk and stock return in value companies.

**The result of testing second subsidiary hypothesis:** There is significant relationship between nonsystematic risk and stock return in value companies.

As it is observed in table 9, nonsystematic risk variable coefficient is equal to 0.944763 and its significance value is 0.0000. According to t statistic and P-value of this variable, the results show significance of this coefficient in error level of 5 percent. These findings show that there is positive and significant relationship between nonsystematic risk and stock return in value companies.

Usually, one of most basic and important parts of each research is conclusion and presentation of an approach for improving the problem that the research is designed for it. In this section we want to finish this research concluding from findings and presentation of some suggestions. We hope to step in improving knowledge of financial management and helping investors and decision-makers in this field of knowledge. The general purpose of the research is consideration of the relationship between risk and stock return in accepted growth and value companies in Tehran stock exchange. In this research, we used data of 249 active companies in Tehran stock exchange that 121 companies had growth stock and 128 companies had value stock during 2007-2015. To analyze data, we used panel data regression model with the approach of fixed effects. In this research, criteria of total risk, systematic and nonsystematic risks are selected as independent variables in order to measure the impact of independent variables as indexes of risk individually in the form of 6 hypotheses on stock return in growth and value companies. Achieved results from analyses of research models indicate that there is positive and significant relationship among total risk, systematic and nonsystematic risk and stock return in value and growth companies. Achieved results of this research are consistent with findings of Blazenko and Yufen (2010), Gulen et al (2008), Fama and French (2005) and Moazeni (2010).

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# FACTORS AFFECTING VERBAL AND SEE ADVERTISEMENTS NEXT TO INTERNET BUSINESSES (THE CRUSHER FINDER WEBSITE)

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## Abstract

*This study aimed to investigate the factors influencing the next visit to the website of mouth advertising and mental Finder has been implemented. This research method descriptive study of correlation is to collect data in this study was a questionnaire that its validity according to the model used in the study (Molinari et al) operational definition of variables and comments advisors and experts confirmed and reliability using Cronbach's alpha was 0.83. The population of this research are the users of the website mental locator on this site are registered and their number is around 100,000. The sample size was determined using Cochran formula with accuracy and confidence level of 95% was 385 times. But all three of perceived quality, perceived value and satisfaction influence on the next visit. Word of mouth advertising is no relationship between gender, age, orientation and education for the next visit there and also no relationship between gender, age, duration of knowledge and education are available.*

JEL classification: M31, L86

**Keywords:** marketing, advertising, oral, website, internet business

## 1. INTRODUCTION

As communication patterns increasingly **doesn't** transcend national boundaries, Statistics users, it **doesn't** connection to the Internet is growing exponentially. The rapid spread of the Internet, satellite and digital technology, synchronous communication among the sectors of the world made it possible. As a result, **many have been By-Asr Mly-Atlaat controls. The role of the media: and their influence in the political,** economic and cultural communities is no secret. Some theorists believe that today's communication in the hands of the person who owns the media: The major role of the media: **in Shkl-Dhy public opinion has** caused so much taken into consideration the importance of the media: (Alvin, 1378). Since the advent of the Internet in Iran today, many issues have been much debated. According to some statistics, Iran has about seventy million, thirty-two million and ninety thousand Pansdv Internet users, which amounts to 47% of the total population. Iran's share of the number of Internet users in the Middle East more than 50 percent and the growth of the Internet 9, 100 per cent, the highest share of growth in the Middle East because it is only within seven years from December 2000, when the Internet 250 thousand people 2008 had significant growth (Oftadeh, 1391).

## 2. MENTIONED RESEARCH QUESTIONS.

Word of Mouth Marketing as sharing information from one person to other people, though human communication such as face to face contact, telephone, or social media and more defined. Advertising oral (mouth) more familiar to customers having the ability or skill to choose the offers. In this way they can profit from perceived risk dropped obtain a definitive purchase behavior (Litwin, Goldsmith, Pan, 2008; Trousseau, Buklyn, Pavlz, 2009). The first step in Internet businesses create websites for clients by using

e-mail marketing customers to the website generated leads. In this way the ads that users of websites by word of mouth running on marketing development impact there is significant. Web sites have been established in various areas different from sales of goods and services to provide various consulting services. One of the Web sites that can be useful websites offering psychological services that will be beneficial to the majority community. One of these Web Sites Mental Finder Mental Finder Search of Deep Field and the Internet found that most search for people in several different areas, so in addition to the public content in the field of psychology, material as well as special **pages'** psychology does have given. Previous research on factors affecting oral propaganda (word of mouth) has been done in the field of Internet business, especially businesses working in the field of psychology has worked in this field of research has been done and it is necessary to factors that oral propaganda The main questions that oral and factors affecting future reference Tylghat Internet businesses What? The study suggests that these factors have on the website mental identify and assess the Finder.

## **2.1. THE MAIN OBJECTIVE OF THE STUDY:**

Identify the main factors affecting oral advertising (word of mouth) and the next visit of users in Internet businesses (mental Finder)

### **THE MAIN RESEARCH QUESTION:**

The main factors affecting the ads oral (mouth) and what is the next visit of users in Internet businesses?

### **HYPOTHESES:**

Perceived quality of the ads oral (mouth) is effective.

Perceived satisfaction on ads oral (mouth) is effective.

Advertising perceived value of oral (mouth) is effective.

### **THE THEORETICAL FOUNDATIONS OF RESEARCH:**

Compared to other commercial activities, marketing deals with customers. Satisfaction and create value for the customer at the heart of modern marketing thinking and practice. Today, marketing as the key in every business unit is large and reputable companies and efficient marketing managers to attract attention. One of the common tools that the effectiveness of its marketing and advertising marketing services are also there, marketing is word of mouth.

#### **Oral advertising and word of mouth**

Word of Mouth Marketing as sharing information from one person to other people, though human communication such as face to face contact, telephone, or social media and more defined. Arndt (1967) mouth advertising as defined oral communication between a transmitter and a receiver, although perceptions about a brand, a product or service, is non-commercial. In addition, Chanyvtakyz and Lymprvpvlvz (2009) argued that advertising is word of mouth more familiar to customers having the ability or skill to choose the offers. In this way they can profit from perceived risk dropped obtain a definitive purchase behavior (Litwin, Goldsmith, Pan, 2008; Trousseau, Bvklyn, Pavlz, 2009).

#### **Oral communication**

The concept of word of mouth several times as a form of informal and non-business conversation person to person between an interface and a recipient of a brand, a product, an organization, or a service (Anderson, 1998; Arndt, 1968; Battle, 1998) According to the record of transfer word of mouth, many researchers tested the world such as satisfaction (Rayanva et al., 2005; Westbrook, 1987), quality of service perceived (Fullerton and Taylor, 2002) and the value perceived (Sweeney, Svatar, 2001) have focused. Other factors, such as trust (Grmlr et al., 2001), fairness (Swan and Oliver, 1989), recently recognized (b. 1992), for customer maintenance (East et al., 2007), loyalty (Reynolds, Arnold, 2000), emotional commitment (Fullerton, 2005), committed relationship (Brown et al., 2005), requires the sender to impress others, help others, and the need to reduce cognitive dissonance (Blackwell et al., 2001), given the relatively some have received.

## Perceived value

Hymun with the value equation states that service quality is considered part of the equation customer value and customer value equation is actually the point of view of the service (Hymun 1999). So consumers may have the impression that the organization has offered high-quality service, but may feel because of the high cost of low value spent.

Service quality + results for the client

Value equation

The cost of non-achievement of the service + price

The perceived overall assessment of consumer perceptions of the desirability of a product so that its receipts and payments. The definition of customer perceived value as the most acceptable definition is considered globally (Patrick 2004, Galarza and Saura, 2006).

## LITERATURE

The impact of the quality of communication, understanding customer's positive oral statements (Ashtiyani et al., 1388) The results achieved, the relationship between the quality of communication (trust and commitment) on positive oral statements, as well as the relationship between shared values and trust, commitment, but said the relationship between customer and oral understanding, confidence is rejected.

Ads oral (mouth) electronic marketing management (Reza Radmehr et al, 1390), Low-cost electronic word of mouth advertising as a tool for marketing and attracting potential customers

Ads oral absorption analysis of its impact on rural tourism, rural tourism target city DA case (Noori et al, 1391) Tourists visited the city DA largely oral advertising as the main source of travel information are used.

Evaluation of perceived quality satisfaction, trust, loyalty and word of mouth positive (Lyn, 2010) Direct and meaningful trust and positive word of mouth advertising, the indirect effect of the company's image and relationship marketing through trusted mediator

A Framework for Assessment of factors affecting oral advertising services market (Elmani et al, 2012) Direct and significant impact on advertisement oral satisfaction and loyalty, indirect impact of the image, relationship marketing, perceived quality, perceived value and customer expectations on oral advertising.

The concept of consumer behavioral intention of mouth (Chang et al, 2013) Direct effect on the quality of services and satisfaction of mouth advertising, the indirect effect of improving service, wide range of services on WOM

## THE STUDY

The population of this research are the users of the website mental locator on this site are registered and their number is around 100,000. The number of samples using a sample of 385 people. Sampling is also random.

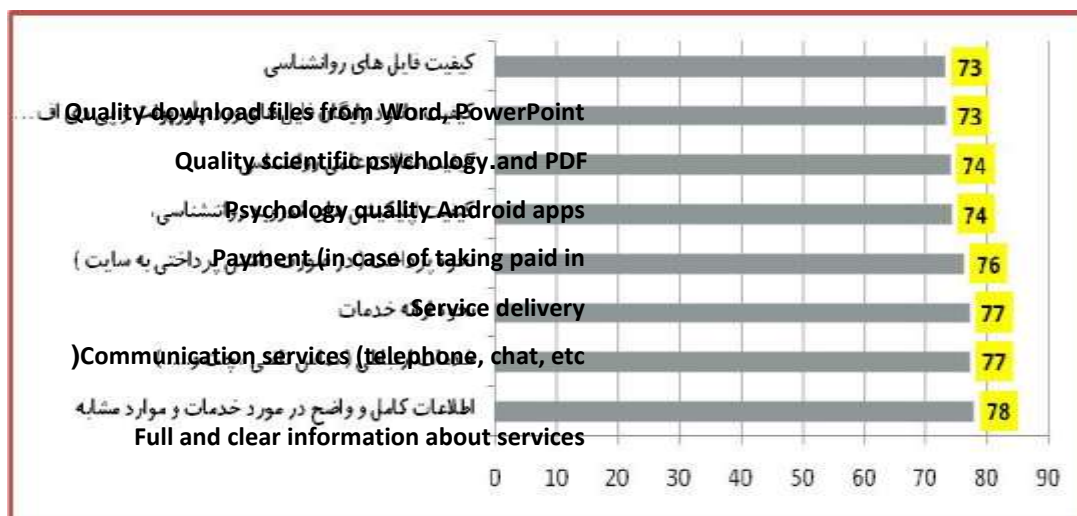
## THE METHOD OF RESEARCH

In general, the method can be according to two criteria: 1. The purpose of this divided 2 to collect data. (Sarmad et al, 1385). The third chapter is detailed in the methodology of research.

**CHECK THE STATUS OF THE PERCEIVED QUALITY OF MENTAL FINDER SITE****Table 1 Shows average rating of perceived quality in terms of percentage**

	N	Average Rating	Percent
Full and clear information about services and similar	385	4.1091	78
Communication services (telephone, chat, etc.)	385	4.0805	77
How to provide services	385	4.0779	77
Payment (if paid in)	385	4.0442	76
Psychology quality Android apps	385	3.9610	74
Psychology quality files	385	3.9221	73
Quality scientific psychology	385	3.9558	74
Download free quality PowerPoint and PDF files Word and Psychology	385	3.9247	73

Source: Author

**Figure 1. Status of quality perceived by the average percentage**

According to the results, all factors in perceived quality between 73 to 78 percent. Which reflects the high quality of all the items perceived by users.

**SURVEY OF SATISFACTION OF USERS OF THE WEBSITE MENTAL FINDER****Table 2. Status of user satisfaction with Web sites based on the average rating and the percentage of mental Finder**

	N	Average Rating	Percent
Interface Site Layout menus, site map and appeal, color	385	3.2831	57
Font and text (foot type and size, etc.)	385	3.1610	54
Simplicity and convenience mental Finder Website	385	3.2130	55
Payment options and ease of payment through options	385	3.2364	56
Website Speed (time to download if any, or ...)	385	3.2442	56
Respect the privacy and security of having mental Finder site	385	3.2519	56
Third party verification (to be approved by others)	385	3.1195	53
The Standard Terms and Conditions	385	3.1299	53
Reliability (confidence having it)	385	3.1065	53
Good response through the Website and its agents	385	3.1403	54

	N	Average Rating	Percent
Safe trade in it (the security services of mental Finder)	385	3.1117	53
Satisfactory performance search form	385	2.8649	47
Navigate to the need to users in the field of psychology and related services	385	3.1065	53
How to respond to questions	385	3.0727	52
Speed process (from time of pick-up services)	385	3.1195	53
Satisfaction with services (consultation, tests, papers, etc.) Mental Finder site	385	3.1351	53

Source: Author

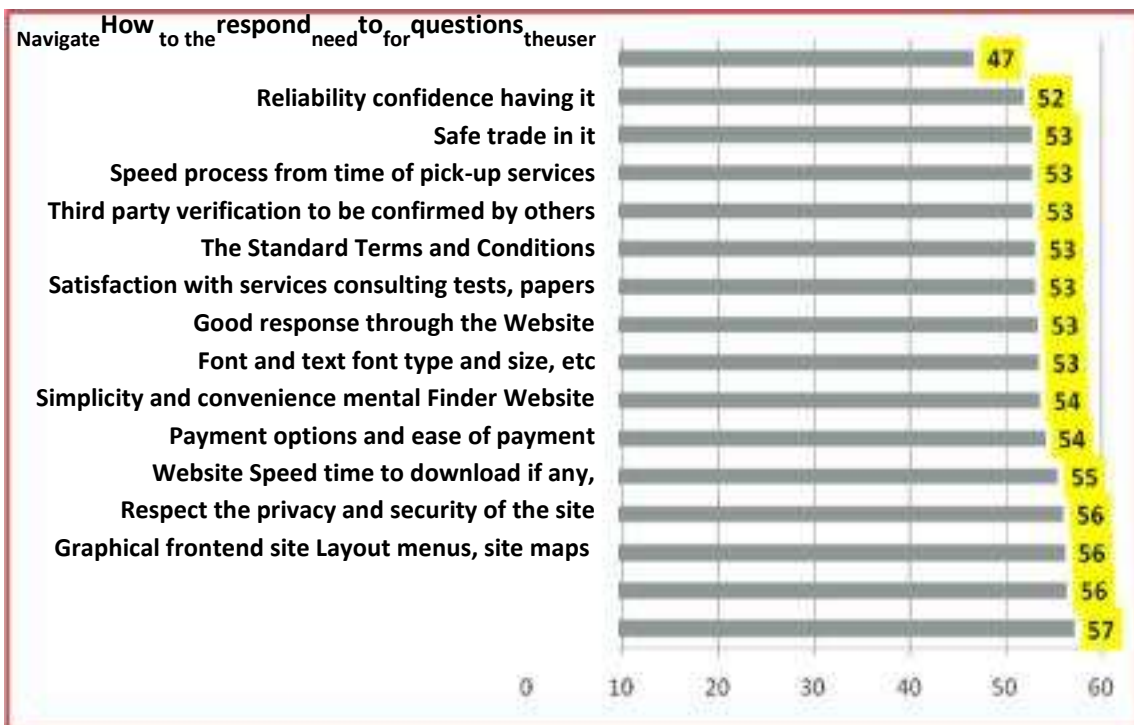


Figure 2. Status of the consent of the site in terms of percent

Table 3. Tests comparing average rating of mouth advertising and the next visit to the segregation of jobs

The significance level	F	Average of squares	Degrees of freedom	Sum of squares		
.049	1.912	3.363	9	30.263	Within the group	Jobs and mouth advertising
		1.759	375	659.477	Groups	
			384	689.740	Total	
.333	1.140	1.908	9	17.172	Within the group	See next job
		1.674	375	627.763	Groups	
			384	644.935	Total	

Source: Author

The greatest satisfaction is popping graphics performance by 57 percent and the lowest satisfaction with 47% of the search form. The rest of us between 52 to 56 percent in swing. So it can be said items is moderate Customer Satisfaction

The significant level of test jobs and word of mouth advertising is less than 0.05 as a result of the assumption of the equality of the breakdown of jobs for word of mouth advertising is rejected. But the next visit to the resolution significantly higher level jobs is 0.05. As a result, assuming the same average rating next visit to the breakdown of jobs is not rejected. As a result, the next visit to the separation of unrelated jobs.

### **3. THE RESULTS OF THE SURVEY QUESTIONS**

#### **Properties evaluate the effect of oral and see the ads next**

Results 5-2-3-1 factors affecting oral advertising

The correlation coefficient of 0.656 is the word of mouth advertising. The coefficient of determination is 0.395, which means regression model with variable quality, satisfaction and value 40% deviations tells mouth advertising.

Significance level of perceived value and satisfaction coefficient is less than 0.05 as a result of the influence of advertising are effective orally. Variable levels of perceived quality are significantly higher than 0.05, which results in not effect model.

According to the values of beta coefficients by a factor of greatest impact on the perceived value of 49% of advertising is word of mouth. In other words, a change in perceived value 0.49 times as much on word of mouth advertising is effective. User satisfaction with beta coefficient of 0.22 to 22% on word of mouth advertising is effective. No significant effect of perceived quality, but its rate of 6 percent.

#### **The results of the impact of demographic factors on word of mouth and the next visit**

According to the results of mouth advertising has nothing to do with age, orientation and grade for the next visit there and also no relationship between age and grade are not familiar term. As a result of these demographic variables affect the ads and not the next visit. The next word of mouth and referrals between men and women is the same. This means that gender based advertising by word of mouth and the next visit Mental Finder site is not effective.

The results regarding the relationship between business and word of mouth suggests that unlike other job and demographic factors on word of mouth advertising is effective. But on the next visit is not affected significantly. The results showed that most advertising is word of mouth for psychologists were at 69 percent. The military also by 44 percent. Doctors and housewives are the second 58- 59 percent. The next visit was a significant difference between the job and the students of this as the next highest number of subjects had 67%. The military also go next with 39 percent, respectively. It can be stated that the trend in job ads Site Finder has been smooth. The psychologist on word of mouth advertising effort to have students in the next visit to the site.

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# INVESTIGATING THE EFFECT OF HUMAN DIGNITY ON THE LABOR PRODUCTIVITY IN OFFICES OF RELIEF COMMITTEE OF EAST AZERBAIJAN PROVINCE

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## Abstract

*The most important concerns of managers in organizations is how to create the perfect platform to human factors, improve labor productivity. In the current study, the issue of labor productivity and the impact of six factors of human dignity in offices of Imam Khomeini Relief Committee (RA) of East Azerbaijan province, by studying the theories of experts and numerous experts were studied. Current study, in terms of purpose, is applied. The population of the study is the employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province. 275 people as sample was estimated by using the formula to determine the sample. For data collection, inventory of human dignity and Hersey - Goldsmith standard questionnaire were used. Validity as formal and reliability by Cronbach's alpha, respectively for the first and second survey questionnaire, 0.92 and 0.91 was confirmed. For statistical analysis, descriptive statistics and inferential statistics to test hypotheses, SPSS software and Pearson test were used. Based on results, direct and significant relationship was established between the five of the six factors in human dignity with the model of organizational efficiency.*

JEL classification: E24

**Keywords:** human dignity, management based on human dignity, labor productivity, organization, ethics and security

## 1. INTRODUCTION

Management based on human dignity is one of management styles which has been experienced in many companies and has left a great impact in terms of efficiency. This management style has Islamic origins and is more compatible with the values and conditions of our society and in other words, is a native style management (1). Human dignity in religious teachings and in the international system of human rights, in particular is common (2). Community officials should consider alternatives to regulations of human relations based on its strong military formation (3). Attending to human dignity based on human dignity in the management of the results is as follows:

Belonging to strengthen and improve the work and organization, enhancing the work ethic, strengthen prolific, strengthen the collective work, the prevailing strategy of continuing improvement, and above all point to a significant increase in productivity. In general, it can be said that the works listed above, all conditions have created something that is reflected in the productivity and production. In this research is to study the impact of human dignity from the employees' perspective on organizational productivity were studied.

## 2. PROBLEM STATEMENT

Nowadays, the importance of productivity and the need to review, with a view to expanding levels of competition, technological complexity, diversity of tastes, lack of resources and the transfer speed is no secret. The main objective of efficiency is human resources. Developing human resources and increase

creativity, skill, and knowledge workforce at all levels of the organization for managers' 90s, a strategic priority has been considered. Today's economy, human resource development at the macro level and the micro level has been more and more attention. For example, in Indonesia the fourth five-year development program for the development of human resources and a wide range of purposes intended. In addition to the development of human resources, managers have provided a lot of effort to create the right mental space. Suitable or favorable psychological environment favorable environment for doing work commensurate with skill level, interest and education, has caused the personal satisfaction of work, as a result of many factors in productivity are the most important ones are:

Considered employees of enterprises and their organizations, nature of work, knowledge and specialized information officers, work culture, mental and physical balance staff motivation optimal work performance, employee morale and job satisfaction, the working people in the organization, discipline and time management, employee participation in decision-making, providing education, innovation and creativity (4). Many factors affect labor productivity and human dignity is an issue that involves security and employee safety, justice and honesty, ethics and integrity, empowerment, learning and improving the efficiency and effectiveness and has a direct impact on labor productivity. In this regard, in this study the effect of human dignity on labor productivity is studied

### 3. BACKGROUND RESEARCH

About human dignity and communicate with it has been done with labor productivity at home and abroad study. Among them can be mentioned the following:

1. Article "Plan a comprehensive model of factors affecting labor productivity" has been done by doctor Alvani and Parviz Ahmadi in 2001. According to the results of this model, many factors have an impact on labor productivity can be cited, including human dignity.
2. Article "Management style based on human dignity and efficiency" has been studied by Iraj Soltani in 2004 in organizations of Mobarakeh Steel. According to the results of this study and practical implementation of human dignity and empowerment management style, employee productivity has increased.
3. Article "Empowerment and its relation to labor productivity of employees in the police commander of Lorestan province "has been studied by doctor Fattah Sharif Zadeh and Youssef Mohammadi Aghdam in 2009. According to the results of this empowerment has a direct impact on labor productivity (5).
4. Article "Factors affecting the efficiency of employment in the municipality of Tehran" has been studied by Seyed Rasoul Salehi and colleagues in 2012. The results of this research, a lot of job security, logical system of reward and punishment, alert staff and friendly atmosphere and sincere interest in the job and so has a direct impact on increasing labor productivity.

#### 3.1. LITERAL DEFINITION OF HUMAN DIGNITY

The purpose of human dignity that human dignity and the right not to live in the community are respectful and who is not allowed to own speech, to compromise his dignity (6). In such Dekhoda Persian dictionary, meaning great dignity greedily, generous swirl, generosity and dignity, the sense of having someone generosity and giving it the power and status, has been used. (1) And the Oxford Dictionary, Dignity is defined as a state that is worthy of respect and dignity. Human dignity and inalienable value and intrinsic many authors have pointed to this important (7).

##### Idiomatic definition of dignity

Human dignity despite the great importance that has so far not been defined in any of the international instruments and domestic law, however, philosophers and scientists have tried to define human dignity and to determine its idiomatic meaning.

Allameh Mohammad Taqi Jafari divided human dignity innate and adaptive says: In Islam, two kinds of dignity are defined as follows:

1. Inherent dignity and natural dignity that all human beings have a normal life as long as it had a noble trait.
2. Human dignity that comes from actual talents and positive forces of human existence and striving in the path of growth and development and charitable (8).

### **Types of dignity**

In the existence of three types of divine, natural and human dignity can be imagined (9).

### **Experienced practical ways attending to human dignity**

Respect for human: Management based on human dignity through unconditional acceptance of human emotions and feelings, participation and productive work and his creative provided.

Having a positive attitude oriented towards humans: In this context, suffice to say that human Caliph of Allah, the positivism finally to man, man management approach based on human dignity, optimism in strengthening the organization's environment, however, in Iran's own understanding of the facts and the facts must be accurate but their optimism is better than pessimism and hatred.

Strong human relationships: Human relations management is based on human dignity rests on the foundations of mutual respect, good faith and values of human dignity and personality.

Actual participation of employees in decision-making: Involvement employees in decisions relating to the organization and management based on human dignity before the economic value of production, the value of the inner man, the involvement of people in decisions, care for people and their ideas that the topic of management based on human dignity.

Education and raising awareness of the organization: In management based on human dignity, not only rely on formal training and classic, but is practical self-learning process by promoting the culture of reading and giving books to people.

Attention to individual autonomy and delegate responsibilities to them: In this model, the belief in human potential, the people at work are given independence to think for themselves and act. In this model, people under the influence of love and trust, subordinate to his superiors arrive to a spiritual character. This heterogeneity and associated is two-way.

### **Principles of human dignity**

It is hard to define the principles of human dignity. Principles of human dignity, human or transcendent Supreme Being and his transcendent dimension. In other words, it belongs to the human dignity of all features, however scientific debate requires careful analysis of the issues. It can be described as follows the principles of human dignity.

- Reason: The first foundation of human dignity, his reason. Although many features distinguishing humans from other creatures, but most distinguishes man from other creatures is his intellect.
- Humanities dimensions: The second is the basic spirit of the gods that he is blown. Islamic scholars believe that people of both material and spiritual or earthly and heavenly been created.
- Understanding: The third basis for human dignity, means power to speak the language and meaning network database system is intended to convey concepts. Enormous power that other creatures are deprived of it.

- Substantial unity of mankind: The fourth principle of human dignity, human unity is external. This does not mean that humans alike, but now is that humanity is one single body that human beings are members of the body of the unit must be manifested externally and objectively (10).

### 3.2. RESEARCH OBJECTIVES

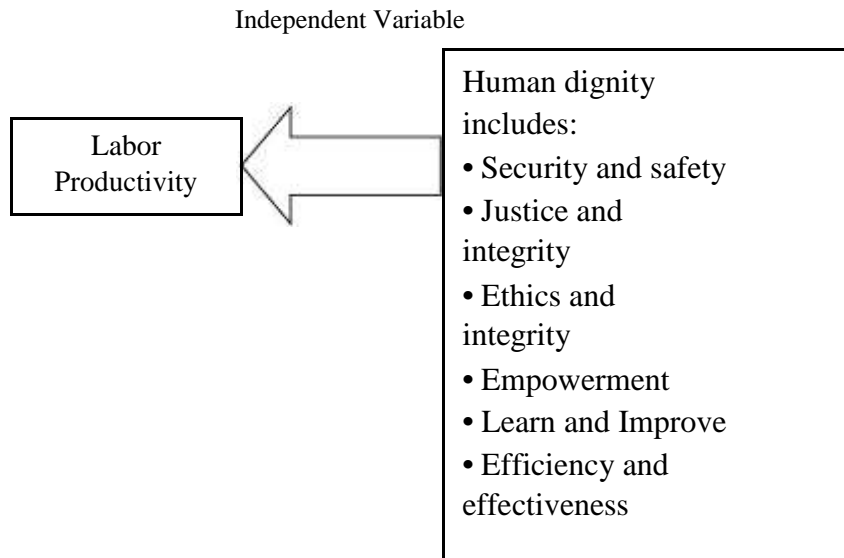
The purpose of this study, investigated the effect of human dignity on the labor productivity in offices of Relief Committee of East Azerbaijan Province. In this regard, the following objectives will be pursued:

1. Determining the effectiveness of the security and safety of employees on labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
2. Determining the effectiveness of the justice and honesty of employees on labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
3. Determining the Impact of ethics and honesty of employees on labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
4. Determining the impact of employee empowerment on labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
5. Determining the impact on employees learn and improve labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
6. Determining the efficiency and effectiveness of employees on labor productivity among employees of Imam Khomeini Relief Committee (RA) of East Azerbaijan province.

And the purpose of this study is to provide recommendations to enhance human dignity in the organization, to increase labor productivity.

#### Theoretical Framework

In the present study to investigate the effect of human dignity on labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province, the study of texts, articles and previous studies, the following analysis models for research is considered.



#### Hypotheses

1. There is a significant positive relationship between security and safety of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.

2. There is a significant positive relationship between justice and integrity of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
3. There is a significant positive relationship between ethics and integrity of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
4. There is a significant positive relationship between employee empowerment and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
5. There is a significant positive relationship between learning and improve employee and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.
6. There is a significant positive relationship between the efficiency and effectiveness of employee and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province.

### **Conceptual definition of variables**

Security and safety: As defined by Wikipedia, safety or security level resistance to damage intentionally or unintentionally person, organization or country.

Justice and integrity: Many studies have shown that organizational staff in the organization are aware of three types of justice: communication, procedural and get their justice. These three together have a correlation and does have utility enterprise space. In fairness person and receive data and control your own mind based on the perceived view of justice (11).

Ethics and Integrity: Organizational Integrity means that employees have access to this inner certainty that will do the practical organization which is useful for an individual and will not be any loss or damage to person and employees (12).

Empowerment: Empower staff to determine ways the opportunity to do the work, do the job and participation in decision-making (12).

### **Learning and improving:**

Organizational learning theory experts on the subject agree that the learning process is essential for organizational success and for this have insisted that managers have to achieve this success, opportunities for learning for their staff provided (13).

### **Efficiency and effectiveness:**

When evaluating the effectiveness and efficiency of organizational performance of the two words are used. In most cases confused the two concepts are used interchangeably, while the mean difference range with each other. Performance-based organizations more attention to production, quantities, sales and adding new value to their business processes, are creativity and reduce costs. This measure makes only a degree or appropriate to achieve the objectives of the production with the community's goals. While the effectiveness of the relationship to production and production value of deals and the best way of doing the right thing considers and measures (14).

Efficiency: It is to obtain maximum possible profit by taking advantage of the use of material resources, ability, talent, land, labor. To enhance the welfare of employees, organization and society (3).

## **4. RESEARCH METHODOLOGY**

As a practical purpose in terms of purpose is applied and research and in terms of methodology is survey.

The population of the research staff of the Imam Khomeini Relief Committee (RA) who is number 974 of the sample using Cochran's sample size formula, 275 people have been estimated. In this study, a questionnaire is a tool to gather information and to determine the validity symbol or formal validity of data collection were used. To test reliability, Cronbach's alpha was used. Using SPSS software, the reliability

questions about the organization and the dignity of labor productivity, respectively, 0.92 and 0.91, respectively. The values of these statistics show that the first and second questions are highly correlated with each questionnaire, have high validity.

#### 4.1. ANALYSIS OF STATISTICAL DATA

Descriptive research findings indicate that the sample is selected, 195 men and 80 women are 71 percent of the sample which have accounted for 29 percent of the sample. 54 of the sample (19.7%) were single and 221 (80.4%) were married. More than half the sample (55.3%) have a Bachelor's degree and respondents in terms of work experience somewhat normal for more than 25 years of service under 5 years has been scattered.

**Table 1.1. Descriptive finding**

Scale	Down	Average	Top
Security and safety	89	142	44
	32.4	51.6	16.0
Justice and integrity	7	167	101
	2.5	60.7	36.7
Ethics and integrity	2	138	135
	0.7	50.2	49.1
Empowerment	40	64	171
	14.5	23.3	62.2
Learning and improving	209	51	15
	0.76	18.5	5.5
Efficiency and effectiveness	84	0	191
	30.5	0	69.5
Organizational efficiency	127	142	6
	46.2	51.6	2.2

*Source: Author*

The information provided in Table (1-1) shows that respondents in the sample examined in terms of security and safety organization has about 142 people (51.6 percent), 60.7% of fairness and integrity, ethics and honesty about 50 %, 23% empowerment, 18.5 percent, 51.6 percent learn and improve organization and productivity on the average of the above have been acknowledged.

#### 5. ANALYTICAL FINDINGS

The results of analysis in our study, we investigated the hypothesis test and we have studied and its results. Since both independent variables (human dignity) and dependent (labor productivity) in the measured distance, so to measure the relationship between these two variables, Pearson's r test significance in probability level 0.01

**Table 1.2. Analytical findings**

Variable		Organizational efficiency
Security and safety	Correlation coefficient	0.501
	Significance level	0.000

Variable		Organizational efficiency
Justice and integrity	Correlation coefficient	0.600
	Significance level	0.000
Ethics and integrity	Correlation coefficient	0.462
	Significance level	0.000
Empowerment	Correlation coefficient	0.578
	Significance level	0.000
Learning and improving	Correlation coefficient	-0.076
	Significance level	0.208
Efficiency and effectiveness	Correlation coefficient	0.433
	Significance level	0.000

*Source: Author*

"There is a significant positive relationship between security and safety of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province." According to the results table (1-2), since the amount of sig = 0.000 (Significance), therefore, because the amount sig less than 0.05, indicating a significant relationship between security and safety of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province. The hypothesis that claims that there is a significant relationship between security and safety of employees and labor productivity in Imam Khomeini Relief Committee (RA) of East Azerbaijan province confirmed. The Pearson correlation value is equal to two variables expressed at 0.501. The amount 0.501 in the Pearson correlation coefficient represents the average relationship between the two variables and obtained positive number indicates the place of the equation. The results obtained show that the security and safety of employees in the target population will increase productivity as much of global human resources available to that organization will be added. Thus, the hypothesis of two and three and four and six were confirmed and the hypothesis of five was rejected.

## 6. CONCLUSION

The results of the statistical analysis show that:

According to the results of Pearson's r test, the security and safety of employees in the target population increase as much on the level of labor productivity in the organization will be added.

According to the results of Pearson's r test, the justice and honesty of employees in the target population increase as much of global human resources available to that organization's productivity will be added.

According to the results of Pearson's r test, the ethics and honesty of employees in the target population increase as well as on the efficiency of human resources available to that organization will be added.

According to the results of Pearson's r test, the empowerment of the target population increase as well as on the efficiency of human resources available to that organization will be added.

According to the results of Pearson's r test, learn lack of relationship between two variables and improve organizational efficiency and resulting negative number indicates indirectly the direction of the relationship.

The efficiency and effectiveness of employees in the target population increase as well as on the efficiency of human resources available to that organization will be added.

Research literature indicates are also factors of security and safety, ethics and integrity, efficiency and effectiveness of employee empowerment and organizational efficiency. So that the relationship between human dignity and organizational efficiency is consistent with the results of the study by doctor Alvani and Parviz Ahmadi, known as "Plan a comprehensive model of factors affecting labor productivity" in 2001. The results of article "Management style based on human dignity and efficiency" has been studied by Iraj Soltani in 2004 in organizations of Mobarakeh Steel. The impact of employee empowerment on employee productivity is consistent with the results of the present study. The results of article "Empowerment and its relation to labor productivity of employees in the police commander of Lorestan province" has been studied by doctor Fattah Sharif Zadeh and Youssef Mohammadi Aghdam in 2009. According to the results of this empowerment has a direct impact on labor productivity. The results of article "Factors affecting the efficiency of employment in the municipality of Tehran" has been studied by Seyed Rasoul Salehi and colleagues in 2012. The results of this research, a lot of job security, logical system of reward and punishment, alert staff and friendly atmosphere and sincere interest in the job and so has a direct impact on increasing labor productivity and is consistent with the results of the present study.

According to the results of the present study is proposed to improve the organizational efficiency of the following apply:

Attending to security and stability and promote staff based on merit and not political behavior and so on.

Attending to promote mental health aspects of morality and faith, friendship, virtue, and so on.

Attending to various aspects of justice including distributive and procedural justice and interactional.

Attending to the participation of employees in the relevant matters and promote the commitment of individuals by empowering them in campus affairs.

Define organizational goals and become more knowledgeable people in this field.



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# SIZE, LEVERAGE AND RISK-TAKING IN FINANCIAL INTERMEDIATION COMPANIES IN TEHRAN STOCK EXCHANGE

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## Abstract

*This study is an attempt to investigate on size, leverage and risk-taking in financial intermediation companies in Tehran Stock Exchange. The effects of these factors on the variable market value and profits is checked which represent the company's performance in profitability and efficiency. This is an applied research and to collect information, the financial statements for the years 2008 to 2014 were used. The software used is e-views. The results showed that the independent variables are effective on the market value of companies in financial intermediation in Tehran Stock Exchange. So the market value affected of size, leverage and risk-taking variable. The existence of this effect suggests that any company size and leverage and risk taking will increase the company's market value also increases. The results showed that the leverage and risk-taking are affecting the company's profitability, but variable size does not affect the company's profitability.*

JEL classification: D53, G32

**Keywords:** size, leverage, risk-taking, profit, market value

## 1. INTRODUCTION

Today, rapid technological advances and vast environmental changes, has given momentum to the economy and increasing competition of institutions has limited access of institutions to profit and has increased the possibility of bankruptcy (Elahi et al, 2015).

On the other hand, owners, managers, investors, business partners and creditors relying on the company's financial reports are interested in assess the financial success of a company and its tendency to take risks (Technical Committee on Corporate Audit, 2002). In general, risk divided into two categories as and financial risk and non-financial risks. Financial risks directly affect the company's profitability and can even overwhelm the company. Risk taking by management to directly or indirectly associated with the decisions of managers. Taking risk is useful in one hand and helps the company to gain more profit. On the other hand, taking risk is associated always with increasing some risks such as bankruptcy. But this claim is not always the case (Anginer, 2014). Financial leverage, which represents the amount of leverage to asset of a company, is very important for financial intermediation companies, because nature of these companies is based on receiving of investors and providers for assets receivers. Hence, debt amount is usually high than other companies and industries. Also, size is a variable that plays role directly on success of a company significantly. In the financial intermediation industry, as existence of strong management resources is necessary, size of the company is changeable in theses decision-makings (Baker et.al, 2004). In last researches it was shown that small companies have more profit and return because they can grow more, but this does not mean that study on this variable has the same result in different industries (Vallascas, 2012).

In this study three basic variable leverage, size; risk-taking in financial intermediaries will be examined in terms of profitability and price changes. Many investors do not consider many variables to gain return

such as taking risk. Even the size of company that is done in most of studies, delete financial intermediation companies, and decision-making of investors results in default according to these researches (Burger et.al, 2013). Therefore, researches that consider financial intermediation are very important and is effective in efficiency of decision-making of stakeholders.

## 2. LITERATURE REVIEW

Berger et al (2013) in a study titled "Effect of Capital Structure on Risk" investigated the relationship between financial leverage and risk. According to results, financial Leverage impact directly on risk level i.e. by increase in financial leverage (debt), corporate risk also increases in market.

Ahmad Poor and Namazi (1998) in their investigation as **“the impact of operational, financial leverage and size of company on risk”** investigated on operational, financial leverage and size of companies of Tehran Stock Exchange. According to results of this research, financial leverage impacts significantly on risk i.e. by increasing the debt of companies, risk increases too, but operational leverage has no effect on risk amount. On the other hand, impact of company size on risk is reverse i.e. by increasing assets of company, risk decreases.

Namazi and Khajavi (2004) investigated on usefulness of accounting variables in predict systematic risk of companies listed in Tehran Stock Exchange. According to results, there is significant relationship between accounting variables and risk. these variables are useful in predicting systematic risk. The most important application of this research is for the evaluation of unlisted companies and for new companies to exchange security. According to the results, it is possible to use the pattern for determining the expected output rate. Initially, systematic risk index of the company is obtained based on coefficients of model and amount of the variable of company to obtain systematic risk index. After that, the value of systematic risk value along with other required variables is placed in the capital asset pricing model and the expected rate of return is obtained to be a basis for evaluation of the company's stock price.

Bowman (1979) investigated on "Theoretical relationship between systematic risk and financial variables (accounting)". Used financial variables (accounting) included Bowman, leverages of the company, accounting beta, changes in earnings, growth, size of company and policies for dividing profit. He showed in his research there is significant relationship between systematic risk and leverage of company and accounting beta theoretically. Accordingly, there is no significant relationship between changes in profitability, growth, size of company, and dividend profit. He defined growth variable in two forms.

First: growth means investment in projects that its expected return is more than current return of company.

Second: growth as opportunities for investment in projects result in excess return.it lack of relationship between growth and systematic growth is stated by using these definitions.

Brimble (2003) investigated on role of accounting information in assessing systematic risk. Accounting variables studied in the research included beta accounting, changes in earnings growth, size, dividend payout ratio, current ratio, financial leverage, interest coverage ratio and operational leverage. It used data of 123 companies during 1991- 2000. According to results, the mentioned accounting variables explain more than 57% of systematic risk changes.

Bolton et.al (2013) investigated on competition and taking risk. They used data of 1220-2012. According to results of their investigation, more taking risk results in less competition, but liquidity and bankruptcy risks increase.

## 3. HYPOTHESES OF RESEARCH

- Size of the company impacts on the market value of corporate in financial intermediation companies in Tehran Stock Exchange.

- Leverage of company impacts on market value in financial intermediation companies in Tehran Stock Exchange.
- Taking risk of company impacts significantly on market value of company in financial intermediation companies in Tehran Stock Exchange.
- Size of company impacts significantly on profitability of company in financial intermediation companies in Tehran Stock Exchange.
- Leverage of company impacts significantly on profitability of company in financial intermediation companies in Tehran Stock Exchange.
- Taking risk of company impacts significantly on profitability of company in financial intermediation companies in Tehran Stock Exchange.

### 3.1. MODEL OF RESEARCH

of hypothesis 1-3

$$MV = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Lev} + \beta_3 \text{ RT} + \beta_4 \text{ Age} + \beta_5 \text{ CEO} + e$$

Model of hypothesis 4-6

$$\text{ROE} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Lev} + \beta_3 \text{ RT} + \beta_4 \text{ Age} + \beta_5 \text{ CEO} + e$$

Method of calculating variables

- The market value: the average stock price of i company for the year t in the stock market.
- Return on Equity: Net income divided by equity.
- Size: logarithm of company assets.
- Leverage: Debt divided by assets.
- Accepting risk of Company by model z Sko Lyon and Levine (2009) as follows:
- $(\text{Capital} + (\text{net income divided by total assets})) \text{ divided by the standard deviation (net profit divided by total assets)}$
- Age: Year t minus the year of entry into stock companies.
- Board of Directors: The number of independent members to the total board members.

### 3.2. METHODOLOGY

This is applied research. Also, this is descriptive-correlative research. Relationship between variables is studied by regression model. **Financial statements and companies' market value** are used. Library method was used to collect data. Rah Avarad Novin software was used too. Society of this research includes 54 financial intermediation institutions in Tehran Stock Exchange during 2009 to 2014. January is their financial year date. They should not change their work type and financial year during 2009 to 2014 during this period, not loss. multivariate regression method was used to analyze data. Eviews was used for this purpose.

## 4. RESULTS

Description of variables central indexes and dispersion of each variable observed in table 1.

Examine the consistency of the variance of the first model

$$MV = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Lev} + \beta_3 \text{ RT} + \beta_4 \text{ Age} + \beta_5 \text{ CEO} + e$$

**Table 1. Descriptive statistics**

Variables	Mean	Average	Max	Min	SD	Skewness	Elongation
MV	254688	2338.85	218847	266	3384	2.3553	10.18
ROE	0.18	0.16	1.2	0.00001	0.01	2.3703	13.01
Size	2.22	2.002	8.00	0.002	1.0001	-0.36	1.94
Lev	0.62	0.6001	0.91	0.02	0.03	0.49	2.72

*Source: Author*

Heteroskedasticity one of the problems that we face in estimating regression equations. Heteroskedasticity means that the variance is not constant and usually increases with one or more variables, hence, White test is used to test the homogeneity of variance.

**Table 2. Test of heterogeneity of variance of model 1**

	Value	Probability
F	0.36	0.69
Observations * coefficient of determination	0.76	0.68

*Source: Author*

As reflected in the table (4-2) can be seen according to the F as well as the possibility show that the model does not have Heteroskedasticity. As F-probability value is 0.7988, existence of Heteroskedasticity is rejected in 5% level.

Review and test the first to third hypothesis

**Table 3. Cross-sectional regression model of the first model**

Variable	Coefficient	t-tset	Sig
Intercept	12.45667	4.86	0.00
Size	0.54608	2.75632	0.020
Lev	0.37374	1.84752	0.042
RT	0.55648	0.84556	0.00
Age	0.89894	2.75648	0.00
CEO	1.03673	1.99004	0.00
F Fisher statistic (significant)	2.699		
F Fisher statistic parent (significantly)	0.007		
Adjusted coefficient of determination	0.074		
Durbin-Watson statistic	1.93		

*Source: Author*

The coefficient of determination

The determining factor represents the percentage of dependent variable explained by the independent variables of model. In this model, the coefficient of determination is equal to 0.074 this means that the independent variables explain 7% of the dependent variable changes.

Parent F Fisher statistic

F- Fisher test is used to accept significance hypothesis of total model i.e. significant relationship between independent variables and dependent variables. H<sub>0</sub> represents lack of this relationship between independent variables and dependent variables. Results of the table with sig=0 represents rejecting H<sub>0</sub> with 95% confidence. In other words, there is significant relationship between dependent variables and independent variables, and model has enough validity for analysis of results.

Autocorrelation

Durbin-Watson statistic is used to study this hypothesis. If statistics amount is between 1.5 to 2.5, autocorrelation between remained sentences is rejected. According to results, amount of this statistics is 1.93. Hence, there is not autocorrelation in remaining sentences of this model.

Analysis of the results of the first hypothesis

The first hypothesis of this study was to evaluate the effect of firm size on the market value of company in financial intermediation companies. Results of model one show that coefficient and error level of company size are 0.54 and 0.02. This represents impact of this variable on market value. Hence, with 95% confidence results of this investigation show confirm of this hypothesis.

Analysis of the results of the hypothesis two

Hypothesis two is an investigation on impact of leverage of company on market value of company in Financial intermediation companies. According to results of model 1, coefficient and the company leverages error is 0.37374 and 0.042. this represents impact of this variable on market value variable. Hence, this hypothesis is confirmed by 95% confidence.

Analysis of the results of the hypothesis three

Hypothesis three of this research studies impact of enterprise risk on the market value of companies in financial intermediation companies. results of the first model show that the coefficient and error level of company size are 0.00 and 0.5564. this shows impact of this variable on market value variable. Hence, this hypothesis is confirmed with 95% confidence.

Check consistency of variance of second model

Heteroskedasticity is one of the problems that we face in estimating regression equations. Heteroskedasticity means that variance is not constant and increases by one or several variables.

Therefore, the white test is used to check the consistency of variance. It is possible to observe variance consistency test by white statistics for model 2 in table 4.

$T_t = \alpha + \beta P_t + \varepsilon_t$  model

**Table 4. Variance consistency test**

	Value	Probability
F	1.01	0.372
Observations * coefficient of determination	2.06	0.355

*Source: Author*

As in Table 4 can be seen according to the F as well as the possibility to show that the model is not Heteroskedasticity.

Given that the probability F is equal to 0.3725. In fact, according to F at the level of 5% Heteroskedasticity is rejected.

Analysis of the results of the hypothesis four to six

**Table 5 presents a cross-sectional regression model, the second model**

Variable	Coefficient	t-test	Sig
Intercept	30.07	7.982	0.00
Size	0.8568	2.556	0.19
Lev	1.98576	1.706	0.00
RT	2.75809	2.981	0.001
Age	0.009100	5.009	0.606
CEO	0.002109	11.009	0.00

Variable	Coefficient	t-test	Sig
F Fisher statistic (significant)	166.56		
F Fisher statistic parent (significant)	4.1546(0.048)		
Adjusted coefficient of determination	0.887		
Durbin-Watson statistic	1.70		

Source: Author

#### The coefficient of determination

The determining factor represents the percentage of dependent variable explained by the independent variables. In this model, the coefficient of determination is 0.887 i.e. independent variables explain 89% of changes of dependent variable.

#### Parent F Fisher statistic

F- Fisher test is used to accept significance hypothesis of total model i.e. significant relationship between independent variables and dependent variables.  $H_0$  represents lack of this relationship between independent variables and dependent variables. According to results of table, as  $\text{sig} < 0.05$ ,  $H_0$  is rejected. In other words, there is significant relationship between independent variables and dependent variables. The model has enough validity for analysis of results.

#### Autocorrelation

Durbin-Watson statistic is used to study this hypothesis. If statistics amount is between 1.5 to 2.5, autocorrelation between remained sentences is rejected. According to results, amount of this statistics is 1.70 Hence, there is not autocorrelation in remaining sentences of this model.

#### Analysis of the results of the hypothesis 1

The hypothesis 4 of this study was to evaluate the effect of firm size on the market value of company in financial intermediation companies. Results of model one show that coefficient and error level of company size are 0.85 and 0.19. This represents impact of this variable on market value. Hence, with 95% confidence results of this investigation show confirm of this hypothesis.

#### Analysis of the results of the hypothesis two

Hypothesis five is an investigation on impact of leverage of company on market value of company in Financial intermediation companies. According to results of model 1, coefficient and the company leverages error is 1.9857 and 0.00. this represents impact of this variable on market value variable. Hence, this hypothesis is confirmed by 95% confidence.

#### Analysis of the results of the hypothesis three

Hypothesis six of this research studies impact of enterprise risk on the market value of companies in financial intermediation companies. results of the first model show that the coefficient and error level of company size are 0.001 and 2.75. this shows impact of this variable on market value variable. Hence, this hypothesis is confirmed with 95% confidence.

## 5. CONCLUSION

The results show that independent variables impact significantly on the market value of companies in financial intermediation in Tehran Stock Exchange. So that the market value affected of size, leverage and risk-taking. The existence of this effect suggests that whatever the company size and leverage and risk

taking increase, company's market value also increases. The results showed that the leverage and risk-taking are affecting the company's profitability, but company's size does not affect the profitability. Hence, according to results of this investigation, variables that increase risk of company result in increasing return on investment. This is a confirmation on more risk means more efficiency. In financial intermediary firms, due to high debt, liquidity risk and bankruptcy threaten them. If this risk can be managed properly provide an appropriate return for owners.



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# THE IMPACT OF OIL PRICES ON TOURISM INCOME: A PANEL-VAR APPROACH FOR MIDDLE EASTERN COUNTRIES (MAJOR OIL EXPORTING COUNTRIES)

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## Abstract

*In this study, a panel VAR model is employed to investigate the relationship among oil prices and tourism income in 7 Middle Eastern oil exporter countries namely, the United Arab Emirates, Iran, Iraq, Saudi Arabia, Oman, Qatar and Kuwait. The main objective of this article is to analyze The Impact of Oil Price fluctuations on Tourism Demand in Middle East. Our result indicates the relationship between oil prices, GDP, tourism revenues, exchange rate and inflation rate. Based on the results, GDP variable have positive and significant impact on oil prices, oil revenues and tourism revenues. Accordingly, the impact of tourism revenues on GDP is positive. Moreover, the effect of oil prices on inflation is positive and significant. Government spending response to shocks to the exchange rates is positive, too. Consequently, results are important for tourism agents and policy-makers, they need to create policies against future oil price movements or plan for economic policy developments.*

JEL classification: L72, L83

**Keywords:** Oil prices, Tourism income, Middle Eastern countries, Panel-Var

## 1. INTRODUCTION

Oil prices have always played a crucial role in determining the cycles of the world economy. Volatilities in oil prices have considerable effects on macro economy of both developed and developing countries. Since 2008, oil prices have seen two cycles of highs and lows, with no indication of a steady path in the near future. The notable high values of oil prices during 2010–2013 and the following prolonged downturn during 2014–16 (the longest since the 1980s) suggest that the world economy is in uncharted territory (Majumdar, 2016).

Given the importance of oil as an input to production, an oil price change will influence key macroeconomic variables including real GDP, inflation, employment, balance of trade and exchange rates. Effects in the short and long run will differ, as in the long run consumers and producers will have greater opportunities to adjust their behavior in response to higher prices. A large number of factors influence the price of oil in the short term, but long-term prices are driven by world oil demand and supply, which is fundamentally **limited by resources**. **Countries' oil vulnerability depends on a range of market and supply** elements, such as share of oil costs in national income, the intensity and technical efficiency of use of oil in production, elasticity of the labor market, the ratio of value of domestic reserves to oil consumption, exposure to geopolitical risks, and the availability of alternative energy sources and the ability to substitute to these (Becken and Lennox, 2012).

**Despite differences in the various oil assessments (Bentley, 2002; Campbell & Laherrère, 1998; Greene, Hopson, & Li, 2006; Hirsch, 2008), there now seems to be a wide belief that conventional oil is likely to**

decline in the near future, probably before 2020 but no later than 2030 (UK Energy Research Centre, 2009).

Revenue from oil sales is very important source of foreign exchange earnings and government financial account in oil-exporting countries. Dependence of these revenues to oil prices in the global market can be a reason for uncertainty and instability of economic policies. So, we can say that any fluctuations and volatility in the global oil market will lead to imbalances and crisis, unless correct policies have been taken by the government in the face of these fluctuations. Other economic activities such as Tourism can be one of these policies, which had a significant impact on the economy of many countries in the recent years and has received lots of attentions from policy makers.

Oil price changes could harm economic and tourism activities due to the effect they exert on transportation, production costs, economic uncertainty and disposable income (Chatziantoniou, et al, 2013). Tourism is clearly dependent on oil, largely because of its intrinsic transport component. Additionally, there are a range of particularly vulnerable tourism activities, such as recreational activities that depend substantially on fossil fuels (Becken and Lennox, 2012). Current tourism forecasts by the United Nations World Tourism Organization for global travel indicate ongoing growth, ignoring potential impacts of higher oil prices.

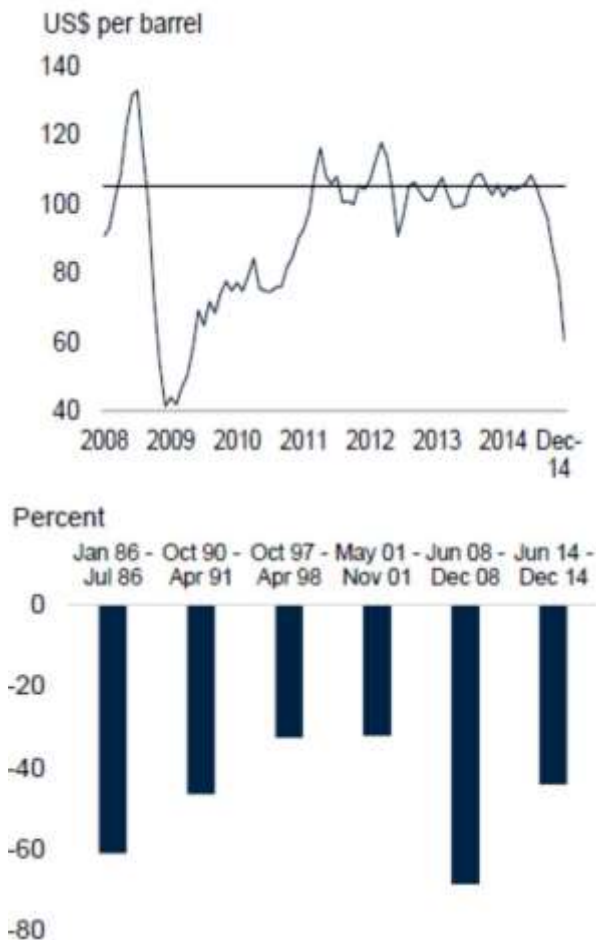
Tourism has proven relatively resilient to many adverse events, such as climate change concerns and high fuel prices. Research following the oil crises in the 70s highlighted how tourists and recreationists changed their travel behavior in response to oil prices and fuel shortages. Changes included a reduction in leisure travel, the purchase of more economic, smaller vehicles, shorter domestic holidays, and a shift towards public transport (Becken, 2011). While some of the economic responses to change in oil prices are obvious, assessing the overall economic impacts on tourism is difficult.

In this regard, the purpose of the following analysis is twofold (having two important parts). Initially, we review the literature associated with the relationship between oil prices and the tourism industry. Then, we use Panel-VAR approach to simulate the effect of oil prices changes on some of oil exporting countries, which oil income is one of the most important part of their revenues, on tourism industry.

## **2. LITERATURE REVIEW**

### **2.1. TOURISM AND OIL PRICES**

As a bulk commodity, which is closely linked with national economic development and the daily life of public, the yearly using up oil occupies about 40% of total consumption of global energy. But because of its uncertain supply and big price fluctuation, oil is a tactical fossil energy for all countries in the world. The twice widely happened oil crises in the 1970s has brought huge destructions to the global economy. Since entering the 21st century, the international oil price fluctuates at a high level again, it seems that oil price has taken a rollercoaster dominate, from 49.51 dollars/barrel in January, 2007 to 142.95 dollars/barrel in July, 2008, then dropped abruptly below 40 dollars/barrel in December, 2008 again. The international big oil price fluctuation has created dramatic changes for the oil and economic security in China, the main oil consuming and export country only after America (Zhou ,2010). Therefore, it is full of realistic directive significance to make a comprehensive and systematical review and analysis for all factors, which effect the international oil price fluctuation (Yan,2012). Indicatively, we quote Sadorsky (2001) who examines Canadian oil and gas industry stock market reactions to changes in oil prices. He finds that stock price returns are sensitive to risk factors, such as market index, interest rate, and oil price. Click (2001), in addition to Hamilton, using monthly data over the 1979–1999 periods, examines the long-run exposure of oil companies to oil price varieties. He finds that the oil price risk is a significant factor in explaining the stock market returns of oil companies. Oil prices dropped sharply between June and December 2014, bringing to an end a four-year period of relative price firmness (World Bank, 2015).



**Figure 1. Oil prices and Magnitude of significant oil price drops**  
**Source: World Bank, 2015.**

Nevertheless, all aforementioned findings could be significantly influenced by oil price fluctuations. Previous researches has indicated that higher oil prices exert a negative impact on tourism ((Becken, 2011; Becken & Lennox, 2012). Recent hikes in oil prices have necessitated the investigation of the relationship between tourism sector developments, economic growth and oil, considering that tourism is an energy-intensive sector (Becken, 2008; Gössling et al., 2005; Patterson and McDonald, 2004).

Oil price changes could harm economic and tourism activities due to the effect that they exert on transportation (for example, air fares and fuel prices), production costs, economic uncertainty and disposable income (Becken, 2008). Research following the oil crises in the 70s highlighted how tourists and recreationists changed their travel. Small and Sweetman (2009) indicates that based on tourist arrivals between 1996 and 2008, changes in the oil price and airfares each had significant but weak effects on tourist arrivals to New Zealand. Other macroeconomic variables are generally found to be more important, especially income (Davis & Mangan, 1992; Dritsakis, 2004; Munoz & Amaral, 2000).

Given that tourism destinations typically receive tourists from a range of origins it would be useful to understand if some countries are more vulnerable to increasing oil prices than others. Various studies provided evidence that net oil-importing countries are more vulnerable to higher oil prices than oil exporting countries (International Monetary Fund, 2006). An investigation of the relationship among oil price shocks, tourism variables and economic indicators in four European Mediterranean countries (Filis

and et al, 2016), indicates that the oil specific demand shocks contemporaneously affect inflation and the tourism sector equity index, whereas these shocks do not seem to have any lagged effects.

By contrast, the aggregate demand oil price shocks exercise a lagged effect, either directly or indirectly, to the tourism income and economic growth. Research in Scotland (Yeoman et al., 2007) and more recently in New Zealand (Becken, 2008; Becken & Schiff, 2011) suggests that tourism is likely to suffer in an environment of high oil prices. Also, increasing the oil prices will have far-reaching impacts on tourism, **including changes to people's lifestyles and the role of tourism within these (Becken, 2010).**

## 2.2. OVERVIEW OF THE TOURISM SECTORS IN THE COUNTRIES UNDER INVESTIGATION

This is exemplified in a recent report on 'The Future of Travel and Tourism in the Middle East', which assumes ongoing growth and expansion of global markets (Global Futures, 2007). The Middle East has witnessed the rise of great civilizations throughout human history and it has been a focus of attention for tourists. Even chaos and numerous disputes have failed to prevent the presence of tourists in this historic region of the world. With look at cultural connections and traditional social relations among Middle East countries, tourists go there often for cultural, historic, and religious appeals and are interested in East cultures and religions. However, places like Turkey and the UAE are significantly active in ecotourism (Ezzati, 2015).

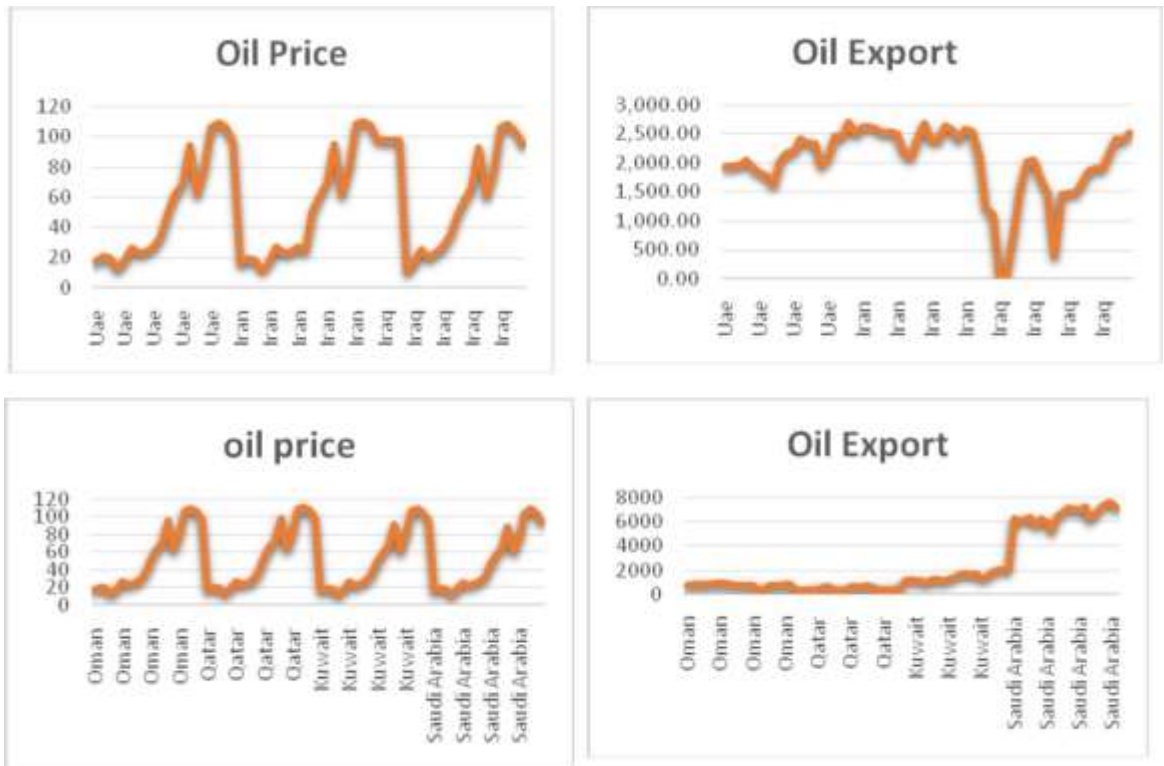
According to the UNWTO Middle East had one of the highest growth rates of international tourist arrivals in 2005–2011, increasing on average by 7.3% per-year (UNWTO, 2012). Also, International tourist arrivals in the Middle East (+2%) are estimated to have grown by 1 million in 2015, growing the total to 53 million. The region has consolidated the rebound that started in 2014, when arrivals increased by 7%, following three years of decline. International tourism receipts increased by 4% in real terms to US\$ 54 billion. The Middle East has a share of over 4% in both worldwide arrivals and receipts. Growth was driven by intraregional demand from member states of the Gulf Cooperation Council (GCC). Oman (+16%) and Lebanon (+12%) both recorded double-digit growth in international arrivals in 2015 as they continued their rebound from the weaker results in the early 2010s. Qatar posted a 4% increase, making it the only country in the region that has maintained consistent growth for over degeneration. **The region's** leading destination, Saudi Arabia, reported a small decline (-1%). Egypt reported a 5% decrease in arrivals in 2015 as a result of various adventures. Jordan and Palestine also received fewer arrivals (Tourism highlights, 2016).



Figure 1. Tourism income, 1995 to 2014 (Source: world Bank. 2016)

Tourism income in the most of countries under investigation has been improved since 1995, especially in the UAE, Qatar, and Saudi Arabia. It is shows that oil exporting countries try to increase their revenue by tourism.

But, one of the factors that could play an important role in the performance of Middle East countries and the world is the decline in oil prices. Oil plays an essential role throughout world politics and continues to be an important part of the economy of the Middle East as it has **most of the world’s supply of oil**. Over the past year however, oil prices have declined sharply, dropping by more than 50% from June 2014 - January 2015 and then by 9% in February 2015. This decline has been due to both supply and demand factors, such as increase in oil production by both OPEC and non-OPEC countries and decreasing in demand for oil in some countries like Europe, China and Russia as a result of weak economic activity and switch from oil to other fuels and increased efficiency (Shah Mehrabi, 2015).



**Figure 2. Oil Price and Export, 1995 to 2014**  
**Source: Opec Annual Statistical Bulletin, from 1999 to 2016**

Oil exporting countries like Saudi Arabia, UAE, Iraq, Iran, Libya, Oman, Qatar, Bahrain and Kuwait have managed to keep their growth at the same level as that of 2014 (2.5%) despite the decline in oil revenue. In addition to decline in oil prices, political instability and prolonged conflict in Libya, Iraq, Syria and Yemen are some of the other reasons for continued slow growth in low oil exporting countries. This could easily turn into a deficit if the decline in oil prices continues (Shah Mehrabi, 2015). Developing countries are more affected because of their less efficient production. For example, Iranian economy is very vulnerable to the negative oil price shocks. There is a strong positive relationship between positive oil price changes and industrial output growth (Farzanegan and Markwardt 2009). The continuation of decline in oil prices and the slow pace of reforms could retard investment opportunities and significantly increase the unemployment rate

With the decline in oil prices, some countries in the Gulf Cooperation Council are changing the way the governments spend their money. Saudi Arabia seems like the best prepared country with a close to \$900 billion dollars in reserves. Bahrain will be negatively affected. The United Arab Emirates has also been

looking for new sources of revenue and is placing a tax on remittances. Oil exporting countries that have large reserves such as Saudi Arabia will be hurt least, while Libya and Yemen are the most vulnerable. Kuwait is also affected by the decline in oil prices as evidenced by the decline in their GDP as well as their stock market (Shah Mehrabi, 2015).

Also, very impressive is the case of Saudi Arabia, with a growth rate of 60%, which reflects the changing attitude of Saudi authorities towards tourism and its role in the national economy. At the UNWTO Ministerial Conference held in May 2013 in Dubai, Prince Sultan bin Salman bin Abdul Aziz - President of SCTA (Saudi Commission for Tourism and Antiquities) announced the expansion of Jeddah airport and the development of conference centers, noting that although the KSA entered the tourism market just three years ago, it has very ambitious plans (Kovjanic, 2014).

So, generally, the decline in oil prices had negative impact on oil exporting countries. If the decline in oil prices continues, it could adversely affect the oil exporting countries fiscal accounts. As we stated, Middle Eastern economies are largely reliant on price of oil. Higher oil prices have strengthened their economies, while lower oil prices adversely affect their financial well-being (Shah Mehrabi, 2015). The decline in oil prices will nevertheless have direct impact on their export earnings. So, some alternatives must be used to reduce this harm. Based on the aforementioned reasons, and with regard to cultural connections and traditional social relations among Middle East countries, it would be very grateful opportunity to strengthening the capacity of tourism industry. Because, Tourism is the third largest economic activity in the world (after oil and automobiles), and it is one of the fastest-growing actions. Receipts from tourism make an important contribution to the economies of the developing countries in terms of income, employment, and balance of payments belongings. Because of this, many developing countries have begun to actively pursue tourism as a means to create jobs, vary their economies, and earn foreign currency (Furqan et al, 2010).

Based on the aforementioned statistics we can deduced that the tourism as an emerging and smoke-free industry in new era has become one of the main pillars of world trade economy and it is provided as the main pillar of sustainable development regarded to its positive features and outcomes. Some planners and policymakers believed that tourism is raised as a multi-value subject, it is considered as an important approach to achieve the sustainable development regionally. Because, its environmental degradation is low and it is an endless source. Meanwhile, it should be considered that the sustainability as a fundamental approach is accepted for every development including tourism development. Also, in scientific discussions, sustainable tourism is raised as a new conception against destructive effects of tourism development. Therefore, the capable and consistent management and also harmonization between public and private sectors are needed to achieve sustainable development in tourism industry (Nabi Najafi et al, 2016).

The rest of the paper is structures as follows: section 3 provides purpose of study. The methodology and data used are presented in section 4. Subsequently, empirical results are analyzed in section 5, whereas section 6 considers conclusion and policy implications.

### **2.3. PURPOSE OF STUDY**

One of the most important factors of economic crisis in oil exporting countries is oil prices fluctuations. Therefore, study the effect of oil prices on the oil exporting countries economies' **is important, where oil income is known as an engine of economy.**

Middle East economies are at the center of this study and we will examine whether there exists a transmission mechanism from the impact of oil price movements to tourism in Middle East economies (Deniz, 2013). This paper examines the relationship between oil prices and tourism income.

For this study we consider data from 7 Middle Eastern countries namely, the United Arab Emirates, Iran, Iraq, Saudi Arabia, Oman, Qatar and Kuwait, which are oil exporting countries. The choice of the countries was influenced by the fact that their oil sector has a significant contribution to their economy. In addition, Middle East had one of the highest growth rates of international tourist arrivals from 2005 to 2011, and tourists go there often for cultural, historic, and religious attractions and are interested in East

cultures and religions, therefore, have good potentials for attracting tourism and increasing their tourism revenues.

Much of the literature on impacts of oil prices effects on Tourism has focused on countries with not enough oil resources and oil importing countries, also, tourism has great impact on their economy. So, survey the impact of oil prices on oil exporting countries on tourism industry, which have many potentials for tourism can determined their relationships and helps to policy making.

### 3. METHODOLOGY

#### 3.1. DATA DESCRIPTION

We use yearly data from 1995 to 2014 for 7 countries, namely the United Arab Emirates, Iran, Iraq, Saudi Arabia, Oman, Qatar, and Kuwait. According to the same articles (Chatiziantoniou et al, 2013, Becken and Lennox, 2012) the variables under consideration are crude oil prices (OP), inflation rate (IR), tourism income (TI), exchange rate (ER) and gross domestic product per capita (GPERC).

All variables, except the oil prices and revenues, have been extracted from the time series database of the World Bank. Oil prices and revenues variables have been obtained from OPEC's annual reports. Also, we use Dummy variables for Iran since 2010 and Iraq from 2003 to 2011. Because, these 2 countries were faced with some crisis during these years.

Crude oil prices measure the spot price of various barrels of oil, most commonly either the West Texas Intermediate or the Brent Blend. The OPEC basket price and the NMEX prospects price are also sometimes quoted (The balance, 2016). Tourism income represents incomes that are generated by international inbound visitors, including payments to nationwide carriers for international transport. These receipts include any other prepayment made for goods or services received in the destination country. They also may contain receipts from same-day visitors, except when these are important enough to justify separate categorization (World Bank, 2016).

#### 3.2. PANEL-VAR FRAMEWORK

We examine the dynamic relationship among oil prices and tourism income, using the Panel-VAR framework. In particular, we consider the following variables in our model: crude oil exports, crude oil prices, inflation rate, tourism income, exchange rate and gross domestic product.

VAR models provide useful methodology to investigate the issue. First, dynamic effects can be inferred from VAR models. Second, some interactions between the oil prices, tourism and macro variables can be allowed in the pattern (Kim, Lee, 2008).

P-VAR methodology fits the purpose of this paper, given the absence of a priori theory regarding the relationship between the changes in oil prices and development of the tourism sector in oil producers and exporters countries. This methodology is based on a framework that allows all variables to enter as endogenous within a system of equations, where the short run energetic relationships can be subsequently identified (Filippaki, Mamatzakis 2009).

Panel VARs have the same structure as VAR models, in the sense that all variables are assumed to be endogenous and interdependent, but a cross regional dimension is added to the representation. The PVAR technique combines the traditional VAR approach, which provides all the variables in the system as endogenous, with the panel-data approach, which allows for unobserved individual heterogeneity.

The econometric model takes the following degrade form:

$$y_{0i} = A_{0i}(t) + A_i(l)Y_{t-1} + u_{it} \quad i = 1, \dots, N \quad t = 1, \dots, T$$

Where  $u_{it}$  is a  $G \times 1$  vector of random disturbances and, as the notation makes it clear,  $A_{0i}(t)$  and  $A_i$  may depend on the unit. When a panel VARX is considered, the representation is



$$y_{0i} = A_{0i}(t) + A_i(l)Y_{1t-1} + F_i(l)W_t + u_{it}$$

Where  $u_t = [u_{it}, u_{it}, \dots, u_{Nt}]' \sim iid(0, \Sigma)$ ,  $F_{i,j}$  are  $G \times M$  matrices for each lag  $j=1, \dots, q$ , and  $W_t$  is a  $M \times 1$  vector of predetermined or exogenous variables, common to all units  $I$  (Canova and Cicarelli, 2013).

A panel VAR typically used for macroeconomic and financial analyses. It is similar to large scale VARs where dynamic and static interdependencies are allowed for. It differs because cross sectional heterogeneity imposes a structure on the covariance matrix of the error terms. Also, Panel VARs have been used to address a variety of issues of interest to applied macro-economists and policymakers. Panel VARs are particularly suited to analyzing the transmission of idiosyncratic shocks across units and time. Another potential use of panel VARs is in analyzing the importance of interdependencies, and in checking whether feedbacks are generalized or only involve certain pairs of units. Thus, one may want to use a panel VARs to test the small open economy assumption or to evaluate certain exogeneity assumptions, often made in the international economics literature. Finally, panel VARs may be used to examine the extent of dynamic heterogeneity and of convergence clubs (Cicarelli, 2013).

The PVAR approach works by integrating the traditional VAR framework with the panel data setup, where unobserved individual heterogeneity is permitted. When estimation is considered, it is known that the standard fixed-effect estimator is biased in dynamic panel specifications because of the presence of correlation between the regressors and the fixed effects. Biased coefficients would be created by the mean differencing procedure that is used for eliminating fixed effects (Dokemen, 2012).

#### 4. EMPIRICAL FINDING

The focus of this study was to examine the effects of oil shocks on the tourism sector growth, so, the main variables were discussed. Before the estimation of model, we need to examine the static of variables, and, after ensuring the stationary, the model will be estimated. For this purpose, the unit root test is used. The results represented in table

Based on the results, oil revenues and inflation are stationary in the level values, considering that the stationary is different for variables. In other words, the inflation variable is stationary with intercept and trend, oil prices, GDP, exchange rates and tourism sector revenues with intercepts.

**Table 1. Unit root test results for variables (Shin W-stat Im, Pesaran and)**

variables	Level		1 ST DIFFERENCE	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
D(GDP)	0.9927	0.2788	0.0000	0.0012
OP	0.9939	0.0272	0.0000	0.0000
D(TI)	0.0000	0.9955	0.0027	0.0009
D(ER)	0.2853	0.3055	0.0003	0.0097
IR	0.0000	0.0000	0.0000	0.0000

Source: Author

Also, to ensure that the regression is not spurious Co-integration test was conducted, the long-term relationship between the variables was confirmed which is shown in table 2. According to the Pedroni residual co integration test, the variables of model are significance at 10 percent level by Group ADF-Statistic parameters.

**Table 2. Pedroni residual cointegration test**

	Statistics	Prob
Panel v-Statistic	-0.852567	0.8031
Panel rho-Statistic	2.800391	0.9974

<b>Panel PP-Statistic</b>	2.344743	0.9905
<b>Panel ADF-Statistic</b>	1.027369	0.8479
<b>Group rho-Statistic</b>	3.215508	0.9993
<b>Group PP-Statistic</b>	2.150529	0.9842
<b>Group ADF-Statistic</b>	-1.525910	0.0635***

Source: Author

\*Denotes significance at 1% level.

\*\*Denotes significance at 5% level.

\*\*\*Denotes significance at 10% level.

In order to achieve an optimal model, which provides a proper estimation of variables, it is necessary to have knowledge about optimal lag and variables of model. **In order to determine the econometric model's** optimal lag, all variables are estimated in the form of a VAR model. Akaike and Schwarz and Hannan-Quinn criteria are used to determine the optimum number of optimal lags, which is calculated from the log-likelihood function. Accordingly, the results of the test to determine the optimal lags are presented in the following table.

**Table3. The results of the test to determine VAR lags**

lag	Log L	LR	FPE	ALC	SC	HQ
<b>0</b>		NA	1.86E+46	123.5651	123.7387	123.6349
<b>1</b>	-4496.522 -5183.733	1259.888	3.44E+39	108.06	109.2754*	108.5486*
<b>2</b>	-4450.999	76.95443	2.77E+39	107.8333	110.0905	108.7407
<b>3</b>	-4428.300	35.13034	3.93E+39	108.15	111.449	109.4761
<b>4</b>	-4376.353	72.97287	2.87E+39	107.7703	112.1111	109.5152
<b>5</b>	-4333.592	53.96063	2.72E+39	107.6093	112.9918	109.7731
<b>6</b>	-4295.793	42.298	3.09E+39	107.5665	113.9908	110.149
<b>7</b>	-4228.650	65.54456*	1.89 E +39*	106.8250*	114.2911	109.8263
<b>8</b>	-4203.836	20.67825	3.57E+39	107.0913	115.5992	110.5114

Star mark indicating the optimal lag of model. Source: Author

**Chow (F) test:**

After doing the unit root test, we need to do the relevant diagnostic tests to determine the estimated model. F test is used to do that, which the null hypothesis is shown homogeneity in section and the alternative hypothesis is inhomogeneous of the sections. So, if the null hypothesis will be accepted in this test, the complication method will be used for estimating, otherwise the panel data is used.

**Table4. Chow test results (F Limer)**

test	Statistics	The significance level
<b>Chow test</b>	40.038	0.0000

Source: Author

Since, the F statistic is significant statistically at the probability of more than 99 percent, H<sub>0</sub> hypothesis is rejected, and consequently, panel data model should be used. Moreover, in this type of data different intercepts should be considered in estimating.

**Hausman test:**

After determining heterogeneity and individual differences in sections, and combined data method is suitable for estimating, it should be determined that estimation error is for changing in levels or have occurred during the time.

We are faced with two fixed and random effects in the consideration of these errors. Husman test is used to determine the fixed and random effects.

**Table5. Husman test results**

Chi-Sq. Statistic	Prob
23.47	0.000

*Source: Author*

Hausman test is done using chi square distribution. Given that the significant level is less than 0.05; so,  $H_0$  hypothesis (causal effect) is rejecting and the alternative hypothesis that shown fixed effect is confirmed.

**Model estimation:**

The result of model estimation is showed in the next table in order to determine the relationship between oil prices, GDP, tourism revenues, exchange rate and inflation rate. As can be seen, oil prices with one lag have positive and significant effect on GDP, tourism revenues, inflation and exchange rate. Also, GDP variable have positive and significant impact on oil prices, oil revenues and tourism revenues with one lag. Similarly, the exchange rate has a positive and significant effect on GDP.

**Table6. Vector autoregression method estimation results**

	DAM	ER	GPERC	IR	OP	TI
<b>DAM(-1)</b>	0.934950 (0.04119) (22.6997)	204.8278 (267.554) (0.76556)	664.8036 <b>1482.40</b> <b>0.44846</b>	<b>2.370286</b> )5.03934( )0.47036( <b>0.000979</b>	<b>8.959897</b> )4.83299( )1.85390( <b>0.000681</b>	<b>1.432514</b> )2.42140( )0.59887( <b>-3154.855</b>
<b>ER(-1)</b>	<b>7.662148</b> )4.12540( <b>1.89015</b>	<b>1.195384</b> )0.02634( <b>45.3798</b>	<b>0.015803</b> )0.14595( <b>0.10828</b>	<b>0.000979</b> )0.00050( <b>1.97255</b>	<b>0.000681</b> )0.00048( <b>1.43026</b>	<b>-3154.855</b> )23579.9( <b>-0.13379</b>
<b>GPERC(-1)</b>	<b>8.742352</b> )7.31121( <b>-1.20442</b>	<b>6.325255</b> )2.21001( <b>1.99217</b>	<b>1.040146</b> )0.02612( <b>39.8237</b>	<b>-0.000134</b> )8.93310( <b>1.50021</b>	<b>9.354111</b> )8.52210( <b>1.25110</b>	<b>13885.50</b> )4219.83( <b>3.29054</b>
<b>IR(-1)</b>	<b>-0.000763</b> )0.00071( <b>-1.06715</b>	<b>1.183257</b> )4.64452( <b>0.25476</b>	<b>-15.22864</b> )25.7333( <b>-0.59179</b>	<b>-0.163180</b> )0.08748( <b>-1.86536</b>	<b>7.524121</b> )3.25147( <b>3.14589</b>	<b>30554.18</b> )4157561( <b>0.73491</b>
<b>OE(-1)</b>	<b>3.820012</b> )7.59214( <b>-0.51063</b>	<b>-0.006330</b> )0.04860( <b>-0.13024</b>	<b>-0.215940</b> )0.26930( <b>-0.80186</b>	<b>-0.001024</b> )0.00092( <b>-1.11804</b>	<b>7.003215</b> )0.00088( <b>0.07968</b>	<b>38700.62</b> )43508.9( <b>0.88949</b>
<b>OP(-1)</b>	<b>0.000206</b> )0.00045( <b>0.45911</b>	<b>-0.167811</b> )2.91900( <b>-0.05749</b>	<b>-29.78311</b> )16.1730( <b>-1.84154</b>	<b>-0.040145</b> )0.05498( <b>-0.73019</b>	<b>0.847304</b> )0.05273( <b>16.0694</b>	<b>103780.8</b> )2612957( <b>-0.39718</b>
<b>TI(-1)</b>	<b>-4.065020</b> )5.960874( <b>-0.06927</b>	<b>-2.000130</b> )3.85961( <b>-0.00524</b>	<b>1.222300</b> )2.19600( <b>0.57951</b>	<b>-1.131200</b> )7.236511( <b>-0.00158</b>	<b>6.501112</b> )6.930011( <b>0.94506</b>	<b>1.039988</b> )0.03409( <b>30.5111</b>

*Source: Author*

Based on the result the oil prices have positive and significant correlation with tourism revenues, because, oil prices and oil revenues rising is increased public investment in infrastructures and this issue develop tourism sector in two ways. In one side, the development of infrastructure by government will help to attract private sector investment in tourism sector, and, on the other side, infrastructure can attract the tourists.

The results indicate a significant and positive impact of oil prices on GDP in studied countries. Because, oil prices increasing raise oil revenues and government spending reply and domestic investment on oil revenues shocks is positive. Given that different sectors of economy are shared on oil revenues, and as a result of OPEC countries on this revenues, any increasing in oil revenues will lead to increasing in government spending, investment, thus GDP. But, small coefficient shows little influence of these variables on economic growth. Also, the impact of oil prices on GDP is larger than the coefficient effect of these variable income is tourism sector. This means that changes in oil prices has little effect on the development of the tourism sector.

The impact of tourism revenues on GDP is positive. Because the tourism growth is a source of incentives and resources to infrastructure networks strengthen in national, regional and local levels. On the demand side, tourism flourishing activity needs to infrastructure such as transport, communications and efficient distribution networks. This issue is an incentive for government to improved public goods which are important to increase the efficiency in tourism sector and economy. On the supply side, tourism growth should lead to more tax revenues through corporate taxes, incomes and sales. The tax revenues could lead to the development of public and social goods such as infrastructures. Tourism sector can change the production structure of economy. Duo to international trade and its high weight in developing economics, the effects of tourism can be important incentives to allocate resources in all sectors, and, thus affected the product markets. The tourism sector is slightly higher oil sector improves the economic growth in oil exporting OPEC countries. It is because of their position in Middle East, high potential for tourism, high fluctuations in oil prices and consequently oil revenues in these countries, and high sensitivity to changes in oil prices to changes in security and political in region.

According to the results, the effect of oil prices on inflation is positive and significant. Liquidity increased because of oil revenues increasing and strengthening government spending, so, increased inflation.

The results show that in OPEC countries which are relies on oil revenues, the oil prices plays a major role in determining the exchange rate. Therefore, the impact of oil shocks and preventive and control measures should be considered in the long-term economic planning and in setting the exchange rate regime and the real exchange rate.

The effect of exchange rate changes on GDP, also, is positive. This means that the exchange rate through devaluation of national currency, stimulate exports and increase the GDP. And, exchange rate rising because of shocks, the demand for exports will increase; therefore, domestic product will rise. As a result, the industry could be stimulated and using labor force will increase to produce and employment. Finally, Domestic investment will accelerate.

Government spending response to shocks to the exchange rates is positive, too. Because capital goods importing can be expensive because of increases in the exchange rate, as a result, construction costs will increase. This cost increasing will raise government spending, and, consequently, exchange rates changing can make in line changes with GDP.

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# STUDY THE COMPARISON OF SELF-REGULATED LEARNING STRATEGIES AND SOCIAL SKILLS AMONG GOVERNMENTAL AND NON - GOVERNMENTAL SCHOOLS STUDENTS IN BANDAR ABBAS PROVINCE

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## Abstract

*The purpose of this study is conducted to the self-regulated learning strategies and social skills among governmental and non-governmental school students in Bandar Abbas province. So, information was collected by utilizing the causal-comparative method by using the self-regulated learning strategies questionnaires of Pintrich and De Groot (1990) and social skills (SSI). Statistical population was included all students in the school year of 2015-2016 among governmental and non-governmental school students in Bandar Abbas province whose number was 18750. Among them a total of 300 people, including 150 governmental school students and 150 non-governmental school's students were selected for classified sampling. Analysis of data was performed both descriptive and inferential method. In the descriptive level was used descriptive statistical characteristics and in the inferential level was used one-way analysis of variance test. Results showed that there is a difference between governmental and non-governmental schools in self-regulation learning strategies and its components ( $p=0.001$  and  $F=15.946$ ) and social skills ( $p=0.001$  and  $F=13.798$ ).*

JEL classification: D83

**Keywords:** Social Skills, Self-Regulated Learning Strategies, Governmental and Non-Governmental Schools

## 1. INTRODUCTION

One of the main objectives which is important into the education process of students is that , they should be become strategic learners and capable of self-regulation in learning. Many studies show that school performance of students and activities related to the period school education has not of much progress. Talented students do not use their capacities as good as , students mostly have not scientific spirit and enough motivation and also, there is no proper and optimal utilization of training facilities and usually instead of pay attention to the promotion of scientific level , they think to the promotion of education level (getting a larger degrees ) (Nazari Katouli, 2004). Askrav and Brooks (2000) stated that self-regulated learning includes of students' ability to understanding and controlling their learning which is very important to succeed in school materials and it has been converted them into effective and efficient learners. According to the above definitions, it can be concluding that the self-regulated learning strategies is conducted for teaching of this subject to the students that their behavior is learned and they can check their behavioral effects and their learning environment so that is organized that their efforts to be more efficient (Zimmerman, 2003).

Zimmerman (2001), knows self-regulated learning as a process of self-directedness through which learners can be converted their mental abilities into academic skills related to the task, this approach knows learning as an activity that learners do it as an active way. One of the most important principles of educational psychology is that students should be create awareness in their minds, teacher can give a ladder to the students that leads them to greater understanding, but students must be climb such ladder themselves. Slavin, according to the research about the effectiveness of teaching strategies learning and studied research, stated that different strategies can be taught to the students. Weinstein and Hume (1998) are mentioned some of

research with same results that teachers can help to their students by teaching the cognitive and metacognitive strategies for converting into more successful learners and more active role in the fate of their studies (Slavin, 2006). One of the raised theories in this regard is self-regulated learning theory by Pintrich and Di Groot (1990). They introduced efficacy, internal evaluation and test anxiety as motivational beliefs and cognitive strategies and meta presented as self-regulated learning (Raheb, 2010). Self-regulation leads to independent activity of students in learning. Self-regulated students serve their cognitive performance and behavior in order to access to their goals Successfully (Zimmerman, 1989). Motivation of learners to achieve the goal drawn from the judgment that they have about their self-regulated performance, self-regulated will be lead to better learning and feeling more competent in the learners (Raheb, 2011).

Pintrich (2000) suggest that self-regulated learners are beginning to working with an educational work in order to assess of their work, determine the goal and some measures to achieve the objectives and monitor their progress to goal achievement, assess the strategies and review the work based on information obtained the internal and external feedback (Raheb, 2011). For description the self-regulation had many patterns suggested that one of them is Pintrich self-regulation's pattern: Pintrich and his colleagues has been identified three general categories of strategies that are widely used by self-regulated learners as: cognitive strategies, metacognitive strategies and control strategies and resource management (Pintrich, 2004). Also, meaning the metacognitive strategies is the processes of planning, reviewing and revising the cognitive activities and cognitive strategies refers to tackles to learn, outsourcing and comprehension to use them by learners (Pintrich, 2004).

Social skills are those behaviors that the person can able to interact effectively and to avoid the undesirable responses and it represents behavioral social and health of individuals. These skills root in culturally and social contexts and includes behaviors such as taking the lead in a new relationship, to ask for help and offer to help others. The most important educational goals are development of social skills and utilization rate of children and adults for these skills is effective on their cognitive beliefs and academic achievement. Many young adults have not obtained appropriate social skills and it leads to psychological problems such as failure to communicate with counterparts, inadequate academic performance and self-efficacy in adolescence and above (Segrin, Flora, 2000).

Whatever will be identified the relationship between self-regulated learning and achievement learning is the relationship between skills and strategies of this type of learning, ie; cognitive and metacognitive strategies and achievement learning. Many Researchers such as Butler and Vine (1995), Sarson (1962) and Hansford (1995) have pointed out such interfaces in their research. For example, Hansford 's studies indicate that there is a relationship and significant correlation between self-regulated learning and cognitive and metacognitive skills. Overall, the researchers found that students who were used metacognitive skills such as planning, monitoring, evaluation and assessment in their process of learning and study have a better performance, significantly.

In Lee's research (2008) in a study by titled the comparison of motivational beliefs and self-regulated learning strategies among students and their academic performance on 135 students concluded that self-regulated learning strategies has been affected on the learners in terms of educational and also, on their academic performance and learners of learner-centered learning environment compare with the learner-centered learning environment or teacher-centered learning strategies have more self-regulated strategies . Mouich (2008) in research as self-regulation and formation the concept among smart and normal students concluded that the smart students are different from normal students in some features such as self-regulation of learning, learning styles and some areas of competence (Quoted by Sohrabi, 2010). Iyonsouck and Yout Akubi (2006) in a study as comparison of motivational and cognitive features among smart and normal students concluded that these two groups are no different in terms of motivational beliefs but are different in self-regulated learning strategies and metacognitive strategies. Also, Mohamedi (2000) showed the relationship between cognitive skills and social and self-efficacy skills in one study that first explains the cognitive style, social skills and self-efficacy, ie., they can be predicted through cognitive style, social skills and self-regulation and according to the results of research, self- efficacy of individual with cognitive style depended to the field is more than the self-efficacy of individual with cognitive style independent of the field. In a study, Arefi and Jalali (2010) compared the variables of motivational beliefs and self-regulated learning among in both smart and normal students in Shiraz province. The results showed that there is a significant relationship between the two groups of smart and normal students in terms of motivational beliefs



and self-learning strategy. Among dimensions of motivational belief, smart students have obtained more mean rather than normal students for target orientation and among dimensions of self-regulated learning strategies for metacognitive dimension. Hafezi, Eftekhari and Seyd Nezhad (1997), in a study entitled comparison of motivational beliefs, self-regulated learning strategies and personality characteristics of smart and normal students of high school in Ahvaz province concluded that there is no difference between two groups of smart and normal students in terms of self-regulated beliefs.

Self-regulation has an important implication in the learning process, education and even life success and it is one of the discussed concepts in contemporary education. The basic framework of learning theory of self-regulation is based on the principle that how individuals can organize their learning in terms of metacognitive, motivational and behavioral beliefs. Self-regulated learning means a person's capacity to adjusting the proper behavior according to conditions and internal and external changes of the environment, and includes a person's ability to organizing and self-management of his behavior in order to achieve the various goals of learning and it composed of strategies of two components of learning strategies and motivational strategies (Hassani et al., 1998).

In fact, whatever the belief in one's own ability is higher, person can better analyze various situations That this analysis has a beneficial role in metacognitive processes. In other words, these people who have shaped their beliefs about abilities can review them actively. So what is important is formulation the internal cognitive processing and rules and mechanism that causes the people interpret their beliefs (Andarz, 2006). In fact, it is those cognitive beliefs that Flavell (1977) knows as one's knowledge about processes and cognitive outcomes or whatever is related to it. In general, cognitive belief has a multi dimension concept which includes knowledge, processes and strategies that cognition is assessed, monitored or controlled by it (Nelson, Stewart, Howard and gravel, 1999). As mentioned, one's believe about her/his ability leads to more utilization of cognitive knowledge.

Askrafi and Brooks (2000) stated that self-regulated learning includes of students' ability to understanding and controlling their learning which is very important to succeed in school materials and it has been converted them into effective and efficient learners. According to the above definitions, it can be concluding that the self-regulated learning strategies is conducted for teaching of this subject to the students that their behavior is learned and they can check their behavioral effects and their learning environment so that is organized that their efforts to be more efficient (Zimmerman, 2003). On the other hand, self-regulated learning is as a process of self-directedness through which learners can be converted their mental abilities into academic skills related to the task; this approach knows learning as an activity that learners do it as an active way whereas the research evidence suggests that increased emphasis on the consequences of the performance causes the creating the hamper on the strategy implementation in lessons. In other words, the educational system which includes of teaching methods, material volumes, training and evaluation and scoring does not encourage the deep, creative and integrated learning but it causes that students leads to more attention to the implications of performance, specially score, and it knows self-regulation and even learning control as function of these performance goals.

The main objective of this study is to compare strategies of self-regulated learning and social skills between the government and non-government school students in Bandar Abbas province. This study will be response to this question that is there any difference between self-regulated learning strategies (and components of cognitive strategies, metacognitive strategies and resource management strategies) and social skills between government and non-government school in Bandar Abbas province?

## 2. METHOD

According to this study was conducted to compare self-regulated learning strategies and social skills among governmental and non-governmental students in Bandar Abbas province, so, the research method is descriptive of causal – comparative type. Studied population in this research are all students of first grade of governmental and non-governmental secondary schools in Bandar Abbas province whose number is 18750 students. 300 students were selected by using Morgan table and stratified sample method. For conducting the research seventh to ninth grade were randomly selected among 3 classes.

In order to collect data in this study, self-regulated learning strategy questionnaires of Pintrich and De Groot (1990) and Social Skills Inventory (SSI) was used.

## 2.1. SELF-REGULATED LEARNING STRATEGY QUESTIONNAIRES

This scale was designed by Pintrich and De Groot (1990). And in 1987 was translated by Mousavi Nezhad. This questionnaire consisted of 3 scales of cognitive strategies, strategies, metacognitive strategies and resource management strategies, and includes 47-item that are provided in five Likert scale .

Pintrich and De Groot was identified 5 factors of self-regulated strategies and was calculated the reliability of it, so that scale use of cognitive strategies (83%) were metacognitive strategies (87%) and resource management (74%). The validity of this test was considered by Hosseini Nasab (1990) by using factor analysis that obtained results of Cronbach's alpha for internal valuation, test anxiety, cognitive strategies and metacognitive strategies was 68%, 41%, 77%, 64% and 68%, respectively.

## 2.2. SOCIAL SKILLS INVENTORY (SSI)

Social skills scale consists of three special form of assessment by parents, teachers and students. Each of these scale forms can be used alone or in combination. In present research, teacher form is being used. Teachers are the most sources of information on the behavior and the adequacy of students (Hodge, 1983). Teachers have been completed this questionnaire that consists of 47 question by three scores (with options: never, sometimes and often). Content of this scale involves two main components of social skills and behavioral problems.

In this study to assess the reliability of the measurement tool, after conducting a pilot study, reliability was calculated through Cronbach's alpha coefficient over 30 statistical populations that 81% coefficient was obtained for self-regulated learning strategies and 86% coefficient was obtained for social skills.

In order to data analysis of this research was used descriptive statistical indexes (such as frequency, percentage, mean, standard deviation, etc.) and also, inferential statistics by using variance analysis. Data obtained of research was analyzed by using 20 spss software system.

## 3. FINDINGS

Frequency, percentage and cumulative percentage of participated students in the study are as follows:

**Table .1 Frequency Percentage and Cumulative Percentage of Participated Students in Research**

School	Frequency	Percentage	Cumulative Percentage
Governmental	150	50	50
Non-Governmental	150	50	50
Total	300	100	

*Source: Author*

As the data in the table above shows of 300 participated students in this research, 150 students of governmental schools constitute 50% and 150 students of non-governmental schools constitute 50%.

**Table 2. Related to Descriptive Statistics of Research Variables**

	Statistical Indexes	Groups	Numbers	Mean	Standard Deviation
Social Skills	Social Skills	Non-Governmental	150	2.4782	0.4671
		Governmental	150	2.0575	0.4278
	Cognitive Strategies	Non-Governmental	150	3.9350	0.42762
		Governmental	150	3.0762	0.40167
Metacognitive Strategies		Non-Governmental	150	3.8398	0.41567
		Governmental	150	3.1376	345.41

	Statistical Indexes	Groups	Numbers	Mean	Standard Deviation
Self-Regulated Strategies	Resource Management Strategies	Non-Governmental	150	4.1237	0.40274
		Governmental	150	3.4918	0.38345

Source: Author

Above table is related to descriptive statistics (mean and standard deviation ) of research variables .According to the table (SD) obtained mean for social skills in nongovernmental school equals to 2.4782 (0.4671 and in governmental school equals to 2.0575 (0.4278); for cognitive strategies in non-government school equals to 3.9350 (0.42762) and in governmental school equals to 3.0762 (0.40167), for metacognitive strategies in non-government school equals to 3.8398 (0.41567) and in governmental school equals to 3.1376 (0.4135) ; for source management strategies in non-government school equals to 4.1267 (0.40274) and in government school equals to 3.4918 (0.38345) .

### 3.1. INFERENCE STATISTICS

At the beginning of this section of the data analysis, first in order to examine the normality of research variables was used One-Sample Kolmogorov Smirnov. In mentioned test, the null hypothesis suggests the normal distribution of data and contrast hypothesis suggests abnormality of data distribution. It is. Based on the results table, values of all significant level of variables was greater than 0/05. Therefore, the assumption of normality of these variable distribution was approved and the contrast hypothesis for abnormality of distribution of data was rejected.

**Table 3. One-Sample Kolmogorov-Smirnov Test to Determine the Normality of the Data**

	Kolmogorov-Smirnov Test		
	Mean	Number	Significant Level
Social Skills	0.668	300	0.764
Self-Regulated Learning	0.723	300	0.759

Source: Author

### 3.2. STUDY THE UNIFORMITY OF VARIANCE

**Table 4. Related to Study the Uniformity of Variance**

Indexes	F	First –Freedom Degree	Second –Freedom Degree	Significance Level
Social Skills	12.954	1	298	0.001
Self-Regulated Learning	15.798	1	298	0.000

Source: Author

In the above table that the direction of homogeneity test of variance equals to direction of variables and components obtained, there is one F value and low P value corresponding to each level with significant level in output indicates that the uniformity hypothesis will be accepted. To test the hypothesis of analysis was used multivariate ANOVA. Table 5 shows the results of multivariate variance analysis on the score of dependent variables.

**Table 5. Summary results of the multivariate analysis of variance on the scores of dependent variables of Research**

Trace	Test	Value	F	DF Hypothesis	DF Error	Sig. Level	Effect Size
Tracking	Pillai’s Trace	0.974	334.914	2.000	53.000	0.001	0.974
	Wilks’ Lambda	0.26	334.914	2.000	53.000	0.001	0.974
	Hotelling’s Trace	37.915	334.914	2.000	53.000	0.001	0.974
	Roy’s Largest Root	37.915	334.914	2.000	53.000	0.001	0.974

Trace	Test	Value	F	DF Hypothesis	DF Error	Sig. Level	Effect Size
Students	Pillai's Trace	0.385	5.528	2.000	53.000	0.001	0.385
	Wilks' Lambda	0.615	5.528	2.000	53.000	0.001	0.385
	Hotelling's Trace	0.626	5.528	2.000	53.000	0.001	0.385
	Roy's Largest Root	0.626	5.528	2.000	53.000	0.001	0.385

Source: Author

Contents table 5 shows that there is a significant difference among students of governmental and non-governmental schools in Bandar Abbas province in at least one of the dependent variables of self-regulated learning strategies and social skills. To further study of this difference, one-way analysis of variance was conducted on the dependent variables in Manova text.

**Hypothesis:** There is a significant difference between self-regulated learning strategies among students of governmental and non-governmental schools in Bandar Abbas province.

Table 6 shows one-way analysis of variance in Manova text to compare the scores of depended variables of regulated strategies between students of governmental and non-governmental schools in Bandar Abbas province.

**Table 6. The results of one-way analysis of variance in Manova text on the scores of depended variables of research (self- regulated strategies)**

Index	Source	Sum of Squares	Freedom Degree	Mean of Squares	F	Sig. Level	Eta	Decentralized	Test Power
Model	Self-regulated learning	2.623	1	2.623	5.9461	0.001	0.93	5.9461	0.669
	Self-regulated learning	102.891	1	102.891	426.429	0.001	0.880	426.429	1.000
Students of Schools	Self-regulated learning	2.623	1	2.623	5.9461	0.001	0.93	5.9461	0.669
Error	Self-regulated learning	2.623	1	2.623	5.9461	0.001	0.93	5.9461	0.669
Total	Self-regulated learning	25.584	298	0.441					

Source: Author

Results in Tables 8 show that one-way analysis of variance are significant in the variable of self-regulated learning strategy and its components ( $F= 15.9461$  and  $p= 0.001 = p$ ). To understanding of this difference is enough to compare the mean of two governmental and non-governmental school of students in Bandar Abbas province in terms of the dependent variables with each other.

According to the results contained in table 6, mean scores on the dependent variable of the study that is self-regulated learning strategies in group of students of non-governmental school is higher than students of governmental school Significantly. Therefore, research hypothesis which is represent differences between governmental and non-governmental schools in Bandar Abbas province will be confirmed in variable of self-regulation strategy.

**Sub- Hypothesis 1:** There is a significant difference between cognitive strategies among students of governmental and non-governmental schools in Bandar Abbas province.

**Table 7. The results of one-way analysis of variance in Manova text on the scores of research variables (cognitive)**

Index	Source	Sum of Squares	Freedom Degree	Mean of Squares	F	Sig. Level	Eta	Decentralized	Test Power
<b>Model</b>	Cognitive	3.894	1	3.894	15.587	0.001	0.212	15.587	0,973
	Cognitive	160.531	1	160.534	642.527	0.001	0.917	642.557	1.000
<b>Students of Schools</b>	Cognitive	3.894	1	3.894	15.587	0.001	0.212	15.587	0.973
<b>Error</b>	Cognitive	14.990	298	0.251					
<b>Total</b>	Cognitive	178.918	299						

Source: Author

Results in Tables 7 show that one-way analysis of variance are significant in the variable of cognitive strategy (F= 15.587 and p= 0.001). To understanding of this difference is enough to compare the mean of two governmental and non-governmental school of students in Bandar Abbas province in terms of the component of dependent variables with each other. According to the results contained in table 4-2 , mean scores on the dependent variable of the study that is cognitive in group of students of non-governmental school is higher than students of governmental school significantly .Therefore , research hypothesis which is represent differences between governmental and non-governmental schools in Bandar Abbas province will be confirmed in variable of cognitive strategy .

**Sub- Hypothesis 2:** There is a significant difference between metacognitive strategies among students of governmental and non-governmental schools in Bandar Abbas province .

**Table 8. The results of one-way analysis of variance in Manova text on the scores of research variables (metacognitive)**

Index	Source	Sum of Squares	Freedom Degree	Mean of Squares	F	Sig. Level	Eta	Decentralized	Test Power
<b>Model</b>	Metacognitive	2.755	1	2.755	13.139	0.001	0.185	13.139	0.946
	Metacognitive	161.001	1	161.001	767.814	0.001	0.930	767.814	1.000
<b>Students of Schools</b>	Metacognitive	2.755	1.	2.755	13.139	0.001	0.185	13.139	0.946
<b>Error</b>	Metacognitive	12.162	298	0.210					
<b>Total</b>	Metacognitive	175.918	299						

Source: Author

Results in Tables 8 show that one-way analysis of variance are significant in the variable of metacognitive strategy ( $F= 13.139$  and  $p= 0.001$ ). To understanding of this difference is enough to compare the mean of two governmental and non-governmental school of students in Bandar Abbas province in terms of the component of dependent variables with each other. According to the results contained in table 4-2 , mean scores on the dependent variable of the study that is metacognitive in group of students of governmental school is lower than students of non- governmental school significantly .Therefore , research hypothesis which is represent differences between smart and non-smart schools in Bandar Abbas province will be confirmed in variable of metacognitive strategy.

**Sub- Hypothesis 3:** There is a significant difference between source management strategies among students of governmental and non-governmental schools in Bandar Abbas province .

**Table 9. The results of one-way analysis of variance in Manova text on the scores of research variables (source management)**

Index	Source	Sum of Squares	Freedom Degree	Mean of Squares	F	Sig. level	Eta	Decentralized	Test Power
<b>Model</b>	Internal Value	1.913	1	1.913	9.486	0.003	0.141	9.486	0.857
	Internal Value	181.755	1	181.755	901.115	0.001	0.940	901.115	1.000
<b>Students of Schools</b>	Internal Value	1.913	1	1.913	9.486	0.003	0.141	9.486	0.857
<b>Error</b>	Internal Value	11.699	298	0.202					
<b>Total</b>	Internal Value	195.367	299						

Source: Author

Results in Tables 9 show that one-way analysis of variance are significant in the variable of source management strategy ( $F= 9.486$  and  $p= 0.001$ ). To understanding of this difference is enough to compare

the mean of two governmental and non-governmental school of students in Bandar Abbas province in terms of the related component of dependent variables with each other. According to the results contained in table 2, mean scores on the dependent variable of the study that is source management in group of students of non- governmental school is higher than students of governmental school significantly. Therefore, research hypothesis which is represent differences between governmental and non-governmental schools in Bandar Abbas province will be confirmed in variable of source management.

**Sub- Hypothesis 4:** There is a significant difference between social skills among students of governmental and non-governmental schools in Bandar Abbas province .

Table 10 shows the results of one-way analysis of variance in Manova text on the scores of social skills variable among students of governmental and non-governmental schools in Bandar Abbas province.

**Table 10. The results of one-way analysis of variance in Manova text on the scores of research variables (social skills)**

Index	Source	Sum of Squares	Freedom Degree	Mean of Squares	F	Sig. Level	Eta	Decentralized	Test Power
Model	Social Skills	0.3392	1	0.3392	798.13	0.001	0.183	798.13	0.943
	Social Skills	589.151	1	589.151	836.594	0.001	0.945	498.846	1.001
Students of Schools	Social Skills	0.3392	1	0.3392	798.13	0.001	0.183	798.13	0.943
Error	Social Skills	10.366	298	181					
Total	Social Skills	162.194	299						

*Source: Author*

Results in Tables 10 show that one-way analysis of variance are significant in the variable of source management strategy ( $F= 13.798$  and  $p= 0.001$ ). To understanding of this difference is enough to compare the mean of two governmental and non-governmental school of students in Bandar Abbas province in terms of the related component of dependent variables with each other. According to the results contained in table 2, mean scores on the dependent variable of the study that is social skills in group of students of non-governmental school is higher than students of governmental school significantly. Therefore, research hypothesis which is represent differences between governmental and non- governmental schools in Bandar Abbas province will be confirmed in variable of social skills.

#### 4. CONCLUSION

This study was performed to compare the motivational beliefs and self-regulation learning strategies between students of smart and non-smart schools in Bandar Abbas province. Based on the findings of this study, variance results were indicated that there is a significant difference between self-regulation strategies and its components among governmental and non-governmental students ( $F=15.946$  and  $p=0.001$ ). Obtained results are consistent with the research results of Kamarya and et al. (2013), Vip and Chiarelli (2012), DeJong (2010), Lee (2008), Mouch (2008), Bakhshayesh and et al. (2013), Teimouri Fard (2010) and Mohammadi (1999). They also found that students in non-governmental schools has a more self-regulation rather than students in governmental schools. The concept of self-regulated learning refers to how learners control their thoughts, feelings and actions

for academic achievement. In explaining of this hypothesis can be said that on this basis we can say bias in interpreting events of social environment leads to wrong



assumptions about individual and social environment which it will be have negative assessment about social situations. Also, interaction through learning by using the

advanced facilities, professional management and electronic tools has an important role in the developing the process and growing self-regulated learning. Such situation requires that learner actively act in his /her learning process and take to help from cognitive learning strategies or extend the self-regulated skills.

According to findings of this study, variance results and also, differences between means was indicated that there is a significant difference between social skills of governmental and non-governmental students ( $F=13.798$  and  $p=0.001$ ). Obtained results was no consistent with the research results of Matson and et al. (2003), Mackav and Youmic Canki (1983). To justify of this finding must be said that the role of social skills in progress and health of individuals need to reload in parenting styles, family and educational planning in education and training organization and security the social environments should be discussed more and more. It seems educational practices in Iran is as that boys are considered rather than girls and this may cause some differences in the used educational context among girls and boys. Social skills refers to the learned good behavior that a person have a good relationship with others and refrain the social irrational reactions .Social skills to be included a wide range of behaviors such as the ability to communicate effectively and appropriately with others, providing the helpful and decent answers , willingness to generous and empathetic behaviors, avoiding the ridicule and bullying to others that in this regard, cannot be ignored the role of schools ,teaching practices and learning environments , simply.

So, by considering the obtained results, there are some recommendations in future research, including this research can be conducted on the comparison and relationship between each variable strategies of self - regulation and social skills with other variables such as motivational beliefs in governmental and non - governmental schools. Also due to major role of schools in furtherance of the ideals of the country so, it is worth by considering plans and the use of relevant experts can be recognizing the effective factors on student achievement and causes the academic achievement and social skills of students. As the results showed that there is difference between status of social skills and self-regulated learning strategies in governmental and non-governmental schools so, the need to increasing the attention and planning for better and more consideration to schools in order to use better and more facilities is visible over the past. Many educators stressed increasingly on the development of social skills in order to improve wider capabilities for students. On the other hand, the main goal of education of students help to compatibility of students in different environments of life. Therefore, planning the applied social skills is essential for students.

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# ANALYTICAL STUDY THE WORKING CAPITAL AND THE PROFITABILITY IN DETERGENT AND HYGIENE PRODUCTS MANUFACTURING FIRMS LISTED IN THE TEHRAN STOCK EXCHANGE

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## Abstract

*The research has been studied the relationship between working capital management and profitability in detergent and hygiene products manufacturing firms listed in the Tehran Stock Exchange. Statistical population of the research included all firms of detergent and hygiene products listed in the Tehran Stock Exchange. Sampling method is simple random sampling. In order to assess the main hypothesis and test the significant relationship between working capital rate and profitability in the presence of control variables according to time correlation of data (financial information on a company for 11 consecutive year) and the lack of independence of observations, a generalized estimating equations model has been fitted for data of companies having positive working capital rate. The square amount of working capital rate was less than 0.05 so this indicates the significantly impact of this variable on the profitability. Furthermore, the impact of negative working capital rate (WCR) on return on assets (ROA) has been confirmed. U-shaped inverse relationship between working capital rate and return on assets in hygiene products manufacturing firms has also been confirmed.*

JEL classification: J24, L65

**Keywords:** Working Capital Rate, Profitability, Hygiene Products Manufacturing Firms

## 1. INTRODUCTION

More than one hundred years, financial management has undergone major developments as a scientific discipline. It has increasingly become more spread. Its various areas have been become more specialized and they continue their role in the organizations. In the past centuries, industrial manufacturing companies have produced a large amount of products as mass production and achieved good profits. This has caused planning and control problems particularly in terms of liquidity position would gradually be considered in financial management; working capital management became as a specialized entity in the business department; and many managers would daily spend their time and energy to manage working capital. As financial managers' view, working capital management is a simple and clear concept that ensures company ability to understand the difference between assets and short-term liabilities (Howorth, 2005). Keeping an optimal level of cash to pay debt indicates the importance of working capital. In practice, working capital has become a problem of maturity, to take advantage of sudden suitable opportunities for investment which is a sign of entity flexibility, and access to raw materials for production so that the company can timely meet main customer demands in the organizations where many executives are involving to identify the main working capital management factors and its optimal level (Lamberson, 1995). Working capital management is considered as one of the important area in the financial management and organization management because it directly influences on company liquidity and profitability. There is a possibility of bankruptcy for companies which are exposed to inappropriate working capital management even with

positive profitability. Working capital management deals with current assets and liabilities. A company's current assets constitute its significant portion of total assets. Current assets excessive level can lead to the realization of return on investment less than the standard level. However, companies, which have little current assets, will be encountered with shortages and problems in the ordinary course of operation (Raheman & Nasr, 2007).

Efficient working capital management involves planning and controlling current assets and liabilities such that it resolves the risk of inability to meet short-term commitments and to avoid excessive investment in these assets (Raheman & Nasr, 2007).

One of the ultimate goals of any company is to maximize profits in the long-term but also to maintain the company's liquidity is an important goal. The problem is that gain profit at the expense of the loss of liquidity can cause serious problems for a company. Therefore, it must be established a balanced between these two objectives and an objective should not be achieved at the expense of other objective because they both have their own importance. If a company does not pay attention to the profitability, it cannot survive for long. In the other hand, if a company does not concern about the liquidity, it might be encountered with bankruptcy or failure to pay its debts on time. According to above reasons, working capital management should be of particular attention and ultimately affects on company profitability (Raheman & Nasr, 2007).

Since the economical, social, cultural, and political environment of Iran is different from other countries, the effects of working capital management on company profitability and performance is different from other countries. As a result, the research is to explore the effects of working capital management on the performance in companies producing detergents listed in the Tehran Stock Exchange. Therefore, the aim of the current research is to find the effects of working capital management performance in above companies listed on Tehran Stock Exchange.

## 1.1. WORKING CAPITAL MANAGEMENT

Working capital management includes inventories management, accounts receivable and accounts payable, and cash inventory. Implementation of effective management on working capital is a very effectiveness approach for companies to increase their income.

## 1.2. PROFITABILITY:

The ability of company to earn profit is called profitability.

### Cash conversion cycle:

Cash recovery cycle or cash conversion cycle is an index that expresses conversion period of the **company's resources to cash in terms of number of days. The number of days** indicates the time required for **days'** inventory outstanding (DIO), days sales outstanding (DSO), and days payable outstanding:

$$CCC = DIO + DSP - DPO$$

### Return on assets

This ratio measures management efficiency using resources to earn profit and it is obtained by dividing the annual profit to the sum of assets.

## 2. LITERATURE REVIEW

Setayesh & Mansouri (2010) have been studied the relationship between working capital and various components of accounting profit in their research by studding a sample included 195 firms listed in the Tehran Stock Exchange during 2005-2009. Results of the research showed that gross working capital have no significant relationship with any components of accounting profit while net working capital have a significant positive relationship with operating profit, profit before deducting interest and taxes, and net income.

Shabahang (2003) has been studied and explained items constituted working capital and the role of financial manager to apply working capital management. Results indicated that excessive investment in current assets would be led to costs of lost opportunity. On the other hand, investment less than required level in current assets may be also costly. For example, maintaining inventory in insufficient level would be led to the loss of sales and customer dissatisfaction. Regarding current liabilities, he also argues that short-term borrowings are typically used to support investment in current assets. Furthermore, items such as financing cost, reliability, limitations, and flexibility will be needed to be considered by the financial manager to select short-term financing.

Miralmasi (1994) has been studied artificial concept of working capital. He stated that the amount, which is known as working capital, is resulted from the differences between current liabilities and current assets. In fact, this difference is the result of applying a method by which current and non-current assets and liabilities are categorized. This method was used in responses to the objective needs of commercial banking in the early twentieth century. The method is considered as the remnants of a bygone era. He believes that the method was misleading and it should be abandoned.

Fadaeenezhad & Enayati (2005) have been studied and explained working capital management in firms listed in the Tehran Stock Exchange. He concluded that cash management, receivables management, and financing approaches affects on liquidity situation; and inventory management is not statistically significant.

Rahnamaye Roodposhti & Kiani (2009) have been studied and explained strategies of working capital management in firms listed in the Tehran Stock Exchange. Results showed that there is a weak relationship between efficiency and working capital management strategy, which is not statistically significant, but there is a significant relationship between liquidity and working capital management strategy. There is also a significant relationship between the solvency and working capital management strategy.

Setaysh et al. (2010) have studied the effect of working capital on profitability on firms listed in the Tehran Stock Exchange. Results indicated that there is a negative relationship between receivables collection period, inventory conversion period, cash conversion cycle, and financial leverage with profitability. Furthermore, sales growth has a significant positive with profitability; and the effect of payment period of account payable on profitability is not significant.

Malekinia et al. (2012) have been studied the relationship between working capital policy and company profitability in automobile, pharmaceutical, and mineral companies listed in the Tehran Stock Exchange. Research method was descriptive. Hypothesis of the research have been analyzed using Pearson's correlation coefficient and regression model. Results show that there is not a direct and significant relationship between earnings per share and return on equity with working capital management strategy but there is a direct and significant relationship but not strong between working capital management strategy and return on investment. Only 6% changes in return on investment can be justified by changes in working capital management strategy.

Kakaali Someesaraei et al. (2015) have been researched the relationship between working capital and company performance. Sample included 61 companies whose financial information has been analyzed during 2007-2012. In the research, the effect of various variables of working capital management including the average period of receivables collection, inventory turnover period, the average period of paying debt, and cash conversion cycle on company value and company operating gross profit. Company size, sales growth, financial leverage, fixed assets to total assets, net operating income variability, and GDP growth have been also used as control variables and Pearson's correlation and regression have been used to analyzed.

Rezazadeh & Heidarian (2011) have been studied the effect of working capital management on Iranian company profitability. In the research, it has been studied 1356 observations/years of firms listed in the Tehran Stock Exchange during 1999-2008. Results shows that it can inventory management and number of days of receivables collection period to create value for the company.

Fathi & Tavakoli (2010) have been researched about optimal management of working optimal. They have been assessed the interaction between suppliers and customers. According to findings and the importance of working capital for the organizations, organizational literatures traditionally focus on studding long-term financial decision-making. Researchers have been studied more about investment analysis, capital structure, dividend, organization evaluation, and similar items. However, it should be noted that investment, which companies invest on short-term assets, and resources, which are used with maturities less than one year, are the major part of company balance items.

Mohammadi (2010) has been researched about the relationship between working capital and performance of stock companies. Sample included 92 companies with information spectrum during 1997-2006. In the research, it has been used the variable "gross profit to total assets ratio" as company profitability criteria; variables such as the period of receivables collection, inventory turnover period, payment of creditors, and cash conversion cycle as working capital management criteria; and variables such as company size, sales growth, the ratio of financial assets to total assets, the ration of financial debt to total assets as control variables. Results showed that there is an inverse significant relationship between company profitability with receivables collection period, inventory turnover period, payment of creditors, and cash conversion cycle. In other words, managers can enhance their company profitability at affordable level by reducing the period of receivables collection and inventory turnover period. The results in relation to the payment of creditors indicate that profitable companies have shorter creditors' payment period.

Deloof (2003) has been studied "does working capital management affect the profitability of Belgian firms? He found that there is a significant negative relationship between gross operating profit and three variables including accounts receivable, account payable, and inventory turnover.

Narware (2004) has been empirically analyzed working capital and profitability. He has been considered return on investment as profitability criteria. Results indicated that there is a weak positive relationship between profitability and working capital.

Lazaridis & Tryfonidis (2006) have been studied the relationship between working capital management and profitability for firms listed in the Athen Stock Exchange during 2001-2004. They have been considered gross operating profit as profitability criteria. They showed that there is statistically significant relationship between profitability and cash conversion cycle. There is also a positive relationship between profitability and accounts payable turnover. In addition, there is a negative relationship between profitability and accounts receivable turnover and inventory turnover.

Raheman & Nasr (2007) have been studied working capital management and profitability through case study of Pakistani companies. Results indicated:

- There is a strong negative relationship between variables of working capital management and profitability;
- There is a significant negative relationship between liquidity and profitability;
- There is a significant negative relationship between the debt used by companies and profitability;
- There is a positive relationship between company size and profitability.

Vishnani & Kr.Shah (2007) have been empirically studied the impact of working capital management policies on corporate performance in electronic industries. They showed that there is an inverse relationship between net working capital and profitability. The research statistically showed a weak positive correlation between liquidity and profitability so that it can be concluded that there is no uniform correlation (always positive or always negative) between liquidity and profitability for the whole industry.

**Juan García-Teruel & Martínez-Solano (2007)** have been evaluated the effects of working capital management on SME profitability. They concluded that management can create value for the company by reducing the number of days in accounts receivable and inventory (increase in their turnover); and company profitability can be improved by shortening cash conversion cycle.

**Şamiloğlu & Demirgüneş (2008)** have been studied the effect of working capital management on firm profitability during 1998-2007. They concluded that there is a significant negative relationship between profitability, accounts receivable turnover, inventory turnover, and leverage. In addition, there is a positive significant relationship between profitability and sales growth. The cash conversion cycle, company size, and fixed assets have statistically no significant relationship with profitability.

Ramachandran & Janakiraman (2009) have been evaluated the relationship between working capital management efficiency and Ebit in Indian Pulp & Paper Industries. They found:

- In Indian Pulp & Paper Industries, working capital is satisfactorily and desirably managed;
- Good working capital management directly affect on Ebit and liquidity;
- Accounts payable turnover has a significant negative relationship with Ebit, in turn shows that it will lead to improved Ebit by developing payments to suppliers;
- Account receivable turnover has a significant positive relationship with Ebit;
- There is a significant negative relationship between cash conversion cycle and Ebit.

Mack (2010) concluded that the amount of working capital depends on factors such as the type of industry and business size. If we want to suggest optimum value for working capital by considering these factors for different enterprises, we can develop and improve investment strategies on current assets.

Nobanee (2009) commercial enterprises achieve materials or goods inventory on credit. Therefore, the main part of their sales occurs on credit so we will have accounts receivable and accounts payable. Thus, cash cycle measures the period between outsourcing of funds and its restoration. Determining the optimum amount of cash, accounts receivables, and accounts payable (short-term) and recalculating cash cycle according to determined amounts will provide more complete and accurate information to assess the effectiveness of working capital management.

Fildbeck (2007) states that if cash payment account and its equivalents are low, it is possible that we will fail to respond to potential output and commercial enterprise will be forced to borrow; and/or if there is an investment opportunity, commercial enterprise will withdraw. Such short-term borrowings will lead to cost; and withdrawing good investment opportunities would will lead to bear the cost of lost opportunity.

Given the above concepts, the major issue of the study is to study the relationship between profitability and working capital as well as how to manage cash in commercial enterprises. According to full literature in this field of research and prevent the recurrence of subject and topics; studies on sustainability of cash which will bring high level of liquidity for the company, have developed; and this element of financial statements in target population companies has analyzed in addition to comprehensively review of the theoretical concepts.

## **2.1. RESEARCH HYPOTHESES**

The first major hypothesis: a company positive working capital rate (WCR) negatively affects on return on assets (ROA).

The second major hypothesis: a company negative working capital rate (WCR) positively affects on return on assets (ROA).

Secondary hypothesis: there is an inverse U-shaped relationship between working capital rate and profitability in hygiene products manufacturing firms.

### **Methodology**

The research targets detergents and hygiene products manufacturing firms. Data will be extracted from Kodal reference. Companies whose data is of major defects will be excluded from the calculation. If high variance is observed among the companies' figures of working capital, they will be divided into two groups.

Proposed model for the research is as follows:



$$ROA = \beta_0 + \beta_1 \cdot WCR + \beta_2 \cdot WCR^2 + \beta_3 \cdot SIZE + \beta_4 \cdot GROWTH + \beta_5$$

$$\cdot GDP + \beta_6$$

$$\cdot LEV + \varepsilon$$

Return on assets (ROA) has been considered as the dependent variable and some criteria to measure financial performance. Return on assets is calculated by dividing the earnings before interest, taxes, depreciation, and amortization (EBITDA) on total assets.

Working capital rate (WCR) is the independent variable of the research which is obtained by dividing working capital on the number of sales.

Control variables include:

- Sales growth (growth) which is obtained from the difference in sales volume from the pervious year and the year before that;
- Size which is obtained from the logarithm of total assets;
- Financial leverage (lev) which is obtained by dividing total debt on the sum of assets;
- Gross Domestic Product (GDP): this variable is used as control variable due to the impact of economical conditions on firm performance.

## 2.2. METHOD DESCRIPTION AND TOOL OF GATHERING DATA

In the research, library method has been used to gather data. In this method, it has been used articles existed in reputable journals which have been obtained from the internet scientific sites as well as scientific journals, indexes, doctoral dissertations, master theses, and books related to the subject. In the research, the site of the Stock Exchange, Rahavar Novin and Tadbirpardaz software have been used to gather data.

Statistical population of the research included all detergents and hygiene products manufacturing firms listed in the Tehran Stock Exchange. Sampling is simple random sampling method. Since the size of population is small (6 companies active in the field of detergents for 11 years), the result of sample calculation has insignificant difference with the total number of population. Therefore, the whole population would be studied in the research.

### Findings

#### 2.2.1. Assess the first major hypothesis of the research

The first major hypothesis: a company positive working capital rate (WCR) negatively affects on return on assets (ROA).

In order to assess this hypothesis and test the significant relationship between working capital rate and profitability in the presence of control variable according to the correlation tome data (financial information of a company for 11 consecutive year) and lack of independence of observations, a generalized estimating equations model has been fitted on data of companies with positive working capital rate. The regression model has been fitted to test the effect of positive working capital rate on profitability. In the model, profitability ratio is considered as response variable; and working capital rate and its square is considered as the independent variable. Lev, size, growth, and GDP ration have also been considered as control variables; and time variable has been considered as a variable within company. Time correlation matrix has been also considered without structure.

Results of generalized estimating equations model is shown in table-1.

**Table-1. Results of generalized estimating equations model**

Independent variables	$\beta$ coefficient	Standard error	Wald chi-square statistic	P-value
Fixed coefficient	1.396	0.0860	263.506	0.001
WCR	-0.29	0.1725	0.28	0.866
Square of WCR	-1.119	0.4851	5.324	0.21
GDP ratio	0.000	0.0015	0.17	0.895

<b>Size</b>	-0.31	0.0044	47.867	0.001
<b>Growth</b>	0.331	0.453	53.420	0.001
<b>Lev</b>	-1.249	0.650	368.878	0.001

Source: Author

As seen in table-1, p-value of the square of working capital rate is less than 0.05. This indicates the significant effect of this variable on the profitability. Therefore, it can be said that positive working capital rate has a significant negative U-shaped effect on the profitability so this hypothesis is not rejected. In other words, profitability reduces in the positive working capital rate with increased working capital rate.

**2.2.2. Assess the second major hypothesis of the research**

The second major hypothesis: a company negative working capital rate (WCR) positively affects on return on assets (ROA).

In order to assess this hypothesis and test the significant relationship between working capital rate and profitability in the presence of control variable according to the correlation tome data (financial information of a company for 11 consecutive year) and lack of independence of observations, a generalized estimating equations model has been fitted on data of companies with negative working capital rate. The model has been fitted to test the effect of negative working capital rate on profitability. In the model, profitability ratio is considered as response variable; and working capital rate and its square is considered as the independent variable. Lev, size, growth, and GDP ration have also been considered as control variables; and time variable has been considered as a variable within company. Time correlation matrix has been also considered without structure.

Results of generalized estimating equations model is shown in table-2.

**Table-2. Results of generalized estimating equations model**

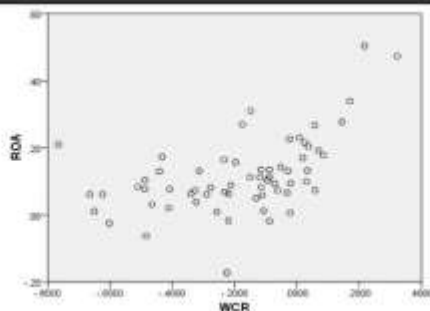
<b>Independent variables</b>	<b>β coefficient</b>	<b>Standard error</b>	<b>Wald chi-square statistic</b>	<b>P-value</b>
<b>Fixed coefficient</b>	0.001	0.0173	0.005	0.942
<b>WCR</b>	0.097	0.0271	12.890	0.001
<b>Square of WCR</b>	0.033	0.0072	20.599	0.001
<b>GDP ratio</b>	-0.006	0.0011	28.531	0.001
<b>Size</b>	0.025	0.0043	34.911	0.001
<b>Growth</b>	0.015	0.0093	2.736	0.098
<b>Lev</b>	-0.313	0.723	18.667	0.001

Source: Author

As seen in table-1, p-value of the square of working capital rate is less than 0.05. This indicates the significant effect of this variable on the profitability. Therefore, it can be said that negative working capital rate has a significant positive U-shaped effect on the profitability so this hypothesis is not rejected. In other words, profitability reduces in the negative working capital rate with increased working capital rate.

**2.2.4. Assess the secondary hypothesis of the research**

Secondary hypothesis: there is an inverse U-shaped relationship between working capital rate and profitability in hygiene products manufacturing firms.



**Diagram-1. The relationship between working capital and profitability**

In order to test this hypothesis, the scatter plot of company working capital rate and profitability is shown in diagram-1.

As seen in diagram-1, the relationship between working capital rate and profitability is as second-degree with positive slope per negative values of WCR but the type of relationship cannot be determined from the diagram due to lack of data related to positive values of WCR. Therefore, it cannot be said that the relationship between working capital rate and profitability is U-shaped so the secondary hypothesis of the research is rejected.

### 3. CONCLUSION

Results of the research indicated that there are differences between the results of the research and the results of previous research. The main reason for this was negative working capital rate in more than %90 of observations which have been conducted in the period between 2005-2015. However, this does not approve the trueness of negative working capital strategy among companies of population. This negative trend may have occurred due to poor economical conditions in the recent years, sanctions, and other factors.

According to trade-off theory, companies should establish balance between profitability and liquidity. Liquidity is a necessity to ensure to have the ability to pay short-term obligations and its continuous flow is expected for a profitable enterprise (Abuzayed, 2012).

- According to the research literature, using bold strategies will increase profitability.
- The following recommendations are offered to the general policies of working capital.
- Due to the relationship between working capital policy and the rate of return on investment, studied companies can partly increase the rate of return on investment through adopting bold policies. Although, it should be noted that aggressive policies of working capital will increase the risk of failure to meet commitments. The companies should adopt appropriate working capital policies by balancing risk and return which is the foundation of financial decision-making.
- Develop and use strategies in the field of financing approaches and how to manage current assets in order to reduce debt and use financial leverage. Among these strategies, it can be referred to diversification of financing approaches, using methods approaches such as credit in current assets, issuing bonds, moving toward the use of securities to support the mortgages.
- Given that literature are more related to study the relationship between liquidity and firms' working policy indices, it is suggested that the users of financial information use liquidity indicators not only to analyze liquidity but also to study the relationship between performance and working capital policies.

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# THE EFFECT OF EXCHANGE RATE FLUCTUATIONS ON BILATERAL TRADE OF LITTORAL STATES OF THE PERSIAN GULF BASED ON GRAVITY MODEL

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## Abstract

*Effect of exchange rate volatility on bilateral trade has long been the focus of attention. In this paper we attempt to obtain the relationship between exchange rate volatility, GDP, index Linder, population, distance between countries and bilateral trade of countries around Persian Gulf. In this thesis these countries data between 2004 and 2014 is used. Research method was panel data and was performed during the model estimation test related to this procedure in order to examine effects of exchange rate fluctuations on bilateral trade of Persian Gulf countries using facilities of gravity model. The results show that there is a significant positive relation between bilateral trade and GDP, Linder index and the population, also bilateral trade has significant inverse relationship with exchange rate fluctuations and distance of capital of the countries. Thus, our hypothesis is confirmed. Due to the fact that currency fluctuations can be considered as a symbol of economic instability of a country, that's why acceptance of this result is acceptable theoretically.*

JEL classification: F14

**Keywords:** bilateral trade, currency fluctuations, the littoral states of Persian Gulf, panel data method

## 1. INTRODUCTION

Nowadays foreign trade sector is considered as one of the most important economic sectors in most countries and among the factors affecting it is exchange rate and risk arising from its unexpected fluctuations. Exchange rate fluctuations affect both the export and import and affects amount of trade flows [1].

In an open economy, the real exchange rate due to interaction with other economic variables is considered to be a key variable that internal and external economic policy and economic development has an enormous effect on it. Studies conducted in the real exchange rate will not have the same results and also there is disagreement about impact of exchange rate on net exports and other variables. Studies show that the effects of exchange rate fluctuations on variables such as production and prices is asymmetric [2]. Exchange rate fluctuation risk refers to the potential risk that during which exchange rate fluctuations, affects the financial performance of firms through financial conditions changes or cash flow and cause uncertainty of amount of future Receipts and Expenditures of the firm [3]. Exchange rate fluctuations, changes actual items of foreign currency accounts in conversion time into domestic currency of any country. Effects of exchange rate shocks in recent decades has become a major and controversial issues in most developing countries, because today this discussion in economic circles is expanding in order to adopt and implement appropriate policies of exchange rates and to achieve economical and political macro stability and achieve production and employment. Because exchange rate fluctuations in one country, indicates country's economic performance [2].

In today's world, countries are dependent on each other for different reasons and this communication is dramatically expanding part of this communication is linked to trade exchange or bilateral trade.

Foreign trade played an important role in determining the fate and future of every country and also is one of the major sectors of the economy in a way that neoclassical and others called it the engine of economic growth [4]. One of the most important variables in determining the price of imports and exports, is the exchange rate and its fluctuations is causing changes in the price of exported and imported goods and as a result of it increase or decrease the amount of foreign trade. Because exchange rate fluctuations forecasts cause problems in Rials revenue from exports, marketing and proper planning and determining the policies of export for exporters and consequently, reduce or stop the export activity, on the other hand these fluctuations increases speculative foreign exchange transactions and damages the health of the market. According to economic laws, the exchange rate is directly related to exports in the short term, but the effect of exchange rate variations on exports, particularly in the long term, is vague and requires more experience and theoretical basis [5]. After the failure of the Bretton Woods system (1973 onwards) that exchange rates were raised as it floats or managed floating at the level of global economy, the issue of exchange rate fluctuations was raised at the international level and the exchange rate was exposed to change more than other variables as the most efficient tool encourage and extend exports and limit imports [6].

Exchange rate fluctuation is influenced by the supply and demand side of an economy, so exchange rate fluctuation is of variables affecting a country's macro-economic variables [7]. Demand side is affected by exchange rate fluctuations through net exports and changes in foreign exchange reserves, supply side through imported intermediate goods [8].

The real exchange rate shows economic situation of a country in comparison with other countries (The real exchange rate, shows equal value of a country's currency against the currencies of other countries). De Greve, with emphasis on the uncertainty caused by exchange rate fluctuations and disturbances in the mechanism of price and interest rates implies that Uncertainty in exchange rates leads to uncertainty in the future price of goods and services [9]. Offering two reasons based on De Greve and Asnabl analysis, based on the fact that a stable exchange rate makes more economic growth:

Risks caused by exchange rate fluctuations is eliminated, thereby encouraging international trade and the international division of labor.

Fixed exchange rates system, creates stable economic environment and this cost of risk reduces real exchange rate.

Factors affecting trade include: Language, common border, GDP, the distance between countries, common currency and trade unions in countries [9].

The gravity model is a model for the study of economic integration projects and it is used to study economic integration capabilities, assess commercial potential, measuring effects of deviation and creating trade and generally for expressing multitude of business relations at the international level, among the advantages of the gravity model includes Manageability of data and the appropriate number of variables.

One of the important issues facing the world economy today is the issue of exchange rate fluctuations. When a country's policy makers consider the aim of increasing the production level and solving social economic and even political problems of a country, depends to achieve passable economic growth, any factor that can be effective on this issue will have particular importance. With regard to that in today's world trade relationship between the countries is considered essential and ignoring this importance will have a big impact to the economy of any country (As our country's experience showed at the time of sanctions) for this reason exchange rate fluctuations reviews has particular importance as one of the important variables in this regard. In this study is that exchange rate fluctuations to be entered as an independent variable in the gravity model and its effect on bilateral trade be examined.

## 2. REVIEW OF PREVIOUS WORKS

Ehsani and et al (1388) examined the effect of exchange rates and volatility of it on non-oil exports of Iran's economy during the period of 1338-1383. In this study, two indicators of Conditional standard error and standard deviation of moving average, were used to quantify the instability of exchange rates, also econometric methods of Regressive Distributed Lags (ARDL) is used. The results confirmed the positive effect of exchange rate and negative effect of its volatility on non- oil export [10]. Fang and Miller (2004) examined relationship between exchange rate and exports, they used monthly data for period of 1979-2002, in Singapore. They stated using GARCH-m mode and cointegration method that exchange rate increase did not have a significant effect on improvement of exports of this country, but exchange-rate volatility significantly deterrent for exports [11].

Bug and Fagreng (2010) examined effect of exchange rate volatility on exports in Norway for the 1990s. They used GARCH model to obtain exchange-rate volatility, and then used accumulated auto regressive vector to obtain the relationship between it and the export. The results have not confirmed causal relationship between these variables [12]. Ghani and et al (2013) examined in an article the trade of Oman and opportunities to integrate with Asian economies. They used data from the period 2009-1991 and panel data. The results showed that imports of Oman from Asia is strongly determined through Asian population, GDP per capita in Asia, the real exchange rate, distance and per capita GDP of Oman [13]. Em Tembo and Mutlaln (2011) examined the effects of volatility of exchange rate on exports of Swiss. The study period is 1995-2005, they used a VECM model. The results showed that the exchange rate is one of the most important determinants of exports in this country [14]. Kazerouni et al (1390) studied asymmetric effects of real exchange rate on Iran's non-oil exports, the studied time period has been 1353-1386 enjoying non-linear Markov-switching model. The results show that both positive and negative shocks of the exchange rate also had a significant negative impact on non-oil exports. Based on Wald and LR tests the effects of mentioned shocks are asymmetric, so that positive shocks affect non-oil exports significantly and more than negative shocks [15].

A review of studies that have done in this season suggests that Exchange rate is one of the most important variables affecting the export and trade, also results of studies suggests that the effect of exchange rate on exports has been asymmetric.

## 3. OBJECTIVES AND METHODOLOGY

In this paper we aim to study the effect of exchange rate volatility on bilateral trade, of Persian Gulf countries in the form of gravity model. Due to this we aim to highlight role of exchange rate fluctuations between the factors affecting bilateral trade of this set of countries. Clarifying this relationship can help appropriate policies in this regard by various agencies. In this paper, we assume that exchange rate volatility has significant negative effect on bilateral trade of Persian Gulf countries.

All the countries around the Persian Gulf is the spatial domain of research. Time domain of research includes 11 years, from early 2004 until the end of 2014. The statistical population of research is countries of the Persian Gulf. Which include: Iran, Iraq, the United Arab Emirates, Kuwait, Oman, Qatar, Bahrain and Saudi Arabia. Data of these countries is used to evaluate model. This is an applied research. Research design is quasi-experimental and enjoying a casual approach (from the past data). Casual method is used when researcher exams the subject after events occur. Moreover, there is no possibility of manipulation of independent variables [16].

In this study, library method is used to collect data and information. In the library section, research literature is collected from books and professional Persian and Latin magazines and research data is collected through data collection of Persian Gulf countries by referring to the annual report of the World Bank, Chamber of Commerce and Industries and Mines. and are analyzed using Eviews software.



### 3.1. CONCEPTUAL MODEL OF RESEARCH

Generalized gravity model of trade volume, considers export or import between the two countries as a function of income of the two countries, their populations and the distance between them (as successor transportation costs). Model of this thesis is generally written as follows:

$$Lex_{ij} = \alpha_0 + \alpha_1 LGDP_i + \alpha_2 LPOP_j + L Du_{ij} + LIEX_i + Linder_{ij} + \varepsilon_{ij}$$

L: logarithm in natural base

X<sub>ij</sub>: exports of countries i to countries j

GDP i: real gross domestic product of the country i

POP<sub>j</sub>: the population of Importer

Du<sub>ij</sub>: physical distance of capital of country i from country j per km

IEX i: exchange rate fluctuations in the country i

Linder<sub>ij</sub>: Linder variable - Variable of similarity of the two countries at time of t

**ε<sub>ij</sub>: error statement**

Because of being population of importer and GDP of exporter more important we simplify the model.

## 4. ANALYSIS OF DATA

Because of having panel data, before analyzing and estimating model parameters, stationary detection test of these type of data should be done. Model estimation using panel data includes the following steps:

Stationary diagnostic tests (stability) on the series

Test of ability to estimate the model as integrated or panel data (Chow – Limer)

Test of determining fixed effects or random effects (Hausman test)

Model estimation

### 4.1. INVESTIGATE THE RELIABILITY (STABILITY) OF RESEARCH VARIABLES

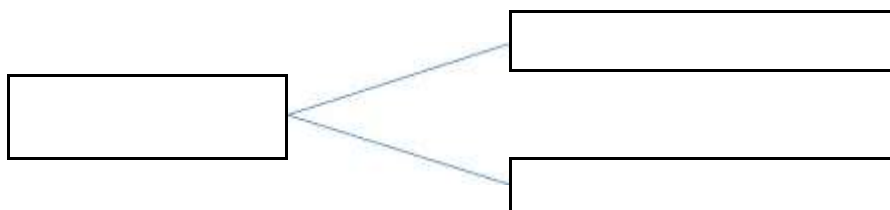
It is necessary to check stability (reliability) of variables before estimating the model. In this study, tests of Em, sons and Shin and Ki-square test and Fisher-ADF and PP Levin, Lin and Chu is used that is of the most important unit root tests. A variable is steady when the mean, variance and correlation coefficients of it remain constant over time. If the variables are not reliable, will cause spurious regression problem.

Test results indicate that research variables with confidence interval of 95% are stable; therefore, the parameters can be estimated without the worry of falseness.

### 4.2. F-LIMER TEST RESULTS

In this study, F-Limer test is used to select panel data methods and integrated data. The first diagnostic test in cross-sectional data, time series, is F-Limer test. With this test it is clear that all countries have a common intercept or that each country have one separate intercept.

Since the probability of test statistics in this table is less than five hundredths, so null hypothesis is rejected and the alternative hypothesis is accepted meaning that hypotheses of possibility of data compilation is rejected in favor of panel data.



**Diagram 1. F-Limer test**

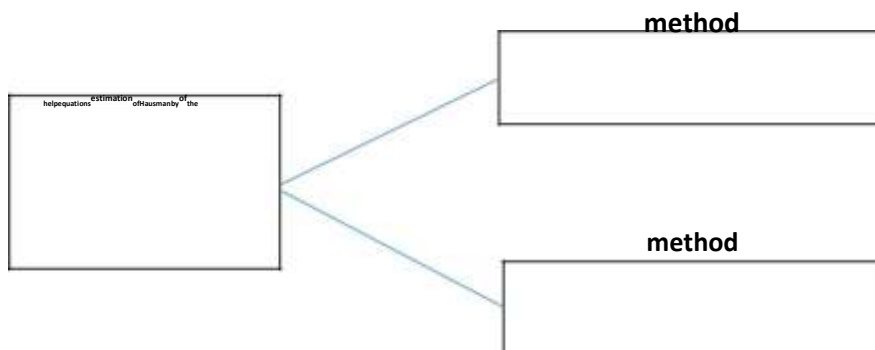
**Table 1. F- Limer test results at error level of 5 percent**

Redundant Fixed Effects test	Statistics	The probability of test statistics
Cross-section F	141.695781	0.0000

Source: Author

**4.3. HAUSMAN TEST RESULTS**

After it is determined that, our data are in the form of panel data, to continue should be determined that which methods of random effects or fixed effects are used to estimate model? Hausman test is used to detect this issue. Appropriate estimating method could be obtained between random effects method and fixed effects method using this test. In this method null hypothesis is an expression of the fact that random effects model is used to estimate the model and the alternative hypothesis states that fixed effects method is used to estimate.



**Figure 2: Hausman test**

**H0:** using random effects method

**H1:** using fixed effects method

If the probability of test statistics be less than 0.1 we use fixed effects method and if the probability of test statistics be greater than 0.1, we use random effects method. Here because the probability of Hausman test statistics is less than 0.1 we use fixed effects test.

**Table 2. Hausman test**

Correlated Random Effects – Hausman test	Ki-square statistic	Probability of test statistics
Cross – section random	67.301406	0.0000

Source: Author

As seen in Table (3) results indicate that panel data model with fixed effects for model is the preferred method. Therefore, continuing to estimating research models with respect to the preferred method. The results of the research model estimation are shown in Table (4) using panel data with fixed effects.

**Table 3. Results of model test**

Variable	Coefficients	The standard error	T test	Probability of test statistics
Intercept	-18.18549	1/763799	-10.31041	0.0000
GDP	0.809876	0.102361	7.911946	0.0000
Linder	0.052875	0.029520	1.791138	0.0738
Population	0.518450	0.166155	3.120285	0.0019
Exchange rate volatility	-0.386484	0.193555	-1.996768	0.0463
Distance of capitals	-0.158449	0.046118	-3.435758	0.0006

*Source: Author*

The coefficient of determination indicates that what percentage of dependent variable is determined by the independent variable. Whatever difference between the coefficient of determination and adjusted coefficient of determination be less indicating that the independent variables that have been added to the model, have been selected properly. According to the adjusted coefficient of determination obtained for the model that is equal to 93 percent, can be concluded that in total independent variables of research explain more than 93 percent of dependent variable changes. Durbin-Watson statistic is for the independence of errors from each other. Durbin-Watson statistic in this study is positive, so there is no correlation between errors. According to obtained F statistic (157.6182) and its error (0.000), it could be argued that in total pattern of research is highly significant.

#### **4.4. RESULT OF RESEARCH HYPOTHESIS TEST**

Research hypothesis: examines the relationship between exchange rate fluctuations and bilateral trade between countries, according to the model, probability of test statistics related to exchange rates fluctuations equal to (0.0463) and its coefficient is (-0.386484), given that the probability of test statistics between the two variables is less than five hundredths so the hypothesis with confidence interval of 95 percent is confirmed. This result indicates that the variable of exchange rate fluctuations and bilateral trade have a significant negative relationship with together. According to coefficient of 0.3 that is a significant number, is indicative of the importance of this variable in the bilateral trade situation.

#### **4.5. MODEL TEST RESULTS**

A) Examines the relationship between GDP of exporter and bilateral trade between countries. According to the model, probability of test statistics related to GDP equal to (0.0000) and its coefficient is (0.809876), given that the probability of test statistics between two variables is less than 5 hundredths, so is confirmed with confidence interval of 95 percent. This result indicates that the variable of gross domestic production and bilateral trade have a significant positive relationship with together. In other words, countries that have higher GDP, will have more bilateral trade. GDP variable is known as the successor to the changing mass in Newtonian physics gravity model that has a direct impact on the trade volume of trade sides.

B) Examines the relationship between the index Linder and bilateral trade between the countries, according to the model, probability of test statistics related to Linder index equal to (0.0738) and its coefficient is (0.052875), given that the probability of test statistics between the two variables is less than 0.1 therefore is confirmed with confidence level of 90%. This result shows that the index Linder variable and bilateral trade have significant positive relationship with each other.

C) Examines the relationship between population of the importer country and bilateral trade between the countries, according to the model, probability of test statistics related to population equal to (0.0019) and its coefficient is (0.518450), given that probability of test statistics between two variables is less than 5 hundredths, so is confirmed with confidence interval of 95 percent. This result shows that variable of importer country's population and bilateral trade have significant positive relationship with each other.

D) Examines the relationship between the distance of capitals of countries from each other and bilateral trade between countries, according to the model, probability of test statistics related to distance of capitals equal to (0.0006) and its coefficient is (-0.158449), Given that the probability of test statistics between two variables is less than 5 hundredths, so is confirmed with confidence interval of 95 percent. This result indicates that the variable of distance and bilateral trade have significant negative relation. In other words, whatever the distance between countries gets more bilateral trade is less.

Coefficients of each of random effects obtained from model estimation that was conducted with generalized least squares method is presented in Table 4.

**Table 4. Random effects and sections**

Trade flows	Coefficient	Trade flows	Coefficient	Trade flows	Coefficient	Trade flows	Coefficient
IRIQ--C	3.252590	ARIR--C	1.440825	KWIR--C	-3/427033	QAIR--C	3.846008-
IRAR--C	4.301082	ARIQ--C	0.910543	KWIQ--C	2.670237-	QAIQ--C	-3.589476
IRBR--C	0.468780	ARBR--C	1.532722	KWAR--C	0.965581-	QAAR--C	2.071621
IRKW--C	1.805370	ARKW--C	1.271306	KWBR--C	1.432112-	QABR--C	0.098254-
IROM--C	1.088047	AROM--C	1.067014	KWOM--C	2.336079-	QAKW--C	0.126390
IRQA--C	1.412191	ARQA--C	1.713149	KWQA--C	1.167259-	QAOM--C	0.611924-
IRSA--C	.0652145	ARSA--C	0.570838	KWSA--C	1.956048-	QASA--C	0.362975-
IQIR--C	-1.309196	BRIR--C	3.738505-	OMIR--C	2.105071-	SAIR--C	2.743199-
IQAR--C	-1.883824	BRIQ--C	3.451041-	OMIQ--C	1.856899-	SAIQ--C	2.203186-
IQBR--C	17.06306	BRAR--C	.0394655	OMAR--C	1.657087	SAAR--C	0.858381
IQKW--C	-3.509868	BRKW--C	-0.167267	OMBR--C	-1.262767	SABR--C	1.161252
IQOM--C	2.385707	BROM--C	.0137704-	OMKW--C	0.798845-	SAKW--C	0.482547
IQQA--C	3.089878	BRQA--C	0.982285	OMQA--C	0.066146	SAOM--C	0.374634-
IQSA--C	-4.959881	BRSA--C	0.741567	OMSA--C	.0637133-	SAQA--C	1.167110

Source: Author

## **4.6. CHECK THE STATUS OF BILATERAL TRADE OF SURVEYED COUNTRIES**

### **4.6.1. Iran**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Iran's exports is to the United Arab Emirates and Iraq, respectively with the values of 4.301082 and 3.252590 and the lowest of it is to Bahrain and Saudi Arabia with the values of 0.468780 and 0.652145.

### **4.6.2. Iraq**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Iraq's exports is to the Bahrain and Qatar, respectively with the values of 17.06306 and 3.089878 and the lowest of it is to Saudi Arabia with the value of -4.959881.

### **4.6.3. United Arab Emirates**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Emirates exports is to the Qatar and Bahrain, respectively with the values of 1.713149 and 1.532722 and the lowest of it is to Saudi Arabia with the value of 0.570838.

### **4.6.4. Bahrain**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Bahrain's exports is to the Qatar and Saudi Arabia, respectively with the values of 0.982285 and 0.741576 and the lowest of it is to Iran with the value of -3.738505.

### **4.6.5. Kuwait**

According to the values in Table 4, which is derived from the model estimation of research, all the coefficients of Kuwait's exports to other trade sides is negative which implies the lack of importance of the country's export share. However, the weakest coefficient of its exports is to Iran with a value of -3.427033.

### **4.6.6. Oman**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Oman's exports is to United Arab Emirates with the value of 1.657087 and the lowest of it is to Iran with the value of -2.105071.

### **4.6.7. Qatar**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Qatar's exports is to United Arab Emirates with the value of 2.071621 and the lowest of it is to Iran and Iraq with the values of -3.846008 and -3.589476.

### **4.6.8. Saudi Arabia**

According to the values in Table 4, which is derived from the model estimation of research, most coefficient of Arabia's exports is to Qatar and Bahrain, with the values of 1.167110 and 1.161252 and the lowest of it is to Iran with the value of -2.743199.

According to Facts and Figures obtained from the data analysis, all of which have been presented in Table 4, it is concluded such that in trade flows between members of the Persian Gulf there is orientation and specific groupings in creating trade that are as follows.

First group trade creation in the region could be related group of Iran, Iraq and the Emirates countries. Relations between these groups could be justified that Iran-Iraq relations is based on distance, number of active customs terminals at the border and political, religious commons and business sentiment is due to the proximity with Emirates and economic saving from point of distribution costs. Iran has significant trade relations with the UAE. Although the UAE is a Sunni country, but the nature of its free ports and

zones caused avoiding the political, religious orientations in business. In other words, UAE as a free trade country have significant trade exchange with different countries.

Second group countries with political, religious and sectarian commons are more willing to make a trade with each other. As can be picked of data analysis from model estimation, Saudi Arabia, Kuwait, Qatar, Bahrain, Oman and the UAE countries are more willing to make a trade with each other. Least ratings of exports in these countries except for UAE belongs to Iran and exports to Iraq is ranked after Iran.

## 5. CONCLUSION

Model test results about theory of thesis show that, our hypothesis test has been accepted with a confidence level of 95%, which suggests exchange rate fluctuations have significant negative impact on bilateral trade of Persian Gulf countries. Also we conclude from this model test that the GDP, Linder indicator and population have significant positive relationship with bilateral trade. Also distance has significantly negative relationship with bilateral trade.

Iraq is likely to be considered as a target market with a high share.

Trade negative balance of Iraq with studying countries and negative values of bilateral trade coefficients of this country with business sides suggests that this country in the trade relations is importer and consumer country rather than a producer and exporter that this could be due to lack of infrastructure facilities in this country. On the other hand, in exports of Iran the UAE has ranked first and higher than Iraq, it can be justified that Emirates has this position while trade with this country has been done for many years and trade infrastructure for Iranian businessmen in this country has been far easier and also this country has transit role in the region. But about Iraq, this relationship is fledgling and related to aftermath of war and even after the rule of the Baath party in this country a new chapter of political relations has been between the two countries. Iran-Iraq trade relations in a decade has been flourished from recent decades. According to this comparison, we can conclude that Iraq is susceptible to be considered as a suitable target market that there is access possibility to increasing share of its market.

Countries with political, religious and sectarian commons are more willing to trade with each other.

As can be picked of data analysis from model estimation, Saudi Arabia, Kuwait, Qatar, Bahrain, Oman and the UAE countries are more willing to make a trade with each other. Least ratings of exports in these countries except for UAE belongs to Iran and exports to Iraq is ranked after Iran. The highest-ranking of exports of two Shia countries of Iran and Iraq that have political convergences belongs to each other and lowest rankings belongs to exports to Saudi Arabia. It should be noted, the United Arab Emirates exports of to Iran and Iraq can be justified because of the polarity role of re-exports of this country in the region. With this interpretation it can be stated, countries with political, religious and sectarian commons tend to create more trade with each other.

UAE has a strategic central role in trade relations in the region.

The highest-ranking of exports of Iran, Kuwait, Oman, Qatar, countries is to United Arab Emirates. As if the UAE acts as a bridge between exports flow of these countries (For reasons such as sanctions on Iran, being free zone some of its ports **and ...**).

For oil-producing Sunni countries political, religious and sectarian motivations dominant trade motivations to create business.

Bahrain, Kuwait, Oman, Qatar and Saudi Arabia has the lowest trade ranking with Iran and Iraq, and these ratings are negative.

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# IDENTIFYING FACTORS IMPACTING DEVELOPMENT OF DETERGENTS EXPORTS IN MIDDLE ASIA MARKETS (A CASE OF PAKSHOO INDUSTRIAL GROUP)

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## Abstract

*The present study is carried out in 2015 with the purpose of identifying the factors than impact the development of chemical detergents exports at Pakshoo industrial Group, Iran. To this end, through a review of the literature, the researcher identified three major factors, namely marketing mix (consisting of price, product, sales promotion and placement), internal environment (consisting of leadership and management, organizational culture, human resources, and production process), and national environment (consisting of political, cultural, economic, legal, and technological factors), as the factors impacting the development of detergents exports. A questionnaire was then prepared using the identified factors and was handed to experts in order to determine its validity. The reliability of the questionnaire was measured using the results from a pretest given to a sample of 30 members of the population and the Cronbach's alpha value was larger than 0.7 for all the items. Once the validity and reliability of the questionnaire was ensured, in order to collect data and investigate the research goal, the questionnaire was distributed among a sample consisting of 248 managers and employees working at chemical detergents production, distribution and marketing departments of Pakshoo Industrial Group. Sampling involved a cluster sampling procedure where 83 individuals were randomly selected from each cluster (i.e. production, distribution and marketing departments) in order to respond to the questionnaire items. To analyze the data from the questionnaire, descriptive statistics, factor analysis, structural equation modeling (SEM) and the Friedman tests were used. The results indicated that each of the 3 major factors, that is, marketing mix, internal environment, and national environment have had effects on the development of Pakshoo products exports. Regarding the dimensions of the major variables, price, product, promotion, leadership and management, human resources, production process, political, cultural, economic, technological factors had a significant effect on the development of detergents exports.*

JEL classification: F63

**Keywords:** exports, marketing mix, internal environment, national environment.

## 1. INTRODUCTION

Exports, as the driving engine of economies and the key to the survival of nations in global market, plays a crucial role in the economic realm, making it possible to take advantage of global markets to for domestic production growth and enabling production enterprises to be set free from domestic market restrictions (Rahmani & Abedin, 1387).

In addition, exports development serves as a source or supplying foreign exchange for economic development and can play a determining role in the formation of economic structures, optimal resource allocation, access to international expertise etc. (Shajabadi & Samari, 1393).

The process of foreign currency generation in Iran economy largely relies on petroleum and oil products and the price of these products are determined in international markets which constantly undergo sharp and sudden fluctuations and changes. Further, oil products exports, particularly as basic materials and crude oil, is an issue of concern, given the features and non-renewable nature of these products. Thus, the exports of other products have to be sought (Hooshmand et al, 1389).



The market of middle Asian countries, make one of the attractive markets for Iranian exported products due to cultural and historical commonalities and geographically close distance. As a result, the necessity of **exporters'** focusing on this region for the purpose of exporting their products have always been emphasized (Ghazizadeh, 1384).

**Pakshoo Industrial Group through the utilization of the day's technical knowledge** and expert and committed employees is currently considered a leading and innovative company in Iran chemical detergent manufacturing industry and the company can be mentioned as one of the largest and most reputable private-sector companies in the production of detergents and cosmetics in Iran, enjoying the market leadership. In addition to domestic markets, the company has entered the export markets in the region and Europe and has already preserved a considerable share of detergents markets. The vision of this company is to develop its business and achieve 30 thousand million sales from exports by 1404 (in the **Iranian Solar Calendar**). **Towards this vision, the leadership's emphasis is placed on maximum** improvement of the factors that influence exports and performance in order to realize the vision. Of the missions stated for the Pakshoo exports department, is maximum gain of market share and ultimately and the market leadership of Iranian detergents in the countries where Pakshoo runs operations through offering quality products and services to the customers as well as sustaining competitive advantage in the target markets ([www.pakshoocom](http://www.pakshoocom)). Accordingly, practices have been undertaken in exports domain which have led to an increase in the exports of the company. Nevertheless, despite the effectiveness of these practices, according to the results from exports levels evaluations, it seems **that the organization's** performance in exports is yet to be improved. Given the research significance and the need of Pakshoo **Industrial Group to improve its exports, the present study probes the question of 'what are the factors that impact the development of Pakshoo Industrial Group exports of detergents?'** The results of the present study will help the company in fulfilling its stated missions more effectively.

## 2. LITERATURE REVIEW

**No doubt, expansion and development of exports in today's world and under the circumstances where**

every country strives to gain more share of the global market, is not easily accomplished. The sensitivity and importance of exports in goods and services for states and the necessity to make profits, continued revenues, and increased competitiveness on the part of exporting companies, reveals the need to identify the factors influencing success in exports, so that export companies, with recognition of these factors, can make efforts to develop the exports of their products (Ganji, 1392). Notable among these factors is the marketing mix, since much in the same way as the success of business enterprises within national borders is dependent on effective and appropriate marketing, once the operations of an enterprise expands beyond national borders, achieving success owes to proper understanding of the foreign market characteristics **and developing a marketing mix appropriate to the market (Doayi & Hosseini, 1387)**. **In Bennett's view,** marketing mix (i.e. price, product, placement, promotion) specifies the operations roadmap of organizations using a series of controllable variables (Bennett, 1997). These variables are product, price, placement and promotion. Products represent the main activity of an enterprise. A product is a whole cluster of satisfactory values for the customers and potential customers weighs the value of a product in terms of the capability of the product to meet customer needs (Doayi & Hosseinin, 1387). Price is an important instrument among marketing constituents and is the amount of money which customers pay for the goods. Distribution or placement encompasses all the activities which a company carries out to procure and make goods available to the target customers (Kotler, 1393). Promotion is the activities which a firm carries out to be able to provide the customers with good information regarding the value and desirability of a product, so that the customers purchase the product offered by the company over the similar available products (McCarthy, 2001). Further, **employees'** status and internal organizational factors which influence the preparation and implementation of marketing and exports plans, can contribute to the improved exports of a company. These factors are management, human resources, organizational culture, and production process (Ghazizadeh et al, 1384). Cultural, political, social, economic, legal, and technological factors constitute the national environment. In the present research, the effect of these factors on the increase of exports at Pakshoo Industrial Group will be studied.

## 2.1. RESEARCH BACKGROUND

- Amirnejhad et al (1394), studied the influential factors on exports of herbs. The results of their study indicates a significant positive correlation between exports and foreign exchange rate. Thus, making appropriate foreign exchange policies towards adjusting to the real exchange rate can play a considerable part in increasing exports.
- **Azizi et al (1394) have conducted a study titled “the role of protectionist policies in the developing the exports of Iran agricultural products.” The purpose is to study the role played by** protectionist policies in developing exports, and has identified factors that influence the offer of exported agricultural products of Iran in the period between 1360 to 1390 (in the Iranian Solar Calendar) using an extended intervals self-explanatory model. According to the results of their study, export price rates, agricultural value added and the overall protection indicators are variables that influence the model and are positively correlated with exports offer in the short and long term. Furthermore, foreign exchange rate, private sector consumption, and the dummy variable war were of no effect in exports offerings.
- **Maldifassi and Chacon (2014) have presented a paper title “Success factors in Chilean SMEs exports.” The purpose of their study is to study factors** which can contribute to the increase in the exports of SMEs in Chile. A researcher constructed questionnaire was completed by a sample of 37 Chilean SMEs. The data analysis results demonstrated that firm-wide motivation for production increase, operational planning improvement, international quality assurance certificates, frequent and repeated innovation, competent and innovative employees, organizational unity for innovation will contribute to success in exports.
- **O’cass and Julian (2003), have presented the results of a research with the title “a study of the** environmental and organizational effects on export marketing mix strategy and the export **performance of Australian firms.” The data were collected from Australian firms. The results** indicated that environmental and internal organization environment have a significant effect on marketing mix and export performance. However, the decision to accept a standard marketing mix on marketing performance.

On the basis of the materials presented and the previously conducted research on non-petroleum exports, as well as a review of extant literature that dealt with the identification of factors influencing exports and their correlations with exports, the following factors are extracted and presented as the following conceptual framework to study the effects of the identified factors on the increase in the exports of Pakshoo Industrial Group products:

Furthermore, based on the above conceptual framework, the following research hypotheses are presented:

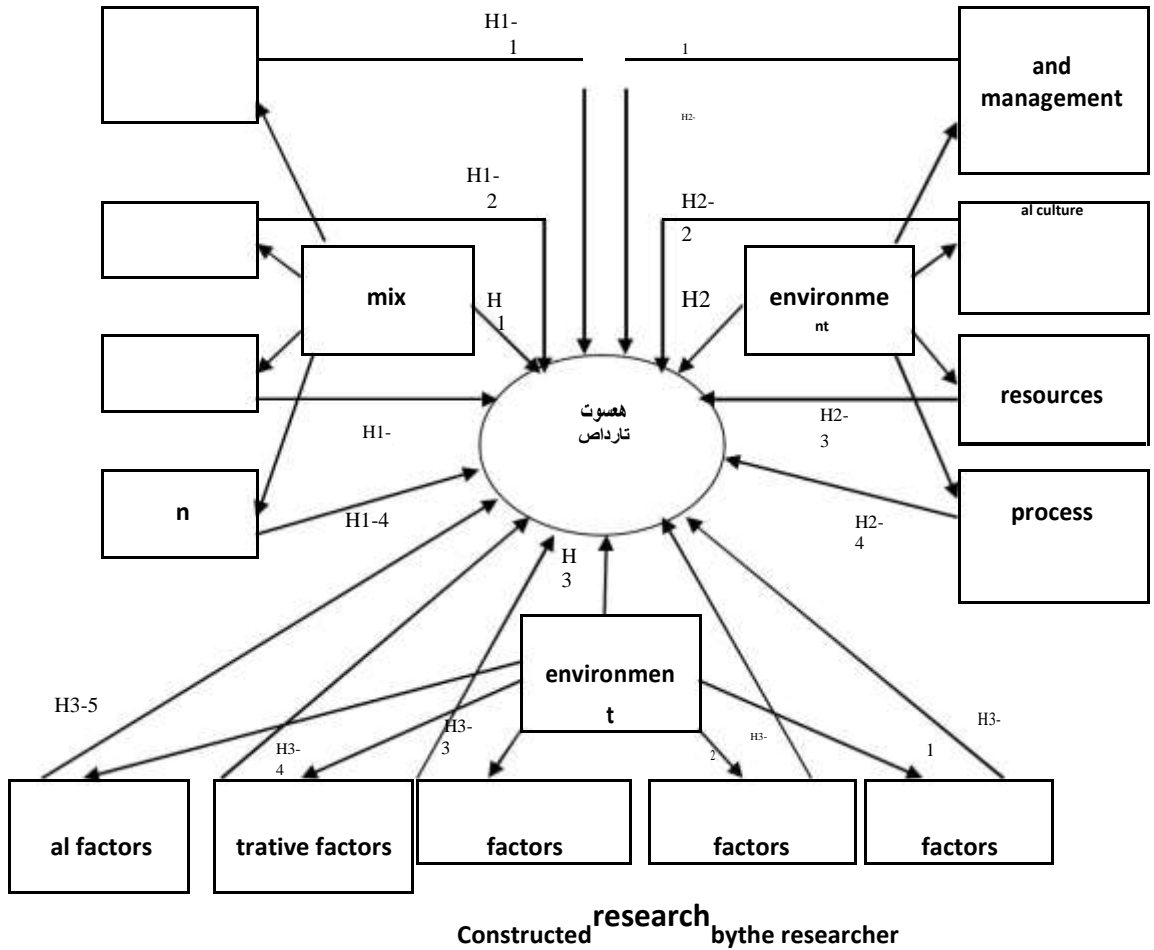
### Major hypotheses:

1. Marketing mix has a significant positive effect on detergents exports development.
2. The company internal environment has a significant positive effect on detergents exports development.
3. National environment has a significant positive effect on detergents exports development.

### Minor Hypotheses

- 1.1. Price has a significant positive effect on detergents exports development.
- 1.2. Product has a significant positive effect on detergents exports development.
- 1.3. Distribution has a significant positive effect on detergents exports development.
- 1.4. Promotion has a significant positive effect on detergents exports development.
- 2.1. Leadership and Management has a significant positive effect on detergents exports development.

- 2.2. Organizational culture has a significant positive effect on detergents exports development.
- 2.3. Human resources has a significant positive effect on detergents exports development.
- 2.4. Production Process has a significant positive effect on detergents exports development.
- 3.1. Political factors have a significant positive effect on detergents exports development.
- 3.2. Cultural factors have a significant positive effect on detergents exports development.
- 3.3. Economic factors have a significant positive effect on detergents exports development.
- 3.4. Legal/administrative factors have a significant positive effect on detergents exports development.
- 3.5. Technological factors have a significant positive effect on detergents exports development.



Graph 1. Coneptual Framework of the research

### 3. METHODOLOGY

The present research is applied in terms of purpose since Pakshoo Company as well as other companies in the field of detergents may apply and use the results of the present research. In terms of data collection procedure this research is carried out in a cross-sectional descriptive design. To carry out the research, given the research goals, having conducted a review of the related literature, a questionnaire consisting of

43 items covering the four variables, i.e. internal environment, marketing mix, national environment, and exports development each scored on a 5-point Likert scale, was constructed and the content validity and the necessary modifications were done through seeking opinions from experts and specialists. In addition, **to determine the reliability of the questionnaire Cronbach's Alpha was used. To determine the reliability,** first the questionnaire was distributed among 30 members out of the population including managers and employees in the production, distribution and marketing of detergents at Pakshoo Industrial Group. **The questionnaires were then collected and the value for Cronbach's Alpha was calculated to be 0.9, indicating** that the questionnaire is of high reliability. After ensuring the validity and reliability of the questionnaire, in the field work, the questionnaire was distributed among the sampled members of the population. The population in this research given the subject domain under study, included all the managers and employees in the detergents production, distribution and marketing departments of Pakshoo Industrial Group who **totaled 700 individuals. The sample was 248 individuals according to Cochran's formula and the members** of the sample population were selected using a cluster sampling. In each of the three clusters (employees at the production, distribution, and marketing departments) 83 individuals were randomly selected. Once the completed questionnaires were collected, the data were analyzed using SPSS20, EQS 6, structural equations modelling (SEM), and the Friedman test and the results were reported.

## 4. RESULTS

### 4.1. DEMOGRAPHICS

The analysis of demographic information showed that most respondents were relatively young female employees in the age range of 30 to 45 years old, **with a an education level at bachelor's degree, and a** tenure of 5 to 10 years in the detergents production, distribution and marketing departments of Pakshoo Industrial Group.

**Table 1. Demographics (figures in %)**

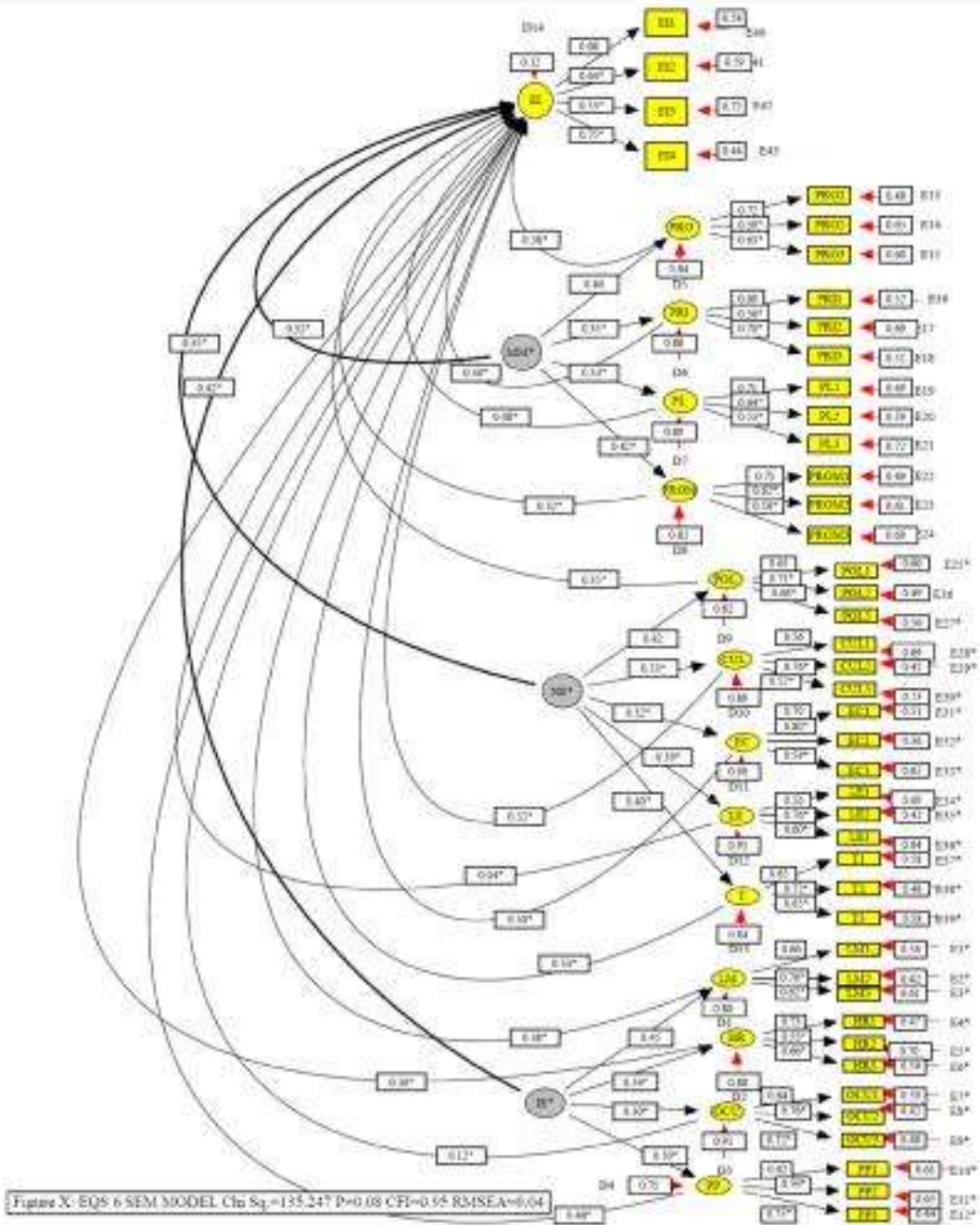
						Age (years)						
						< 30	30 – 40	>40				
Sex			Male			25/2	45/6	29/2				
Female			41/1									
58/9			25/2									
						Tenure (years)						
						< 5	10-5	15-10	20-15	>20		
Education		B.A./S	M.A./S	Ph.D								
Lower than Diploma	Diploma	Associate Degree	25/7	16/3	7/9	24/8	27/2	19/3	32	26		
9	28/2	12/9										

*Source: Author*

### Testing the Hypotheses using Regression Analysis

The results from inferential statistical analysis and EQS software program which were conducted to test the hypotheses and the correlations among the variables are presented below:

Based on the results of the present research, all the main variables under study namely, marketing mix, internal environment, and national environment have positive and significant effect on the development of Pakshoo Industrial Group products exports, thanks to the efforts by the managers and employees in the production, distribution and marketing of the company leads to the improvement and development of Pakshoo Industrial Group products exports. The results reported in the study by Mohammadzadeh and Mohammadi (1391) confirms the effects of environmental factors on exports development. The findings by **O'Cass and Julian (2003) is also consistent with the findings from the present research based on which,** organizational and environmental factors has a significant effect on exports development. Moldifassi and Checon (2014) in their paper have studied the influential factors on exports and have shown that marketing mix has an effect on exports development, but contrary to the findings from the present study, they failed to confirm the effect of organizational culture on exports development.



Graph 2. The results of Hypotheses Confirmation/Rejection

Table 2. Minor Hypotheses

Hypothesis	Direct Effect $\beta$ (	Determinant Coefficient ( $R^2$ )	Significance (T-Value)	Test Result
1. Marketing mix has a significant positive effect on	0/32	0/10	2/987	Confirmed

Hypothesis	Direct Effect $\beta$ (	Determinant Coefficient ( $R^2$ )	Significance (T-Value)	Test Result
detergents exports development.				
Price has a significant positive effect on detergents exports development.	<b>0/30</b>	<b>0/09</b>	<b>3/211</b>	Confirmed
1-2. Product has a significant positive effect on detergents exports development.	<b>0/38</b>	<b>0/14</b>	<b>3/529</b>	Confirmed
1-3. Distribution has a significant positive effect on detergents exports development.	<b>0/08</b>	<b>0/01</b>	<b>1/11</b>	Rejected
Promotion has a significant positive effect on detergents exports development.	<b>0/32</b>	<b>0/10</b>	<b>2/542</b>	Confirmed
2. The company internal environment has a significant positive effect on detergents exports development.	<b>0/42</b>	<b>0/18</b>	<b>2/452</b>	Confirmed
2-1. Leadership and Management has a significant positive effect on detergents exports development.	<b>0/38</b>	<b>0/14</b>	<b>3/366</b>	Confirmed
2-2. Organizational culture has a significant positive effect on detergents exports development.	<b>0/05</b>	<b>0</b>	<b>0/987</b>	Rejected
2-3. Human resources has a significant positive effect on detergents exports development.	<b>0/32</b>	<b>0/10</b>	<b>3/221</b>	Confirmed
Production Process has a significant positive effect on detergents exports development.	<b>0/40</b>	<b>0/16</b>	<b>3/446</b>	Confirmed
3. National environment has a significant positive effect on detergents exports development.	<b>0/35</b>	<b>0/12</b>	<b>4/785</b>	Confirmed
3-1. Political factors have a significant positive effect on detergents exports development.	<b>0/35</b>	<b>0/12</b>	<b>3/328</b>	Confirmed
3-2. Cultural factors have a	<b>0/32</b>	<b>0/10</b>	<b>2/434</b>	Confirmed

Hypothesis	Direct Effect )β(	Determinant Coefficient (R <sup>2</sup> )	Significance (T-Value)	Test Result
significant positive effect on detergents exports development.				
3-3.Economic factors have a significant positive effect on detergents exports development.	<b>0/30</b>	<b>0/09</b>	<b>2/014</b>	Confirmed
3-4.Legal/administrative factors have a significant positive effect on detergents exports development.	<b>0/04</b>	<b>0</b>	<b>0/765</b>	Rejected
3-5.Technological factors have a significant positive effect on detergents exports development.	<b>0/33</b>	<b>0/11</b>	<b>3/098</b>	Confirmed

Source: Author

Furthermore, the Friedman test results revealed that among the 3 variables, internal organizational environment had the highest effect while marketing mix had the lowest effect on exports development, as reported by the managers and employees of these departments with national environment falling in between in terms of the importance of its effect. In the study by Sadeghi et al (1391), national environment factors also had higher priority in terms of effects on exports performance than marketing mix.

Table 3 represents the order and ranking of both main exogenous variables and the minor dimensions in terms of their effects on exports development.

**Table 3. Effects ranking of the Research Variables on Exports development**

Variable	Direct Effect )β(	Coefficient (R <sup>2</sup> )	Indicator	Direct Effect )β(	Coefficient (R <sup>2</sup> )
Organization Internal Environment	<b>0/42</b>	<b>0/18</b>	Production Process	<b>0/40</b>	<b>0/16</b>
			Leadership and Management	<b>0/38</b>	<b>0/14</b>
			Human Resources	<b>0/32</b>	<b>0/10</b>
			Organizational Culture	<b>0/05</b>	<b>0</b>
National Environment	<b>0/35</b>	<b>0/12</b>	Political Factors	<b>0/35</b>	<b>0/12</b>
			Technological Factors	<b>0/33</b>	<b>0/11</b>
			Cultural Factors	<b>0/32</b>	<b>0/10</b>
			Economic Factors	<b>0/30</b>	<b>0/09</b>
			Legal/Administrative Factors	<b>0/04</b>	<b>0</b>
Marketing Mix	<b>0/32</b>	<b>0/10</b>	Product	<b>0/38</b>	<b>0/14</b>
			Promotion	<b>0/32</b>	<b>0/10</b>
			Price	<b>0/30</b>	<b>0/09</b>
			Distribution	<b>0/08</b>	<b>0</b>

Source: Author

An analysis of each component of the three variables reveals that of the four components of marketing mix (i.e. price, product, distribution (place), and promotion), product and distribution have the largest and smallest effect on exports improvement and development, respectively. Further, promotion strategy and price fall between product and distribution in terms of their importance degree and effect.

Among the four components of organization internal environment (i.e. leadership and management, organizational culture, human resources, and production process), production process has the largest while organizational culture has the smallest effect on exports improvement and development and leadership and management and human resources fall between these two factors, respectively.

Among the five components of national environment (i.e. political, cultural, economic, legal/legislative, and technological factors), political and legal factors have respectively the largest and smallest effect on detergents exports improvement and development. Technological, cultural and economic factors fall between these two factors.

The results of analyzing the minor researcher hypotheses showed that of components organizational culture of organization internal environment, legal/legislative factors of national environment, and distribution of marketing mix have no effects on exports development.

## 5. CONCLUSION

Given the confirmation of the hypotheses regarding the effects of marketing mix and its components including price, product, and promotion on exports development, and the highest importance of price over other components, in particular, the following suggestions are made:

- If the organization wishes to compete with global competitors in the quality and prices of its products and services, new product development, processes and technologies are the key to achieve these goals, no matter how costly and lengthy is the investment in research and development.
- Survival of organizations depends on attracting customers and creating loyalty in them which will **be in turn achieved by responding to customers' expectations.**
- **More attention should be paid to customers' tastes and products should be produced and packaged according to their tastes.**
- **Products for exports should be named in accordance with the customers' culture and tastes in the target countries, motivating them to purchase.**
- New ideas and innovation should be used in the design and packaging of products.
- In addition to quality, attention should also be paid to the price of offered goods so that the prices do not differ sharply with from the prices of the similar products offered by the competitors.
- Media and satellite advertisements can lead to more familiarization of customers with the products and consequently to increase in demands.
- Advertisements through billboards and in public spaces contributes to sales increases.
- Participating in international exhibits and fairs causes the customers and distributors to become closely familiarized with the products which will lead to increase in demands.

Given the confirmation of the hypotheses regarding the effects of internal organizational factors and its components- including leadership and management, human resources, and production process on exports development, the following suggestions are made:

Competent and experienced managers should be employed to manage exports related activities who are bold and risk taking.



- Managers should possess sufficient knowledge and awareness of scientific marketing principles.
- The development of any business depends on its underlying human resources. In fact, one of the major issues in plans for capacity building centers on the improvement of skills and quality of human resources.
- The existence of specialized forces in exports related affairs, who possess sufficient and relevant knowledge of exports contributes to exports development.
- An experienced research team should be employed to develop research and development activities and gain market intelligence.
- Recruiting employees who are committed and loyal to their organization results in their better performance and exports development.
- Leaders and managers should build clear and specific strategies for the future.
- To increase production and improve quality of exported products, modern technologies should be utilized and developing and offering new products should constantly be pursued.
- **Meeting international standards in producing goods can lead to increased customers' satisfaction and thereby, increased exports.**

Given the confirmation of the hypotheses regarding the effects of national environment and its

- including political, cultural, economic, and technological environments, on exports development, the following suggestions are made:

- Exports should be targeted at countries which have better political relationships with this country. Individuals have varying needs and wants given their cultures, customs and traditions. Thus,
- products should be offered to markets where there is conformity to the purchasing habits and **receptive cultures to exported good to be able to satisfy the target customers' needs.**
- The government should grant export incentives to exporters and reduce customs tariffs.
- Authorities should augment production capacity through improving technical knowledge and infrastructural facilities.

The level of the technologies used in the organization should keep up with global progress in the <sup>components</sup> industry.

Future researchers are suggested to identify and study other exports development factors such as strategy type. Furthermore, researchers can carry out similar studies in other companies which produce detergents, cosmetics and personal care products as well as in other industries and compare the results with those from the present one.

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# INVESTIGATION OF CASH PAYMENT IN BUSINESS MANAGEMENT BASED ON DIVIDEND PAYMENTS

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## Abstract

*The dividend payout policy is one of the most debated topics within corporate finance and some academics have called the company's dividend payout policy an unsolved puzzle. The Association between earnings and dividend changes has been established since Lintner's (1956) pioneering work. Subsequent research attempted to establish an association between operating cash flows and dividend changes, given earnings, without success (Simons, 1994). Recently, there has been increased attention in cash flow reporting. Regulatory bodies worldwide have stressed the significance of cash flow information in capital markets. The purpose of the study is to determine the earnings of cash payment based on dividend payments. The study follows a quantitative research method with a deductive approach which is according to business management policy. Dividend concentration amongst U.S industrial firms was examined, with special consideration on comparing absolute changes. This research study presents evidence that, despite of previous findings demonstrating a reduction in number of industrial firms paying dividends after 1978 until up to 2000, the number of industrial dividend payers increased slightly by 1.87% from 855 to 871. Though the aggregate earnings decreased dramatically, aggregate dividends paid by industrial firms maintained a steady long-run uptrend. The finding of this research presents a valuable investigation regarding business management policies and clarifies the cash payment effects based on dividend payments*

JEL classification: G30

**Keywords:** business management, cash payment, dividend payments, aggregate earnings

## 1. INTRODUCTION

The late 2000s financial crisis originated in the United States and was the starting point for a domino effect affecting the global economy. Due to the difficult business environment companies took different actions in order to manage the crisis and one of the actions was to adjust the dividend payouts to shareholders, since it is believed to be a shock absorber. Usually managers try to keep a stable and growing dividend and managers are not eager to decrease the dividends since it generally is interpreted as a negative signal. But during the crisis the trend of stable dividends was abandoned and some companies drastically decreased their dividend payouts while others at the same time increased the dividends. The number companies that decreased the dividend payouts on the US stock markets increased from 44 in 2007 to more than 500 in 2009. At the same time, the increases in dividends decreased from 1.900 in 2007 to approximately 700 in 2009 (J.P. Morgan, 2011).

Fama and French (2001) demonstrated that there are two main reasons that led to changes to dividend practices policy. First, change in the number of publicly traded firms, and second, decreased propensity of firms to pay dividends whereby shareholders would have expected them to abide by. Unlike the observations found by Fama and French (2001), Shoven (1986) conceded that the nominal dividend for the corporate segment, based on data offered by the U.S government, had nearly doubled over 1978-1985. Such conflicting findings encouraged H. DeAngelo et al. (2004) to conduct a new investigation, whereby the results demonstrated a reduction in the number of dividend paying industrial firms by more than 1000 (from 2250 to 926) over 1978-2000, and moreover, an increasing trend in aggregate dividends (224.6% in nominal and 22.7% in real terms) during the same period of time. H. DeAngelo et al. (2004) found that the main reduction in number of industrial firms is observed amongst those that paid the least dividends which

has negligible impact on aggregate distribution and while largest dividend payers increased their payments at the same time. The largest 25 dividend payers paid 54.9% of aggregate supply and the 100 top payers supplied 81.8% of total dividends in 2000 (H. DeAngelo et al, 2004).

H. DeAngelo et al. (2004) demonstrated that the majority of firms who have paid dividends generated a substantial level of earnings in 2000, an indication that the high dividends concentration may have been due to the increasing earnings concentration. Such outcome is consistent with Lintner's (1956) findings, which suggests that a firm's decision about dividend distribution is dependent upon the level of earning generation.

In yet another investigation to support the positive correlation between earnings and dividend payments, H. DeAngelo et al. (2004) documented that there is a two-tier structure for publicly traded firms. In the first tier, a small number of firms with very high level of earning generation is predominantly tasked with aggregate dividend distribution. The second tier, though, which includes the majority of industrial firms, independently and together, make modest earning and supply a small proportion of aggregate dividends.

After 2000, the global economy encountered two major financial and economic events. The first event, known as "burst of dot.com bubble", and which occurred in 2000, is when the share prices increased rapidly and was subsequently followed by an abrupt fall down (Kindleberger, 2001). The second major event, having taken place in September 2008, is recognized as "global financial downturn ". It was a time when we observed a sudden bankrupt of major U.S financial institutions and major setback of stock markets in the United States (Khan and Jian, 2008). With more than a decade past since the last data De Angelo had employed, it seems as appropriate a time as any to re-examine and extend the previous findings of earnings and dividend concentration of industrial firms in the United States, mainly the trend of number of industrial firms paying dividends, the relationship between level of earnings and dividend distribution, and the propensity of firms to pay dividends.

Such considerable shift in industrial firms' payout policy generates a motivation for investigators to thoroughly employ a different approach to examine firms' performance by using previous methods implemented for dividends. In addition, H.DeAngelo et al. (2004) assumed that there should be other available sources to substantiate that the most amount of stock repurchase conducted by small set of industrial firms have the majority of real earnings. There are three observations which are consistent with such concept. First, Linda and Sharpe (1999) reported notable volume of dollar repurchases for S&P 500 firms in the late 1990s. Second, Fama and French (2001) suggested firms that pay dividends are predisposed to repurchase stocks. And third, H.DeAngelo et al. (2004) demonstrated there is an earning concentration amongst a group of firms producing the large amount of industrial earnings and dividends, and that these firms may also have a cash payout in terms of stock repurchases.

## 2. PROBLEM STATEMENT

The banks suffered severely from the crisis but they managed the financial difficulties in different ways. Banks were heavily affected by the crisis and received favorable loans from the government. But still, they approached the dividend payouts to the shareholders differently. These examples reveal that there is no unified picture regarding dividend payout policies and this is one of the most debated issues within the field of corporate finance and it has troubled academics and researchers for many years. A famous **quotation by Fisher Black in 1976 states: "The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together."** We think that it would be interesting to conduct a research regarding dividend payout ratios and even though several studies have been conducted it is still many pieces in the dividend puzzle that are missing.

**This present investigation, is a replication of H.DeAngelo et al. (2004)'s study by extending the analysis in two dimensions.** First, the corporate dividend policy similarly conducted by DeAngelo et al (2004) is analyzed while extending the time period to 2011. Particular emphasis is on the comparison of the dividend policy of 2011 versus 2000 motivated by the two events described earlier. This study will also conduct an examination to verify whether there is earnings concentration among the small number of firms

contributing in supply dividends. Moreover, the relationship between level of earnings and paying dividends by industrial firms is inspected to assess if firms with higher level of earning generation have upper level of dividend payout ratio or not. In an attempt to assess the presumption previously documented by H. Deangelo et al. (2004), **the existence of a potential relationship between firms' earnings is analyzed.** Finally, such assumption is evaluated in connection to industrial firms paying dividends in order to observe the role of dividend payers.

### 3. METHODOLOGY

In examining the performance of industrial firms' payout policy via stock repurchase, CRSP firms with PRSTKC items, which display purchase of common and preferred stock, are investigated, whereas within such context, trends over 1985-2011 are studied.

Surprisingly, even though there is a massive difference between numbers of firms, namely industrial, financial and utility from 1978-1985, the results obtained for aggregate dividends, aggregate earning, aggregate losses and total earning for dividend payers are strikingly similar (there was a steady long-run uptrend in aggregate dividends paid by industrial firms). Despite continuous effort to match data before 2000 in terms of number of industrial firms paying dividends, the new results do not correspond with that of Deangelo et al (2004) before 1985. Using Consumer Price Index (CPI)<sup>1</sup>, all real values in 2000 and 2011 are converted to value of 1985. In the second stage, the same methodology conducted by De Angelo et al (2004) is used to obtain the trend of aggregate dividends paid by industrial firms from 2000 to 2011.

The remainder of this present investigation places individual importance on the comparison between the latest versions of data of 2011 with that of De Angelo et al (2004) derived in 2000. In addition, the data of **1985, which corresponds with De Angelo et al (2004)'s findings, is applied in an attempt to observe a longer trend of US industrial firms in the last three decades.**

H. Deangelo et al. (2004) demonstrated that while the number of industrial firms paying dividends decreased from 1978 to 2000, the number of financial/utilities firms paying dividends increased during the same period of time. Such reduction is related to some core substantial changes considerably limited to **industrial firms instead of managers' tendency to pay dividends (H. Deangelo et al. ,2004).** As shown in table1, the number of industrial firms paying dividends has increased slightly by 1.87%, from 855 in 2000 to 871 in 2011, whereas the number of financial/utility firms paying dividends decreased by 19% from 1451 in 2000 to 998 in 2011.

## 4. RESULTS

### 4.1 DIVIDENDS CONCENTRATION AND THE INCREASE THEREIN OVER THE LAST DECADE

In Table 1, industrial firms paying dividends by cash dividends paid in 1985, 2000 and 2011 are graded in groups of 100 firms. In general, and as in 1985 and 2000, a small number of industrial firms paid a very large quantity of dividends in 2011. For instance, the top 100 payers supplied around 83% of total dividends in 2000, while this proportion was 81.7% for the same group in 2011. However, the top 100 payers distributed \$85.7 billion (to \$220.3 billion in year 2011 dollars) in real dividends in 2011, which is \$21.7 billion more than total dividends paid (to \$64 billion in year 2011 dollars) by 855 industrial firms in 2000. There is a \$32.7 billion increase in real dividends paid by the top 100 dividend payers from 2000 to 2011, which is threefold the \$9.4 billion rise in the total increase for all grades below the top 100 firms. In sum, the concentration of dividends paid is driven by a small number of firms which are placed in the top 200 payers, U.S. Departmentwhethis

concentration of Labor: Bureau remained of Labor Sun changed <sup>txt</sup> atistics, over 2000 - 2011.

<http://research.stlouisfed.org/fred2/data/CPIAUCSL>.

Table 1 demonstrates the cross-sectional payments of dividends in 1985, 2000 and 2011, with dividend-paying firms classified by real dollar dividends paid, ranging from \$500 million-plus to less than \$1 million per year. It is shown that the number of industrial firms who have paid dividends over \$100 million increased by 46 firms from 2000 to 2011, with an increase of \$38.7 billion in dividends. The number of firms with \$500 million-plus in real dividends increased by 20 firms with a \$32.8 billion rise in real dividends over 2000–2011, which is 78.5% of the total increase in real dividends. On the other hand, the value of total dividends paid by industrial firms with less than \$100 million increased only by \$3 billion. From 2000 to 2011, although the number of firms with less than \$5 million real dividends decreased by 96 firms, the total decrease in dividends for this group was \$140 million, which is insignificant compared to the \$38.7 billion increase of real dividends for firms placed in top categories (firms who paid more than 100 billion). The top categories, firms in excess of \$ 100 million, comprise more firms in 2011 compared to 2000, accounting for 87% of total dividends paid.

**Table 1. Concentration of total dollar dividends paid by industrial firms in 1985, 2000 and in 2011.**

Dividend ranking	percent of total dividends			Cumulative of total dividends			Real dividends paid by industrial firms (\$millions 1985 base)		
	1985	2000	2011	1985	2000	2011	1985	2000	2011
Top 100	73.9%	82.9%	80.7%	73.9%	82.9%	80.7%	34,878	53,036	85,750
101-200	11.8%	9.7%	10.5%	85.7%	92.6%	91.2%	5,587	6,238	11,104
201-300	5.7%	3.7%	4.3%	91.5%	96.3%	95.4%	2,713	2,343	4,515
301-400	3.1%	1.8%	2.2%	94.6%	98.1%	97.6%	1,481	1,153	2,334
401-500	1.9%	0.9%	1.2%	96.5%	99.0%	98.8%	895	607	1,250
501-600	1.2%	0.5%	0.7%	97.8%	99.5%	99.5%	589	341	699
601-700	0.8%	0.3%	0.3%	98.6%	99.8%	99.8%	394	194	355
701-800	0.6%	0.1%	0.2%	99.2%	99.98%	99.97%	263	89	163
801-900	0.4%	0.02%	0.03%	99.5%	100.0%	100.0%	176	12	34
901-1000	0.2%			99.8%			112		
1001-1100	0.1%			99.92%			69		
1101-1200	0.07%			99.98%			33		
1201-1271	0.02%			100.0%			8		
<b>Total for all firms</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>47,196</b>	<b>64,012</b>	<b>106,204</b>
<b>Number of firms</b>							<b>1271</b>	<b>855</b>	<b>871</b>

In descending order, the largest to smallest total dividends paid are shown. The table includes NYSE, NASDAQ, and AMEX firms on CRSP that have CRSP share codes 10 or 11 allocated for each year. Industrial firms are defined as those with SIC codes beyond the ranges 4900–4949 whereas financial and utility companies present the ranges 6000–6999. The sample is for firms for which Compustat has common dividends and earnings before extraordinary items (Compustat items 21 and 18). For 2000, firms graded from 801 to 900 have 55 firms, while in 2011, there were 871 firms (shown in corresponding row).

The net result is that, in the last decade, the number of firms distributing a very large proportion of dividends (firms with \$100 million-plus real dividend) increases. Hence, top categories have more firms, while the number of firms with minimal share in paying dividends (firms with less than \$5 million real dividend) decreases. Such observation corroborates reports that top end firms dominate and have a huge impact on the aggregate dividend distribution, which eventually leads to substantial increase in aggregate dividends. (Keown, et al., 2007)

The sample includes NYSE, NASDAQ, and AMEX firms on CRSP assigned with share codes 10 or 11, and SIC codes beyond the ranges 4900–4949 and 6000–6999. The sample is for firms for which Compustat reports dividends and earnings before extraordinary items (Compustat items 21 and 18) for each year. Using consumer price index to estimate real dividends in 2000 and 2011, nominal dividends have been converted to 1985 dollars.

**Table 2. Number of firms and real dividend payments in 1985, 2000 and in 2011.**

Real dividends payment	Number of industrial firms pay dividend			Change from 2000 to 2011	Percent change % from 2000 to 2011	Real dividends paid by industrial firms			Change from 2000 to 2011	Percent change % from 2000 to 2011
	1985	2000	2011			1985	2000	2011		
\$500 million or more	21	27	47	20	74.1%	20,500	36,898	69,731	32,833	89.0%
\$400- 499.9 million	6	5	5	0	0.0%	2,633	2,239	2,258	19	0.8%
\$300- 399.9 million	3	9	19	10	111.1%	1,087	3,186	6,484	3,298	103.5%
\$200- 299.9 million	13	18	25	7	38.9%	3,150	4,511	6,197	1,686	37.4%
\$100- 199.9 million	42	46	55	9	19.6%	6,144	6,732	7,611	879	13.0%
\$80- 99.9 million	20	17	33	16	94.1%	1,770	1,542	2,963	1,420	92.1%
\$60- 79.9 million	32	23	31	8	34.8%	2,234	1,593	2,145	552	34.7%
\$40- 59.9 million	50	40	40	0	0.0%	2,443	1,986	1,942	(45)	-2.2%
\$20- 39.9 million	113	81	121	40	49.4%	3,196	2,275	3,450	1,175	51.6%
\$10- 19.9 million	117	99	110	11	11.1%	1,642	1,413	1,550	137	9.7%
\$5- 9.9 million	165	113	107	-6	-5.3%	1,184	812	793	(19)	-2.3%
\$1- 4.9 million	387	251	197	-54	-21.5%	968	646	527	(119)	-18.4%
less than \$1 million	294	119	77	-42	-35.3%	131	60	39	(21)	-34.2%
<b>Total</b>	<b>1268</b>	<b>848</b>	<b>867</b>	<b>19</b>	<b>-31.4%</b>	<b>47,082</b>	<b>68,893</b>	<b>105,689</b>	<b>41,796</b>	<b>65.4%</b>
\$100 million and above	85	105	151	46	77.6%	33,314	53,565	92,280	38,715	72.3%
Less than \$100 million	1178	743	716	-27	-9.2%	13,568	10,327	13,409	3,081	29.8%
less than \$5 million	681	370	274	-96	-59.8%	1,098	706	566	(140)	-19.8%

## 4.2. DIVIDENDS AND EARNINGS CONCENTRATION AND PAYOUT RATIO OVER 2000 - 2011

Table 3 presents the earnings of firms paying dividends in 1985, 2000 and 2011, similar to the format applied in Table 1. Over the last decade, similar to dividends, earnings concentration has remained in a very high level amongst the firms paying dividends. In this regard, 73.9% of aggregate real earnings are made by the top 100 dividend payers, while this proportion is 74.5% in 2000. The total real earnings of the 100 largest payers increased from \$131.9 billion in 2000 to \$219.2 billion in 2011. This increase exceeds the total value of real earnings in 1985, which is \$92 billion. In addition, the top 200 industrial firms paying dividends generated 87.9% of dividend payers' earnings in 2011, while the equivalent value for 2000 is 86%. Overall, while the next two groups, namely 201-300 and 301-400, show the modest increase in real earnings, the remaining groups present a low increase or reduction in real earnings. In sum, the value of real earnings of dividend payers increased by 67% from \$177 billion in 2000 to \$296.5 billion in 2011 (to \$615 billion in year 2011 dollars).

The sample includes NYSE, NASDAQ, and AMEX firms on CRSP assigned with share codes 10 or 11, and SIC codes beyond the ranges 4900-4949 and 6000-6999. The sample is for firms for which Compustat reports dividends and earnings before extraordinary items (Compustat items 21 and 18) for each year. Using consumer price index to estimate real dividends in 2000 and 2011, nominal dividends have been converted to 1985 dollars.

## 4.4. SEPARATE EARNINGS OF DIVIDEND PAYERS AND NON - PAYERS

Table 5 exhibits the collected distribution of real earnings from table 4 and is classified in dividend payers and non-payers. A positive correlation between losses and the failure to pay dividends for 2011 is observed, as were previously reported in 1985 and 2000. Moreover, 92.7% and 95.5% of firms who had reported losses in 2011 and 2000, respectively, failed to pay dividends. Although the number of industrial firms who had failed to pay dividends decreased from 2000 to 2011, the real earnings of such firms increased from \$12.6 billion to \$79.1 billion during the same period of time. Furthermore, the value of real earnings of dividend payers increased from \$177 billion to \$296.5 billion over 2000-2011. During this time phase, real earnings of non-payers in 2011 increased by 527% compared to that of 2000, while this proportion is 67% for dividend payers during the same period.

**Table 3. Earnings concentration of firms that paid dividends in 1985, 2000 and in 2011.**

Dividend ranking	percent of total earnings of dividend paying industrial firms(%)			Cumulative% of total earnings of dividend paying industrial firms(%)			Real earning (\$ millions,1985 base)		
	1985	2000	2011	1985	2000	2011	1985	2000	2011
Top 100	69.5%	74.5%	73.9%	69.5%	74.5%	73.9%	63,964	131,957	219,222
101-200	15.1%	11.6%	14.0%	84.6%	86.1%	87.9%	13,894	20,565	41,417
201-300	4.9%	5.6%	4.4%	89.5%	91.8%	92.3%	4,497	9,996	13,155
301-400	4.4%	3.1%	3.1%	93.9%	94.8%	95.4%	4,079	5,426	9,159
401-500	1.5%	2.7%	2.0%	95.5%	97.5%	97.4%	1,407	4,768	5,906
501-600	0.7%	1.1%	1.5%	96.2%	98.6%	98.9%	654	1,909	4,348
601-700	1.5%	0.7%	0.7%	97.7%	99.3%	99.6%	1,379	1,210	2,055
701-800	0.8%	0.5%	0.4%	98.5%	99.8%	99.9%	758	965	1,111
801-900	0.4%	0.2%	0.1%	98.9%	100.0%	100.0%	358	282	151
901-1000	0.4%			99.3%			376		
1001-1100	0.4%			99.7%			344		
1101-1200	0.2%			99.9%			181		
1201-1271	0.1%			100.0%			137		
<b>Total for all fi</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>92,025</b>	<b>177,079</b>	<b>296,524</b>
<b>Number of firms</b>							<b>1263</b>	<b>848</b>	<b>867</b>

Table 4 also shows that there is a positive relationship between the proportion of firms that pay dividends and the level of their earnings. Such correlation is stronger in 2011 compared to 2000. For instance, the number of firms paying dividends with earnings of \$100 million-plus increased by 40.5% from 220 in 2000 to 309 in 2011, while the number of dividend payers with earnings of \$500 million-plus increased by 71.8% from 39 to 67 over 2000-2011. The number of firms with earnings less than \$100 million that failed to pay dividends decreased by 11.5% from 635 firms in 2000 to 562 firms in 2011. Overall, the number of industrial firms paying dividends in 2011 increased by 6.5%, an indication that a larger proportion of firms with given level of real earnings pay dividends in 2011. This finding contrasts with the conclusions observed by Fama and French's (2001a) and DeAngelo, Skinner (2004), who had reported that industrial firms had a lower propensity to pay dividends. As such, the increase in the number of firms paying dividends correspondingly caused a \$42.2 billion increase in aggregate real dividends in 2011 compared to 2000. In this context, the percentage of industrial dividend payers with \$500 million-plus earnings in 2011 increased by 71.8%. This led to a substantial increase in the real earnings of this category from \$112.1 billion in 2000 to \$207.3 billion in 2011.

In sum, even though the percentage of total earnings of firms paying dividends decreased from 93.3% in 2000 to 78.9% in 2011, the number of such firms with a very large level of positive earnings (more than \$100 million) increased, whereas the number of firms with small level of earnings (less than \$100 million) decreased during this period. As such, it seems likely that the propensity of such top earners to pay dividends continues over 2000-2011. All such factors have led to an increase in aggregate real dividends in 2011.

#### 4.5. PAYOUT RATIO AND TENDENCY TO PAY DIVIDEND

In this section, and consistent with Fama and French (2001) and H.DeAngelo et al's. (2004) research study, the propensity of industrial firms to pay dividends in 2011 is examined. Table 3 shows ratios of earnings firms used to supply dividends. Row 1 demonstrates a slight decrease in the ratio of aggregate dividends to aggregate earning of payers and non-payers combined from 1985 to 2000 and then from 2000 to 2011. From 1985 to 2000, this rate declined from 50.2% to 33.7% and from 33.7% to 28.1% from 2000 to 2011 when one-year earnings were considered. As for five-year earnings, such ratio decreased from



48.6% to 41.4% from 1985 to 2000, and from 41.4% to 37.4% from 2000 to 2011. The main reason for this reduction is the notable increase in value of real earnings of non-payers, most particular in top earners. For example, the percentage of dividend payers with \$1 billion-plus earnings increased by 85% from 2000 to 2011, while this ratio for non-payers with the same characteristics was 105%.

The ratio of aggregate dividends to the total earning of dividend payers and also the median of individual firm's payout ratio is presented in row 2 and row 3, respectively. Rows 4.1 and 4.2, using total dividends to total earnings of these dividend payers, report the same statistics for the constant composition of 413 firms that paid dividends in both 1985 and 2011 and also 573 firms that paid dividends in both 2000 and 2011. Rows 5.1 and 5.2 consider the same constant composition of median payout ratio.

**Table 4. Real earnings (1985 dollars) of industrial firms which is separated to payers and non-payers in 1985, 2000 and in 2011.**

Panel A. Cross-sectional distributions of real earnings in 1985, 2000 and in 2011									
Real earning (1985 base)	1985 Number of firms			2000 Number of firms			2011 Number of firms		
	Payers	Non payers	percent of payers from total	Payers	Non payers	percent of payers from total	Payers	Non payers	percent of payers from total
\$ 1 billion or greater	19	0	100.0%	39	13	75.0%	67	15	81.7%
\$500 million - \$ 1 billion	21	1	95.5%	31	9	77.5%	53	11	82.8%
\$250-500 million	39	3	92.9%	49	18	73.1%	67	35	65.7%
\$100-250 million	106	5	95.5%	101	78	56.4%	122	90	57.5%
\$50-100 million	96	10	90.6%	111	100	52.6%	122	131	48.2%
\$25-50 million	141	17	89.2%	117	169	40.9%	100	162	38.2%
\$10-25 million	226	64	77.9%	138	279	33.1%	114	243	31.9%
\$0-10 million	481	669	41.8%	199	805	19.8%	154	482	24.2%
Negative earning	142	399	26.2%	70	1212	5.5%	72	798	8.3%
<b>Total</b>	<b>1271</b>	<b>1168</b>	<b>52%</b>	<b>855</b>	<b>2683</b>	<b>24.2%</b>	<b>871</b>	<b>1967</b>	<b>30.7%</b>

Panel B. Cross-sectional distributions of five-year average real earnings ending in 1985, 2000 and in 2011									
Real earning (1985 base)	1985 Number of firms			2000 Number of firms			2011 Number of firms		
	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total firms
\$ 1 billion or greater	18	0	100.00%	30	7	81.08%	59	11	84.29%
\$500 million - \$ 1 billion	17	0	100.00%	25	6	80.65%	38	7	84.44%
\$250-500 million	38	2	95.00%	53	11	82.81%	55	21	72.37%
\$100-250 million	103	4	96.26%	97	52	65.10%	118	63	65.19%
\$50-100 million	101	5	95.28%	107	81	56.91%	103	92	52.82%
\$25-50 million	151	17	89.88%	132	109	54.77%	102	117	46.58%
\$10-25 million	218	49	81.65%	170	273	38.37%	115	202	36.28%
\$0-10 million	580	692	45.60%	212	915	18.81%	181	488	27.06%
Negative earning	45	399	10.14%	29	1230	2.30%	100	966	9.38%
<b>Total</b>	<b>1271</b>	<b>1168</b>	<b>52.11%</b>	<b>855</b>	<b>2684</b>	<b>24.16%</b>	<b>871</b>	<b>1967</b>	<b>30.69%</b>

Panel A presents the distributions of real earnings in 1985, 2000 and 2011. Panel B shows the distributions of five-year average real earnings ending in 1985, 2000 and in 2011. The sample is comprised of NYSE, NASDAQ, and AMEX firms on CRSP assigned with share codes 10 or 11 and SIC codes beyond the intervals 4900–4949 and 6000–6999. A firm is included only if Compustat reports dividends and earnings before extraordinary items (Compustat items 21 and 18). Using consumer price index to estimate real dividends in 2000 and 2011, nominal dividends have been converted to 1985 dollars. The “percentage from payers” columns report the percent of total earnings that comes from dividend-paying firms.

**Table 5. Collected distribution of real earnings**

Panel A. Cross-sectional distributions of real earnings in 1985,2000 and in 2011									
Real earning (1985 base)	1985 Real earning (1985 base)			2000 Real earning (1985 base)			2011 Real earning (1985 base)		
	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total
\$ 1 billion or greater	38,601	-	100.0%	112,104	25,432	81.5%	207,311	52,192	79.9%
\$500 million - \$ 1 billion	13,369	546	96.1%	20,796	6,586	75.9%	38,832	6,539	85.6%
\$250-500 million	13,606	1,371	90.8%	17,179	6,742	71.8%	23,630	11,739	66.8%
\$100-250 million	16,340	768	95.5%	16,300	11,734	58.1%	19,528	14,114	58.0%
\$50-100 million	6,804	680	90.9%	7,665	7,242	51.4%	8,608	9,310	48.0%
\$25-50 million	4,954	610	89.0%	4,256	6,046	41.3%	3,515	5,903	37.3%
\$10-25 million	3,708	946	79.7%	2,372	4,514	34.5%	1,851	4,053	31.4%
\$0-10 million	2,025	1,706	54.3%	848	2,668	24.1%	594	1,716	25.7%
Negative earning	(7,381)	(4,916)	60.0%	(4,441)	(58,345)	7.1%	(7,344)	(26,467)	21.7%
<b>Total</b>	<b>92,025</b>	<b>1,712</b>	<b>98.2%</b>	<b>177,079</b>	<b>12,617</b>	<b>93.3%</b>	<b>296,524</b>	<b>79,100</b>	<b>78.9%</b>

Panel B. Cross-sectional distributions of five-year average real earnings ending in 1985,2000 and in 2011									
Real earning (1985 base)	1985 Real earning (1985 base)			2000 Real earning (1985 base)			2011 Real earning (1985 base)		
	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total firms	Payers	Non payers	percent of payers from total firms
\$ 1 billion or greater	36,478	-	100.0%	76,269	11,994	86.4%	165,547	36,350	82.0%
\$500 million - \$ 1 billion	12,124	-	100.0%	17,502	3,957	81.6%	25,799	5,275	83.0%
\$250-500 million	14,244	784	94.8%	18,148	3,882	82.4%	19,861	6,930	74.1%
\$100-250 million	15,769	604	96.3%	14,888	7,309	67.1%	19,026	9,605	66.5%
\$50-100 million	7,108	347	95.3%	7,674	5,541	58.1%	7,200	6,490	52.6%
\$25-50 million	5,386	599	90.0%	4,827	3,979	54.8%	3,780	4,101	48.0%
\$10-25 million	3,501	707	83.2%	2,771	4,387	38.7%	1,889	3,248	36.8%
\$0-10 million	2,354	1,623	59.2%	928	2,933	24.0%	730	1,850	28.3%
Negative earning	(844)	(3,973)	17.5%	(1,000)	(31,828)	3.0%	(7,565)	(29,799)	20.2%
<b>Total</b>	<b>96,119</b>	<b>692</b>	<b>99.3%</b>	<b>142,006</b>	<b>12,154</b>	<b>92.1%</b>	<b>236,267</b>	<b>44,051</b>	<b>84.3%</b>

**Table 6; Aggregate and median dividend payout ratios for industrial firms on CRSP/Compustat, 1985, 2000 and 2011.**

Payout ratio measure	One year real earnings			Five-year real earnings		
	1985	2000	2011	1985	2000	2011
1 Aggregate dividend/Aggregate earning(payers and non payers pooled)	50.2%	33.7%	28.1%	48.6%	41.4%	37.7%
2 Aggregate dividends/Total earnings of dividend payers	51.2%	36.1%	35.6%	49.0%	45.0%	44.7%
3 Median firms payout ratio (dividend payers)	27.9%	23.7%	27.8%	30.4%	26.9%	27.6%
4.1 constant composition of firms that paid dividends in both 1985 and 2011(total dividends/total earnings of these dividend payers)	44.9%		37.3%	43.5%		41.4%
4.2 constant composition of firms that paid dividends in both 2000 and 2011(total dividends/total earnings of these dividend payers)		30.7%	36.0%		33.3%	41.5%
5.1 constant composition of firms that paid dividends in both 1985 and 2011(median firms payout ratio)	24.7%		30.8%	26.2%		32.4%
5.2 constant composition of firms that paid dividends in both 2000 and 2011(median firms payout ratio)		11.1%	27.9%		15.9%	28.5%

The sample is comprised of NYSE, NASDAQ, and AMEX firms on CRSP assigned with share codes 10 or 11 and SIC codes beyond the intervals 4900–4949 and 6000–6999. A firm is included only if Compustat reports dividends and earnings before extraordinary items (Compustat items 21 and 18).

On the whole, table 5 demonstrates minimal changes in ratios over the last decade. Row 2 reports that based on one-year real earnings, the ratio of aggregate dividends to total earnings of dividend payers decreased by 0.4% from 36.1% in 2000 to 35.6% in 2011, while this ratio declined by 0.3% from 45% in 2000 to 44.7% in 2011 based on a five-year average real earnings. Row 3 shows that based on single year's earnings, the median payout ratio increased by 4.1% from 23.7% in 2000 to 27.8% in 2011, and based on five-year average earnings, it was reduced by 0.7% from 26.9% to 27.6% over 2000-2011. The constant composition sample of firms paying dividends in 1985 and 2011 is demonstrated in row 4.1, and the constant composition sample of firms paying dividends in 2000 and 2011 is shown in row 4.2. In this context, row 4.1 shows a reduction of 7.5% and 2.1% based on one-year and five-year average earnings, respectively, whereas row 4.2 exhibits a 5.2% increase based on single year's earnings and an 8.3% increase when considering five-year average real earnings. With regards to change in median firm's payout ratios in rows 5.1 and 5.2, all ratios increased as observed. In sum, except for the significant increase in row 5.2, no substantial change (up or down) in the payout ratio of firms paying dividends was observed over the last decade.

#### **4.6. THE IDENTITY OF THE TO P PAYERS, NON - PAYERS, AND EARNERS IN 2011**

Table 7 and 8 show the top industrial firms that contributed in the distribution of the largest dividends and generated the majority of earnings in 2011 and 2000, respectively. Both tables demonstrate that old-line industrial firms, such as AT&T, Exxon Mobil, and General Electric, were the principal dividend providers in 2000 and 2011. The top 62 players in table 10 supplied 71.1% of total industrial dividends and generated \$188.3 billion in real earnings (\$390.6 billion in 2011 dollar), which is 50.1% of aggregate industrial earnings. It presents a \$38.5 billion increase in real dividends and \$76.5 billion rise in real earnings for such dividend payers over 2000-2011. Although there is a slight decrease in these top payers' contribution in earning generation in 2011 compared to 2000, it seems their share in dividend distribution considerably increased (from 57.8% to 71.1%) over this time phase. Considering the trend of 62 top dividend payers in 2011, their contribution in dividend payments has an upward trend and increased from 1985 to 2000 and then from 2000 to 2011, while their share in earning generation experienced a growth from 1985 to 2000 and then a very slight reduction over 2000-2011.

Table 7 shows the top 37 payers which as a group distributed 64.1% of aggregate industrial dividends and generated 50.5% of total aggregate real earnings in 2000. There was an increase of \$21.9 billion and \$57.1 billion in real dividends and real earnings over 1985-2000, respectively.

Overall, a greater number of total industrial dividend payers generate the majority of real earnings in 2011 as against that of 2000, which explains the slight decrease in earnings concentration over 2000-2011. On the other hand, 62 top dividend payers supplied 71% of total dividends in 2011, whereas in 2000, 37 top payers distributed 64% of total dividend payments.

Tables 7 and 8 demonstrate earnings concentration amongst top 25 non-payers for 2011 and 2000, respectively. Both tables are graded by highest earnings and report cumulative earnings as a percentage of total earnings of non-payers with positive earnings. Firms that reported \$1 billion-plus real earnings in 2011 accounted for 35.4% of all positive earnings of non-payers, while this proportion was 27% in 2000. In table 12, the top 10 firms accounted for 33.3% and the top 25 firms generated 42.4% of such earnings and, while only 50 companies as non-payers accounted for the majority (50.2%, not reported in table 12). As for 2000, the corresponding figures are observable in table 7.

Having scanned through the identity of the top 25 non-payers, it is obvious that a group of technology firms are responsible for the majority of non-payers in 2011, as had happened in 2000. In addition to the three companies as main non-payers in 2000 – Apple, Dell, and EMC—with more than \$1 billion in real earnings, there are also some other technology firms like Google, eBay, and Yahoo seen amongst non-

payers of 2011. On the other hand, Microsoft, which had the highest earnings amongst non-payers in 2000, began to supply dividends in 2003 and is ranked 9<sup>th</sup> in 2011's top payers.

Table 8 also presents that the thirteen firms of 25 top non-payers in 2000 began to pay dividends during 2000-2011 and eleven of them continued to do so until 2011. Amongst non-payers that started supplying dividends in 2000, two companies, namely Sprint Nextel and Avis Budget Group, distributed dividends only during the time periods of 2002-2007 and 2004-2006, respectively, after which they cut their dividends. Considering the top 25 non-payers in 2000, the dividend value of four firms are unavailable in 2011 because of acquisition and eight firms have yet to start paying dividends. As a whole, 62% of top nonpayers in 2000 that existed in 2011 had dividend payments in 2011.

**Table 7. Earnings for the 25 industrial firms have not paid dividend in 2011, with the highest reported earnings in 2011.**

Company name	Real earning in 2011 (1985 base)	Nominal earning in 2011	Earning as a% of total earning of non payers with positive earning in 2011	Cumulative earning as a% of total earning of non payers with positive earning in 2011
1 APPLE INC	12,497	25,922	11.84%	11.8%
2 BERKSHIRE HATHAWAY	4,943	10,254	4.68%	16.5%
3 GOOGLE INC	4,694	9,737	4.45%	21.0%
4 GENERAL MOTORS CO	4,430	9,190	4.20%	25.2%
5 DELL INC	1,683	3,492	1.59%	26.8%
6 EBAY INC	1,557	3,229	1.47%	28.2%
7 MGM RESORTS INTERNATIONAL	1,502	3,115	1.42%	29.7%
8 GILEAD SCIENCES INC	1,352	2,804	1.28%	30.9%
9 DIRECTV	1,258	2,609	1.19%	32.1%
10 HCA HOLDINGS INC	1,188	2,465	1.13%	33.3%
11 EMC CORP/MA	1,187	2,461	1.12%	34.4%
12 NIKE INC	1,072	2,223	1.02%	35.4%
13 NAVISTAR INTERNATIONAL CORP	831	1,723	0.79%	36.2%
14 MEDCO HEALTH SOLUTIONS INC	702	1,456	0.66%	36.8%
15 CELGENE CORP	635	1,318	0.60%	37.4%
16 BIOGEN IDEC INC	595	1,234	0.56%	38.0%
17 SYMANTEC CORP	565	1,172	0.54%	38.5%
18 TRW AUTOMOTIVE HOLDINGS CORP	558	1,157	0.53%	39.1%
19 DISCOVERY COMMUNICATIONS INC	546	1,133	0.52%	39.6%
20 PRICELINE.COM INC	509	1,056	0.48%	40.1%
21 YAHOO INC	506	1,049	0.48%	40.6%
22 THERMO FISHER SCIENTIFIC INC	492	1,020	0.47%	41.0%
23 AGILENT TECHNOLOGIES INC	488	1,012	0.46%	41.5%
24 BED BATH & BEYOND INC	477	990	0.45%	41.9%
25 SANDISK CORP	476	987	0.45%	42.4%
<b>Total</b>	<b>44,741</b>	<b>92,808</b>		<b>42.4%</b>

Real earnings are nominal earnings in 2011 converted to 1985 dollars using the consumer price index. All earnings figures are before extraordinary items.

Real earnings are nominal earnings in 2011 converted to 1985 dollars using the consumer price index. All earnings figures are before extraordinary items. The last two columns report the situation of these top non-payers in terms of their dividend in 2011. In fifth column, the numbers which are highlighted by red colors

shows the year of cut dividend with related companies (Sprint Nextel and Avis Budget Group). All earnings figures are before extraordinary items.

**Table 8. Earnings for the 25 industrial firms have not paid dividend in 2011, with the highest reported earnings in 2000.**

Company name	Real earning in 2000(1985 base)	Nominal earning in 2000	Earning as a% of total earning of non payers with positive earning in 2000	Cumulative earning as a% of total earning of non payers with positive earning in 2000	Year of beginning to pay dividend	Real dividend paid in 2011
1 MICROSOFT CORP	5,908	9,421	8.3%	8.3%	2003	2,600
2 BERKSHIRE HATHAWAY	2,087	3,328	2.9%	11.3%	-	-
3 CISCO SYSTEMS INC	1,673	2,668	2.4%	13.6%	2011	317
4 MCI INC	1,636	2,609	2.3%	15.9%	-	Acquired
5 ORACLE CORP	1,606	2,561	2.3%	18.2%	2008	581
6 DELL INC	1,402	2,236	2.0%	20.2%	-	-
7 APPLIED MATERIALS INC	1,294	2,064	1.8%	22.0%	2005	197
8 COMCAST CORP	1,283	2,045	1.8%	23.8%	2008	594
9 SUN MICROSYSTEMS INC	1,163	1,854	1.6%	25.4%	-	Acquired
10 EMC CORP/MA	1,118	1,782	1.6%	27.0%	-	-
11 MICRON TECHNOLOGY INC	943	1,504	1.3%	28.3%	-	-
12 LIBERTY MEDIA CORP	933	1,488	1.3%	29.7%	-	-
13 SPRINT NEXTEL CORP	810	1,292	1.1%	30.8%	2002-2007	-
14 TIME WARNER INC	773	1,232	1.1%	31.9%	2005	481
15 AMGEN INC	714	1,139	1.0%	32.9%	2011	379
16 SAFEWAY INC	685	1,092	1.0%	33.9%	2005	90
17 ADVANCED MICRO DEVICES	631	1,006	0.9%	34.8%	-	-
18 KROGER CO	552	880	0.8%	35.5%	2006	123
19 ADC TELECOMMUNICATIONS INC	544	868	0.8%	36.3%	-	Acquired
20 APPLE INC	493	786	0.7%	37.0%	-	-
21 TELLABS INC	477	760	0.7%	37.7%	2010	14
22 TENET HEALTHCARE CORP	425	678	0.6%	38.3%	-	-
23 BURLINGTON RESOURCES INC	423	675	0.6%	38.9%	-	Acquired
24 QUALCOMM INC	420	670	0.6%	39.4%	2004	656
25 AVIS BUDGET GROUP INC	414	660	0.6%	40.0%	2004-2006	-
<b>Total</b>	<b>28,408</b>	<b>45,298</b>		<b>40.0%</b>		

Table 9 documents the relationship between the level of real earnings and dividend payments by industrial firms and that dividends are more concentrated in 2011 compared to 2000. Cumulatively, firms with more than \$500 million-plus real earnings supplied 79.5% of total dividends in 2011 as against 69.5% obtained in 2000.

As shown in table 7 and 8, with regards to earnings concentration, 62 industrial firms (around 2% of all industrial firms) generated the majority of real earnings and distributed 71.1% of total dividends in 2011, whereas 37 firms (1% of all industrial firms), which generated the largest part of real earnings in 2000, supplied 64.1% of total dividends. As displayed in table 6, 1506 firms, or 53.1% of all industrial firms, earned less than or equal to \$10 billion in 2011. Such firms, as exhibited in table 15, paid \$2.5 billion or 2.4% of total industrial dividends, and that more than half of this amount was distributed by six firms that had sustained losses in 2011 (including Anadarko Petroleum, Best Buy, Donnelley (RR) & Sons, Huntington Ingalls, Sycamore Networks, and Vanguard Health System). Additionally, the top 62 industrial dividend payers supplied \$75.5 billion of total dividends in 2011, which is 30 times larger than that paid by small earners (firms with less than or equal to \$10 million in real earnings). Compared to

2000, there are some differences in numbers of industrial firms and dividend payments. In this context, only 1% of total industrial firms (37 in number) that generated the majority of real earnings (50.5%) paid \$41 billion or 64.1% of total dividends in 2000. Table 8 also reports that 64.6% of total number of industrial firms (2286 in number) with \$10 billion or less in real earnings paid \$3.2 billion or 5% of total dividends. It is worth noting that only five firms, namely Wyeth, Penney, Xerox, and Qwest Communication, and Lanier Worldwide, distributed 52.8% of total dividends paid by small earners (firms with less than or equal to \$10 million in real earnings).

**Table 9. Real earnings (1985 dollars) and dividend paid for industrial firms in 1985, 2000 and in 2011: Sample of dividend payers**

Real earning (1985 base)	Number of industrial firms pay dividend			Dividend paid by industrial firms			% as total dividend paid			Cumulative of total dividend(%)		
	1985	2000	2011	1985	2000	2011	1985	2000	2011	1985	2000	2011
\$ 1 billion or greater	18	30	59	18,082	38,529	73,625	38.3%	60.2%	69.3%	38.3%	60.2%	69.3%
\$500 million - \$ 1 billion	17	25	38	6,436	5,941	10,848	13.6%	9.3%	10.2%	51.9%	69.5%	79.5%
\$250-500 million	38	53	55	6,303	6,611	8,264	13.4%	10.3%	7.8%	65.3%	79.8%	87.3%
\$100-250 million	103	97	118	6,320	4,984	5,495	13.4%	7.8%	5.2%	78.7%	87.6%	92.5%
\$50-100 million	101	107	103	2,875	2,623	3,313	6.1%	4.1%	3.1%	84.8%	91.7%	95.6%
\$25-50 million	151	132	102	1,976	1,293	1,186	4.2%	2.0%	1.1%	89.0%	93.7%	96.7%
\$10-25 million	218	170	115	1,489	822	925	3.2%	1.3%	0.9%	92.1%	95.0%	97.6%
\$0-10 million	580	212	181	921	855	411	2.0%	1.3%	0.4%	94.1%	96.3%	98.0%
Negative earning	45	29	100	2,794	2,355	2,134	5.9%	3.7%	2.0%	100.0%	100.0%	100.0%
<b>Total</b>	<b>1271</b>	<b>855</b>	<b>871</b>	<b>47,196</b>	<b>64,012</b>	<b>106,204</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>			
<b>Total positive only</b>												

The distribution of real earnings in 1985, 2000 and in 2011 is reported. The sample is comprised of NYSE, NASDAQ, and AMEX firms on CRSP assigned with share codes 10 or 11 and SIC codes beyond the intervals 4900–4949 and 6000– 6999. A firm is included only if Compustat reports dividends and earnings before extraordinary items (Compustat items 21 and 18). Using consumer price index to estimate real dividends in 2000 and 2011, nominal dividends have been converted to 1985 dollars.

## 5. CONCLUSION

The study has revealed which factors that have an impact on the dividend payout ratio on large and medium caps in business management. We have fulfilled the purpose of the study and revealed that the dividend payout ratio of non-financial large caps has a significant relationship to free cash flow, growth and risk. It was observed that the number of dividend payers had increased by 16 firms during the latter period of time, with a substantial increase by 124 % in aggregate dividends. Furthermore, there was seemingly a stronger positive correlation between level of earnings and dividend payments in 2011 compared to that of 2000. The relationship between the level of real earnings and dividend payments by industrial firms and that dividends is more concentrated in 2011 compared to 2000. Results exhibits the 76 firms, including both dividend payers and non-payers, which generated more than \$1 billion real earnings in 2011. The combination of these 76 firms accounted for 64% of aggregate industrial earnings in 2011, and amongst such firms, 65 of them as dividend payers paid 68.4% of total dividends. Cumulatively, firms with more than \$500 million-plus real earnings supplied 79.5% of total dividends in 2011 as against 69.5% obtained. The study has also contributed with theoretical knowledge since few studies had previously been conducted on the business management. This study has therefore filled the research gap that previously existed and other academics may use the study as a benchmark case.

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# THE ROLE OF STATUTORY FACTORS IN PROMOTING THE INDEPENDENCE OF COUNTRY'S SUPREME AUDIT COURT AUDITORS IN EXECUTIVE AGENCIES

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## Abstract

*Auditors may face different situations that could undermine their independence. In carrying out audit services for executive agencies, the auditors of Supreme Audit Court must consider factors undermining independence. Therefore, identifying factors that promote audit court's auditor's independence seems to be indispensable. The purpose of this research is to explain and identify ways to improve the independence of the Supreme Audit Court in executive agencies. Present research, is an applied research and in terms of research methods, is descriptive-survey. To test the hypotheses, required data were collected through questionnaire. Statistical population of present research is made up of the audit court's Auditors, accountants and financial managers of executive agencies in Kerman province. In this research one sample t test is used to test hypotheses. Research results showed that the statutory factors have impact on promoting the independence of the Supreme Audit Court in executive agencies.*

JEL classification: K40

**Keywords:** in executive agencies, auditor independence, statutory factors, audit court's

## 1. INTRODUCTION

Qualified auditing, by improving dependability and increasing the reliability of financial reporting process, helps the effectiveness of this process and efficiency of capital markets. Qualified Auditing depends on several factors including personal characteristics of audit staffs, policies and procedures of audit firm and attitudes and actions of audit firm managers. In addition, professional or public authorities of regulation, help to maintain audit quality. Auditor independence and control to maintain independence, is only one source (but an important resource) for qualified audit. (Pakravan, 1390). [1]

Auditor Independence is the freedom from pressures and other factors that erodes or is expected to erode auditor's ability to decide dispassionately. The purpose of this definition, is not that the auditor must be free from all pressures and other factors affecting his ability to decide. But the auditor should be safe from important factors that erodes or is expected to erode his ability to decide dispassionately. The level at which pressure and other factors, erodes or expected to erode a dispassionate decision of auditor, is as boundaries to determine the presence or absence of the auditor's independence. The purpose of reasonable expectation, reasonable belief of an informed investors and other users of financial information. (Pakravan, 1390).

Independence of auditor helps to ensure the adequacy of the auditor's liberation from prejudice. Therefore, decision makers of the Independence should decide to strengthen investors believe and other users to auditor's independence. If auditors be enough release from prejudice, but investors and other users do not have this kind of belief, auditing does not increase credibility of the information, and finally investors and other users less rely on audited financial information. The underlying established principle in paragraph 30 of the statement, explains how to use investors, other users and other interested parties comments in the process of decision making of auditing Standards Board and other decision-makers of independence. (Yeganeh, 1391). [2]



## 2. RESEARCH BACKGROUND

Sajadi and Ebrahimimand (1388), [3] in a study titled factors increasing auditor independence showed that according to independent auditors, the Audit Committee of the entity, size and the experience of audit firm and the client company size, are as increasing factors of independence and competition in the auditing profession as a reducing agent of auditor independence.

Noravesh and Ramezani (1389), [4] in a study investigated the factors affecting the independence of the auditor from the perspective of independent auditors and audit services users. They concluded that the presence of the client's audit committee, the auditor's economic dependence, providing non-audit services and the role of managers in the appointment of auditors and determine the audit fees affects auditor independence.

Abdullahi (1390), [5] In a study entitled Reducing factors of **auditor's** independence from the perspective of financial managers and investment firms managers, showed that from the perspective of corporates financial managers, independent auditors and managers of investment companies, receiving gifts from the client undermines auditor independence.

Hassas Yeganeh and Jafari (1391), [6] in a research entitled factors affecting auditor independence and competence of the Iranian formal accounting association, concluded that seven factors respectively: specialization, auditing efficiency, discovery of material misstatements, conflicts of interest, rules and regulations, market mechanisms and audit institutions size affect quality and independence of auditor.

Morshedi poor and Dehghan Dehnavi (1392), [7] In a study entitled Factors affecting the qualified auditing of information technology showed that independence of audit is the most important effective components of IT audit quality.

Gul (2003), [8] During the research in Malaysia investigated effect of several factors, including competition, client's audit committee and the size of audit firm on auditor independence and concluded that competition among audit firms have had a positive impact on auditor independence but size of audit firm had a negative impact and audit committee also was not important from the perspective of subjects.

Agaser and Dupnik (2007), [9] investigated effect of non-auditing services, deferred fees, auditing firm size, employment of auditor's partner at the auditing firm on auditor independence in the three countries of America, Germany and the Philippines and concluded that, except for deferred remuneration, other factors have a decisive impact on auditor independence.

Lindsay (2009), [10] In a study conducted in Canada concluded that from the perspective of managers of credit institutions and banks competing in accounting career and audit firm size have a positive impact on independency.

Park (2013) [11] investigated effect of competition on independency and quality of audit work in South Korea and concluded that managers who had received conditional reports have changed their auditors more than managers who received acceptable reports. In addition, these managers had more probability to receive acceptable reports in later auditing. Park concludes that competition, gives new opportunities to client management to choose its desired auditor. He further says from the perspective of government and professional associations main purpose of competition is increasing audit quality but this goal will be realized when the client's management has enough reputation and choose their competent and professional auditors. It seems two factors of audit firm structure (employing quality control, etc.) and client's management (choosing independent and superior qualified auditor) can benefit from competition to increase auditor independence. In contrast, these two factors can take advantage of this competition and fade off independency.

## 3. RESEARCH HYPOTHESIS

Statutory factors affect promoting auditor independency of Supreme Audit Court.

### 3.1. RESEARCH METHODOLOGY

According to the objective and nature of this research, descriptive-survey method is used. In data collection library method is used for theoretical studies and research background. Then for acceptance or rejection of hypothesis testing field method was used to collect the necessary information and providing questionnaire that after distributing the five option questionnaires among the population members and obtaining a response from the participants, the obtained data, was classified, summarized and their validity was examined.

The aim of this research is to develop practical knowledge in a field of particular knowledge and is done to use the findings for solving specific problems of executive agencies, therefore present study in terms of purpose is an applied research and in terms of method is descriptive-survey that in collecting information, the library method was used for theoretical studies and research background. Then, to test the research hypothesis field method was used to gather the necessary information by means of survey here questionnaire.

After defining the research hypothesis, research questionnaire was adjusted by the help of other standardized and validated questionnaire in this field and also by using professors and experts' opinion. Adjusted questionnaire consists of two parts, the first part contains general questions related to the subjects and is raised in the form of five questions, including sex, education, field of study, organizational position and work experience. The second part contains specific questions that covers different views and opinions dominating impact of a timely dealing with financial deviations in the implementation of continuous auditing on violations mentioned in the report for the funds settlement that Likert scale was used to measure data.

For measuring the validity of the questionnaire, five experts in this field were selected randomly and a list of mentioned factors and an example of the questionnaire was given to them, calculated value of validity is 0.914 which indicates necessary validity value of the questionnaire.

In this study, Cronbach's alpha test was used to assess the internal consistency:

**Table 1**

Questionnaire	Cronbach's alpha	Number of questions	Number of samples
Statutory factors promote auditor independence audit court's	0.903	10	100

*Source: Author*

Cronbach's alpha coefficient is used to measure amount of one-dimensionality of the attitudes, beliefs. As seen in Table 1, calculated Cronbach's alpha value is 0.903 which is acceptable for research purposes (greater than 0.7).

To investigate the research hypothesis one sample t test and Friedman test were used and SPSS and Excel software were used to data analysis and the significance level is considered 0.05.

### 3.2. POPULATION AND STATISTICAL SAMPLE

The population means: a number of desired elements with at least one specific characteristics. The statistical population is divided into two types: limited and unlimited, If the value population be composed of the limited and constant amounts and be finite is named limited and otherwise when the population is composed of an endless row of values is named unlimited (Azar and Momeni, 1387). [12]

Statistical population of present research was consisted of experts, accountants, financial managers and auditors of the Supreme Audit Court. The sample size is the number of people who have similar characteristics with the population characteristics and represent the population and have heterogeneity and homogeneity with population. Therefore, sampling is set of actions that are done to select the number of people of population that represent it. Samples are generally selected in three ways: probability method that has scientific value and is called random sampling and non-probability sampling method known as condition method and finally expert or Delphi method (Hafeznia, 1389). [13]

The sampling method used in this study, is random-stratified sampling proportional to population size. After determining the sample size in each class simple random analysis was used to select sampling units, this means that number of members of each of the units were specified and then based on the sample size number needed to sampling were selected to volume ratio from the lists of names and questionnaire were distributed among them. Considering that we have specific statistical population, therefore in this study, statistical sample through Cochran's formula as appropriate with the population volume has been determined 100 people.

## 4. RESULTS AND DISCUSSION

### 4.1 CHECK THE ASSUMPTION OF NORMALITY

Before examining research hypothesis, normality of variables was investigated. One sample Kolmogorov-Smirnov test was used to check normality of assumption of the study variable. Results of this test are given in the following table.

H0: studied variables does not have normal distribution.

H1: studied variables has normal distribution.

**Table 2. One sample Kolmogorov-Smirnov test results to check normality underwriting**

Variable	(n-100)		Result
	Statistics	P	
Statutory factors promote auditor independency of audit court's	0.918	0.368	Normal

\*At significant level of 0.05

*Source: Author*

The results indicate that there is normality assumption for variable ( $P > 0.05$ ); so parametric methods were used to examine the research hypothesis.

### 4.2. CHECK RESEARCH HYPOTHESIS

Hypothesis: statutory factors affect promoting independency of the Supreme Audit Court auditors.

H0: statutory factors don't affect promoting independency of the Supreme Audit Court auditors.

H1: statutory factors affect promoting independency of the Supreme Audit Court auditors.

One sample t test was compared with the average and the theoretical value of 3.0. In terms of research units individual factors were assessed effective on promoting auditor independency ( $P > 0.05$  and experimental mean more than 3.0). So obtained results imply endorsement of H1 assumption. Results of this test are given in the following table.

**Table 3. Check effect of statutory factors on promoting independency of the auditor at the Supreme Audit Court**

Variable	Theoretical mean = 3.0				
	Mean	Standard deviation	T statistics	Freedom degree	P
Effect of statutory factors on promoting independency of the auditor	15.35	2.50	61.202	99	<0.001

\*At significant level of 0.05

*Source: Author*

## 5. CONCLUSION

Reviews and analysis of the questions of questionnaire related to research hypothesis at significant level of 95% showing results of study corroborates the fact that most people, assessed statutory factors as ways to improve auditor independency. And this issue has also been confirmed by other researchers, including domestic researchers Abdollahi (1390). [13]

According to the mentioned discussions, it is suggested that the following points be implemented:

- Research results show that factional and consistent attitudes between the authorities of high levels of organization under consideration and auditors weakens the independency of auditors. So auditors should avoid prejudice or specific siding to increase their independency.

- Abide principles of auditor independency by the auditors is an important step in increasing their independency.

- The Supreme Audit Court auditors should consider positive and helpful factors in the investigation or audit of compliance with the standards of professional conduct and rest their reporting and actions based on honesty, integrity, independency and impartiality, prefer public resources to private interests, maintaining good relations with agencies or individuals in the boundaries that does not affect documented and reasoned processing and reporting.

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# THE RELATIONSHIP BETWEEN EARNINGS AND CASH PAYOUT IN FORMS OF DIVIDEND PAYMENTS AND SHARE REPURCHASES

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## Abstract

*In this recent survey, the results from Fama and French (2001a) and colleagues' dividend policy examination are replicated while the analysis was extended to a more recent period which included stock repurchases. Dividend concentration amongst U.S industrial firms was examined over 1985-2011, with special consideration on comparing absolute changes from 2000 to 2011. It was observed that the number of dividend payers had increased by 16 firms during the latter period of time, with a substantial increase by 124 % in aggregate dividends. Furthermore, there was seemingly a stronger positive correlation between level of earnings and dividend payments in 2011 compared to that of 2000. Whilst investigating share repurchase policy, there is a positive association supported between level of earnings and share repurchases during 1978 to 2011. Observations of this paper suggest of higher concentration of cash payout via stock repurchases over 1985-2011, which indicates that firms with higher level of earnings had spent more on share repurchases. Moreover, a very large proportion of share buy-back is completed by top dividend payers that distribute substantial portion of dividends. Such phenomenon has remained unchanged in the last decades.*

JEL classification: G35

**Keywords:** Earnings and Cash Payout, Dividend Payments, Share Repurchases, stock repurchases, firms earning

## 1. INTRODUCTION

The main work of dividend policy provided by Miller and Modigliani (1961) initiated a wide body of literature which examined the payout policy in the US and other countries around the world. In this respect, and during dividend policy investigation, Fama and French (2001a) observations suggest that dividends had gradually disappeared with a large reduction in number of industrial firms that were paying dividends during 1978-1998 (67% of firms paid dividends in 1978 while only 21% did so in 1999).

H. DeAngelo et al. (2004) documented that the percentage of dividends paid by industrial firms are positively correlated with the level of earnings, while such relationship was slightly weaker from 1978 to 2000. For instance, 97.7% of industrial firms with real earnings of \$100 million-plus paid dividends in 1978, whereas such proportion was 71.9% in 2000. This finding corroborates the report provided by Fama and French (2001a), who indicated a lower tendency of industrial firms to pay dividends. After 2000, the global economy encountered two major financial and economic events. The first event, known as "burst of dot.com bubble", and which occurred in 2000, is when the share prices increased rapidly and was subsequently followed by an abrupt fall down (Kindleberger, 2001). The second major event, having taken place in September 2008, is recognized as "global financial downturn ". It was a time when we observed a sudden bankrupt of major U.S financial institutions and major setback of stock markets in the United States (V.V. Chari, October 2008). With more than a decade past since the last data De Angelo had employed, it seems as appropriate a time as any to re-examine and extend the previous findings of earnings and dividend concentration of industrial firms in the United States, mainly the trend of number of industrial firms paying dividends, the relationship between level of earnings and dividend distribution, and the propensity of firms to pay dividends.

Grullon and Michaely (2002) and (McLaughlin, 2011) stated that although U.S companies preferred to pay cash to their investors in the form of dividends rather than share repurchases for an extended period of time, the last decades have seen a substantial growth of expenditure on share repurchases. Grullon and Michaely (2002) argue whether firm managers have changed their payout policy from dividends to share repurchases and if these two theories are interchangeable or not. In this sense, John and Williams (1985) and colleagues (Bernheim (1991), Allen, Bernardo, and Welch (2000)) previously demonstrated that when managers intend to signal a **firm's value, they pay dividends rather than buy back shares. Based on such** conclusion, dividends and share repurchases are not interchangeable. On the contrary, Miller and Modigliani (1961), Bhattacharya (1979), Miller and Rock (1961), and Jensen (1986) conceded that firms use payout in case of signal undervaluation or reduced agency conflict. According to this theory, dividends and share repurchases are interchangeable.

This Paper is provided in 6 section. Following introduction and review of previous empirical research about industrial firms' payout approaches outlined in section 1, the hypotheses are represented in section 2. Methodology and data collection is explained in section 3 before the evaluation of the related data consistent with dividends and share repurchases in sections 4 and 5, respectively. Lastly, section 6 elaborates on observations found in the present investigation.

## 2. HYPOTHESIS

This research study is provided in two main segments. In the first section, which mainly follows the methodology previously implemented by H. De Angelo et al. (2004), the hypotheses below are examined **to assess the link between industrial firms' earnings and dividend payments over 2000-2011.**

**H1:** There is an earnings concentration amongst a small number of industrial firms

**H2:** There is a positive relationship between the volume of dividends paid by industrial firms and the level of their earnings (There is a higher possibility that industrial firms with higher level of earnings pay dividends). In this regard, a small number of firms with very high level of earnings distribute very large percentage of dividends. This leads to dividend concentration amongst a small number of firms with very high levels of earnings concentration.

**H3:** Aggregate dividends paid by industrial firms maintain its steady long-run uptrend over 1978-2011

In the second section, considering the hypotheses stated above, the performance of share repurchases completed by industrial firms is examined. In addition, these hypotheses are evaluated to examine the **relationship between industrial firms' earnings and expenditure on share repurchases.**

**H4:** Since firms that pay dividends generate a high level of real earnings, it is expected that such firms to have a main role in cash out in form of share repurchases

**H5:** Firms with substantial volume of earnings are responsible for a very large proportion of total cash payout in both forms of dividends and share repurchases

## 3. METHODOLOGY AND DATA

In parallel with Fama and French (2001a) and H. De Angelo et al. (2004) research studies, CRSP industrial firms with SIC codes beyond the ranges 4900–4949 (for financial firms) and 6000–6999 (for **utility firms**) are used as a sample. **Nonfinancial and nonutility firms are coded as “industrials” with** special attention given to NYSE, AMEX, and NASDAQ firms with CRSP share codes 10 or 11. CRSP firms with common dividends and earnings are considered before extraordinary, namely items 21 and 18, on compustat (The CRSP/COMPUSTAT Merged Database). Initially, and based on the data analysis completed by H. De Angelo et al. (2004) during 1978-2000, the primary objective was to replicate their conclusions observed during that period of time. In this sense, all data for 1978-2011 was gathered. The samples used in this investigation are differentiated by the number of firms found in WARDS due to the unavailability of SIC code in The CRSP/COMPUSTAT Merged Database. Hence, there was no alternative

but to derive the codes from Stock/Security Files with monthly observation and match them with CRSP/COMPUSTAT Merged items.

## 4. RESULTS

### 4.1 SAMPLING PROCEDURE AND AGGREGATE DIVIDENDS, 1985-2011

As shown in table1, the number of industrial firms paying dividends has increased slightly by 1.87%, from 855 in 2000 to 871 in 2011, whereas the number of financial/utility firms paying dividends decreased by 19% from 1451 in 2000 to 998 in 2011.

**Table 1. Number of firms paid dividends during 1978–2011.**

Fiscal year	CRSP industrial firms	CRSP financial and utility firms	CRSP total	NYSE industrial	NASDAQ and AMEX industrial
1978	1584	542	2126	1030	554
1979	1544	557	2101	1006	538
1980	1508	587	2075	981	527
1981	1461	575	2036	950	511
1982	1404	618	2022	913	491
1983	1369	650	2019	875	494
1984	1332	643	1975	855	477
1985	1271	640	1911	814	457
1986	1180	664	1844	767	413
1987	1127	681	1808	738	389
1988	1104	713	1817	731	373
1989	1100	724	1824	734	366
1990	1077	714	1791	713	364
1991	1087	691	1778	723	364
1992	1131	674	1805	740	391
1993	1142	1380	2522	745	397
1994	1155	1458	2613	757	398
1995	1171	1492	2663	762	409
1996	1185	1541	2726	779	406
1997	1149	1476	2625	753	396
1998	1074	1434	2508	713	361
1999	946	1518	2464	658	288
2000	855	1451	2306	594	261
2001	785	1362	2147	562	223
2002	751	1355	2106	532	219
2003	821	1350	2171	558	263
2004	924	1294	2218	599	325
2005	962	1305	2267	615	347
2006	953	1280	2233	612	341
2007	932	1242	2174	596	336
2008	885	1198	2083	567	318
2009	820	1102	1922	525	295
2010	865	1022	1887	527	338
2011	871	998	1869	530	341
<b>Absolute change over 1985-2000</b>	<b>-416</b>	<b>811</b>	<b>395</b>	<b>-220</b>	<b>-196</b>
<b>Percent change over 1985-2000</b>	<b>-32.7%</b>	<b>126.7%</b>	<b>20.7%</b>	<b>-27.0%</b>	<b>-42.9%</b>
<b>Absolute change over 1985-2000</b>	<b>16</b>	<b>-453</b>	<b>-437</b>	<b>-64</b>	<b>80</b>
<b>Percent change over 2000-2011</b>	<b>1.9%</b>	<b>-31.2%</b>	<b>-19.0%</b>	<b>-10.8%</b>	<b>30.7%</b>

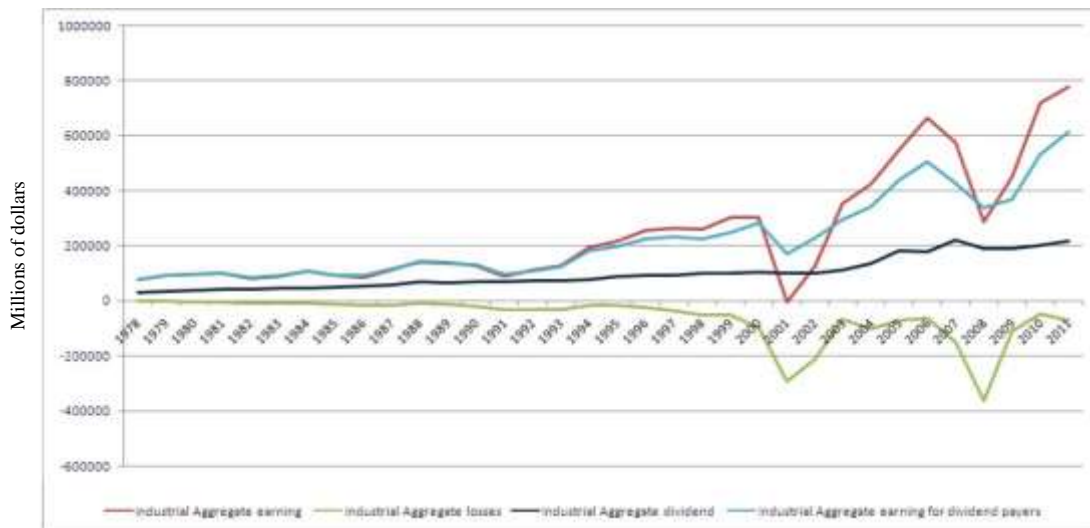


Table 2 displays that although US industrial firms experienced the highest losses in 2001 and 2008, aggregate dividends did not reduce during these respective years. In this sense, when the value of aggregate earnings of industrial firms decreased by 100% (from \$302.4 billion to -\$3 billion) and 50% (\$577.3 billion to \$289.6 billion) during 2000-2001 and 2007-2008, respectively, the value of total earnings of firms paying dividends decreased by 40% from \$282.3 billion to \$167.8 billion (for 2000-2001) and 21% from \$425.5 billion to \$336.2 billion (for 2007-2008). Additionally, the value of aggregate dividends declined by 3.6% from \$102 billion in 2000 to \$98.4 billion in 2001, while such value decreased by 13.3% from \$222.3 to \$192.7 over 2007-2008. Moreover, dividends paid in 2001 comprises 58.6% of total earnings of dividend payers.

**Table 2. Change in dividend and aggregate earnings over 1985-2011.**

Fiscal year	Industrial Aggregate earnings	Industrial Aggregate losses	Industrial Aggregate dividends	Industrial aggregate earnings for dividend payers	Change in aggregate earnings	Change in dividends	Change in earnings for dividend payers
1978	76979	-784	28901	75211			
1979	94514	-1756	32151	92076	22.8%	11.2%	22.4%
1980	96586	-5387	36439	95692	2.2%	13.3%	3.9%
1981	101274	-3351	39923	98902	4.9%	9.6%	3.4%
1982	83817	-7068	41470	84565	-17.2%	3.9%	-14.5%
1983	92150	-8798	43695	91466	9.9%	5.4%	8.2%
1984	110588	-6678	46213	107660	20.0%	5.8%	17.7%
1985	93737	-12297	47196	92025	-15.2%	2.1%	-14.5%
1986	87090	-17604	53123	90234	-7.1%	12.6%	-1.9%
1987	114239	-14782	57912	112383	31.2%	9.0%	24.5%
1988	145103	-9379	69096	138088	27.0%	19.3%	22.9%
1989	140036	-10683	64443	134256	-3.5%	-6.7%	-2.8%
1990	128445	-18677	66421	128642	-8.3%	3.1%	-4.2%
1991	92049	-32735	66909	93526	-28.3%	0.7%	-27.3%
1992	111816	-32986	70923	107887	21.5%	6.0%	15.4%
1993	127646	-33057	73281	123168	14.2%	3.3%	14.2%
1994	196710	-15835	75837	181661	54.1%	3.5%	47.5%
1995	217617	-17163	89527	195557	10.6%	18.1%	7.6%
1996	255902	-24488	91227	223744	17.6%	1.9%	14.4%
1997	265311	-35836	92977	231229	3.7%	1.9%	3.3%
1998	260767	-53192	98760	223851	-1.7%	6.2%	-3.2%
1999	304715	-49906	101205	249003	16.9%	2.5%	11.2%
2000	302483	-100114	102069	282356	-0.7%	0.9%	13.4%
2001	-2989	-294393	98405	167804	-101.0%	-3.6%	-40.6%
2002	128076	-212573	101746	227015	-4384.3%	3.4%	35.3%
2003	355514	-67640	111649	295411	177.6%	9.7%	30.1%
2004	423485	-100786	134057	340022	19.1%	20.1%	15.1%
2005	549037	-71334	183260	440565	29.6%	36.7%	29.6%
2006	666967	-62062	177877	504010	21.5%	-2.9%	14.4%
2007	577382	-149114	222373	425532	-13.4%	25.0%	-15.6%
2008	289643	-364643	192731	336235	-49.8%	-13.3%	-21.0%
2009	451643	-111443	190218	370357	55.9%	-1.3%	10.1%
2010	722591	-49301	202009	533135	60.0%	6.2%	44.0%
2011	779161	-70135	220300	615083	7.8%	9.1%	15.4%
<b>Total</b>	<b>8440085</b>	<b>-2065980</b>	<b>3324321</b>	<b>7508351</b>			

Apart from total earnings earned for industrial firms paying dividends, Figure 1 demonstrates the trend of earnings, losses, and aggregate dividends for industrial firms over 1978-2011. Such outline indicates that even though the aggregate earnings decreased between 2000-2001 and 2007-2008, aggregate dividends slightly increased and maintained its uptrend over the full period 1978-2011.



**Figure 1. Aggregate dividends, aggregate earnings, aggregate losses, and total earnings for dividend payers for industrial firm during 1978-2011.**

As displayed in Figure 1, and during the period of 1978-2011, aggregate dividends paid by industrial firms maintained its steady long-run uptrend even in 2001 and 2008.

Table 3 shows that aggregate nominal dividends in 2011 increased by 115.8% for industrial firms from \$102.1 billion in 2000 to \$220.3 billion in 2011. In this sense, total real dividends increased by 65.9% from 2000 to 2011. Both the mean real dividends paid and median increased from 2000 to 2011 by 62.9% and 102.7%, respectively. Row 6 illustrates that 24.2% of all industrial firms paid dividends in 2000, while such amount was 30.7% in 2011, a 6.5% increase over this time phase. Although the number of NYSE firms paying dividend decreased by 8.6% and their total aggregate dividends fell by 12.5% from 2000 to 2011, these firms still pay the majority of industrial dividends.

**Table 3. Aggregate dividends of industrial firms in 1985, 2000 and 2011.**

	1985	2000	2011	Absolute % change for 2000 to 1985	Absolute % change from 2000 to 2011
1. Aggregate nominal Dividend paid by industrial firms (\$billions)	47.2	102.1	220.3	54.9 116.3%	118.2 115.8%
2. Total real Dividend paid by Industrial firms (\$ billions, 1985 base)	47.2	64.0	106.2	16.8 35.6%	42.2 65.9%
3. Mean real dividend (\$ millions, per dividend-paying firms)	37.1	74.9	121.9	37.7 101.6%	47.1 62.9%
4. Median real dividend (\$ millions, per dividend-paying firms)	4.2	6.7	13.5	2.4 57.9%	6.8 102.7%
5. Number of industrial firms paid dividend on CRSP/COMPUSTAT	1271.0	855.0	871.0	-416.0 -32.7%	16.0 1.9%
6. Percent of all industrial firms paid dividend on CRSP/COMPUSTAT	52.1%	24.2%	30.7%	-28.0%	6.5%
7. Percent of all industrial firms pay dividend that are NYSE-listed	64.0%	69.5%	60.8%	5.4%	-8.6%
8. Percent of total dollar for firms pay dividend as NYSE-listed	96.6%	96.8%	84.3%	0.2%	-12.5%

#### 4.1.1 The collective earnings distribution of dividend payers and non-payers

Table 4, divided in two panels, is designed to sum up the combination of cross-sectional earnings distribution of dividend payers and non-payers for analyzing the earnings of all industrial firms. Panel A, shows collected earnings distribution for 1985, 2000 and 2011, while panel B includes the collected **distribution of an average of five years' earnings that ended in the above-mentioned years**. In Panel B, the methodology of H. DeAngelo et al. (2004) study is applied, where Lintner's (1956) analysis is implemented and implies that firms with several years of earnings have a tendency to pay dividends rather than firms with only a single year of earnings. The main reason a five-year average earning is used is because of the huge losses that industrial firms reported in 2001 and 2008. Table 7 also demonstrates earnings concentration amongst relatively few firms at the top end of distribution, in which such concentration is higher in 2000 and 2011 compared to 1985.

Panel A, displays earnings concentration of firms with \$500 million-plus real earnings slightly decreased in 2011 compared to that of 2000. Panel B, on the other hand, shows an increase in earnings concentration of such firms over 2000-2011. The number of firms and the value of real earnings increased for industrial firms with \$50 million-plus real earnings. Such earnings decreased for firms with less than \$50 million real earnings from 2000 to 2011. The combination of real earnings of dividend payers and non-payers increased from \$189.7 billion in 2000 to \$375.6 billion in 2011 (\$779.2 billion in year 2011 dollar), while the aggregate five-year real earnings increased from \$154.1 billion to \$280.3 billion. Firms with more than \$500 million earnings played a significant role in increasing aggregate real earnings. Moreover, 81% of aggregate earnings in 2011 is generated by firms with \$500 million-plus earnings in one year, while this proportion for some five-year average earnings is 83%. Panel A demonstrates a total increase of \$139.9 billion in one year earnings, whereas panel B shows a total increase of \$123.2 billion in five-year average earnings over 2000-2011. Additionally, firms with one-year positive earnings generated \$409.4 billion in 2011, which is \$156.9 billion more than it was in 2000, whereas firms with a positive average of five-year earnings generated \$317.6 billion compared to that of 2000, which was \$186.9 billion. 870 industrial firms with a total value of -\$33.8 billion reported losses in 2011 as against the negative earnings reported by 1282 firms in 2000, which accounted for -\$62.7 billion. Such observation implies that the total loss in 2000 is almost twice as much as 2011.

**Table 4. Cross-sectional distributions of firms' real earnings (1985 dollars) in 1985, 2000 and in 2011.**

Panel A. Cross-sectional distributions of real earnings in 1985,2000 or in 2011									
Real earnings (1985 base)	Number of firms			Real earnings (1985 base)			Real earnings as a % of total		
	1985	2000	2011	1985	2000	2011	1985	2000	2011
\$ 1 billion or greater	19	52	82	38,601	137,536	259,503	41.2%	72.5%	69.1%
\$500 million - \$ 1 billion	22	40	64	13,915	27,382	45,371	14.8%	14.4%	12.1%
\$250-500 million	42	67	102	14,977	23,921	35,369	16.0%	12.6%	9.4%
\$100-250 million	111	179	212	17,108	28,034	33,643	18.3%	14.8%	9.0%
\$50-100 million	106	211	253	7,484	14,906	17,918	8.0%	7.9%	4.8%
\$25-50 million	158	287	262	5,563	10,331	9,418	5.9%	5.4%	2.5%
\$10-25 million	290	417	357	4,654	6,886	5,904	5.0%	3.6%	1.6%
\$0-10 million	1150	1004	636	3,732	3,515	2,310	4.0%	1.9%	0.6%
Negative earning	541	1282	870	(12,297)	(62,786)	(33,811)	-13.1%	-33.1%	-9.0%
<b>Total</b>	<b>2439</b>	<b>3539</b>	<b>2838</b>	<b>93,737</b>	<b>189,725</b>	<b>375,624</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Total positive only</b>	<b>1898</b>	<b>2257</b>	<b>1968</b>	<b>106,034</b>	<b>252,511</b>	<b>409,435</b>			

Panel B. Cross-sectional distributions of five-year average real earnings ending in 1985, 2000 or in 2011

Real earning (1985 base)	Number of firms			Real earnings (1985 base)			Real earnings as a % of total		
	1985	2000	2011	1985	2000	2011	1985	2000	2011
\$ 1 billion or greater	18	37	70	36,478	88,264	201,896	37.7%	57.3%	72.0%
\$500 million - \$ 1 billion	17	31	45	12,124	21,459	31,074	12.5%	13.9%	11.1%
\$250-500 million	40	64	76	15,028	22,030	26,791	15.5%	14.3%	9.6%
\$100-250 million	107	149	181	16,373	22,196	28,632	16.9%	14.4%	10.2%
\$50-100 million	106	188	195	7,455	13,215	13,690	7.7%	8.6%	4.9%
\$25-50 million	168	241	219	5,985	8,807	7,881	6.2%	5.7%	2.8%
\$10-25 million	267	443	317	4,208	7,157	5,137	4.3%	4.6%	1.8%
\$0-10 million	1272	1127	669	3,977	3,861	2,580	4.1%	2.5%	0.9%
Negative earning	444	1259	1066	(4,817)	(32,829)	(37,363)	-5.0%	-21.3%	-13.3%
<b>Total</b>	<b>2439</b>	<b>3539</b>	<b>2838</b>	<b>96,811</b>	<b>154,159</b>	<b>280,318</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Total positive only</b>	<b>1995</b>	<b>2280</b>	<b>1772</b>	<b>101,628</b>	<b>186,988</b>	<b>317,682</b>			

#### 4.2 SAMPLING PROCEDURE AND AGGREGATE SHARE REPURCHASES, 1978-2011

Table 5 shows that there is a large increase in the number of firms with share repurchase from 1985 to 2011 for both industrial firms by 63.5% and financial/utility firms by 146.2%. It should be noted that such industrial firms had reached their highest rise by 94.9% from 824 firms in 1985 to 1606 firms in 1999, while the number of financial/utility firms arrived at their peak by a 228.3% rise from 184 firms in 1985 to 604 in 2007. Unlike table 1 that shows a total decrease in number of industrial firms and an increase for financial/utility firms paying dividends over 1985-2011, table 17 displays that there is a total increase for both industrial and financial/utility firms that have cash out in forms of share repurchases and dividends together during the same period of them.

The main reason of this considerable growth is not clear. Yet, findings concluded by Young (1969) and Wansley, Lane and Sarkar (1989) indicate that a company can have 29 different reasons executing the buy-back of its stocks, some important of which are documented as a signal by management of future **confidence, an increase in the firm's leverage, excess cash**, the providing of shares for employee bonus/retirement plans, a substitute for cash dividends, part of a defensive strategy to avoid a takeover, and lack of sufficient investment opportunities. Moreover, Fenn and Liang (2001) found that there is a positive correlation between stock buyback and management stock options, while such relationship in terms of dividend payments, as suggested by Lambert (1989), is negative.

Figure 2 demonstrates aggregate cash payout via stock repurchases, aggregate earnings, aggregate losses, and aggregate earnings of industrial firms with share repurchase for industrial firms of CRSP/Compustat over 1978-2011. It is shown that except for 2001 and 2008, aggregate stock repurchases exactly perform as a function of aggregate earnings. Hence, when the earnings are increasing over the years, stock repurchases correspondingly rises and vice versa. In 2001, the aggregate earnings are -\$2.98 billion, while the value of share buyback is \$124.9 billion. The corresponding values for 2008, though, are \$289.6 billion and \$371.7 billion for aggregate earnings and share buyback, respectively.

It also observed that although aggregate real earnings and total stock repurchase moved in a parallel rout, the gap between their absolute changes over 1978-2011 had increased substantially. In this context, the value of stock repurchases is \$73.3 billion, less than aggregate earnings in 1978, while in 2011, it was \$361.4 billion. On the other hand, while the value of total share repurchases is only 4.7% of aggregate real earnings in 1978, this proportion is 53.6% in 2011. This observation indicates that, although the absolute space between stock buyback and aggregate earnings increased over the last three decades, the proportion of aggregate share repurchases to aggregate earnings increased significantly from 1978 to 2011.

**Table 5. Number of firms paid have cash payout via stock repurchase over 1978–2011.**

Fiscal year	CRSP industrial firms with share repurchase	CRSP financial and utility firms with share repurchase	CRSP Total with share repurchase	CRSP industrial firms with share repurchase and dividend	CRSP financial and utility firms with share repurchase	CRSP Total with share repurchase and dividend
1978	609	93	702	502	89	591
1979	606	104	710	495	99	594
1980	577	116	693	463	109	572
1981	600	123	723	463	113	576
1982	670	131	801	488	118	606
1983	661	141	802	437	120	557
1984	804	183	987	535	151	686
1985	824	184	1008	529	152	681
1986	843	182	1025	515	151	666
1987	1100	235	1335	641	193	834
1988	985	222	1207	584	193	777
1989	868	213	1081	541	188	729
1990	976	230	1206	588	194	782
1991	839	202	1041	483	172	655
1992	817	202	1019	446	163	609
1993	891	221	1112	445	182	627
1994	960	248	1208	502	208	710
1995	1079	226	1305	562	187	749
1996	1226	254	1480	611	206	817
1997	1341	241	1582	653	187	840
1998	1607	272	1879	698	207	905
1999	1606	278	1884	635	205	840
2000	1501	266	1767	612	185	797
2001	1372	224	1596	474	142	616
2002	1267	205	1472	405	128	533
2003	1183	199	1382	461	133	594
2004	1093	504	1597	502	425	927
2005	1193	506	1699	573	433	1006
2006	1286	521	1807	602	435	1037
2007	1382	604	1986	642	500	1142
2008	1542	532	2074	622	418	1040
2009	1169	427	1596	428	311	739
2010	1227	401	1628	512	288	800
2011	1347	453	1800	569	328	897
<b>Absolute change over 1985-2011</b>	<b>523</b>	<b>269</b>	<b>792</b>	<b>40</b>	<b>176</b>	<b>216</b>
<b>Percent change over 1985-2011</b>	<b>63.5%</b>	<b>146.2%</b>	<b>78.6%</b>	<b>7.6%</b>	<b>115.8%</b>	<b>31.7%</b>

#### 4.2.1 Share repurchases versus dividends

In this section, the performance of industrial firms in terms of share repurchases in 1985 and 2011 is compared, since the former date is consistent with the beginning date of the data used in this research study, while the latter includes the latest data.

As figure 2 demonstrates, aggregate cash payout via share repurchases for industrial firms had experienced a slight increase before 2000. From 2000 onwards, there was a substantial growth in aggregate cash

payout by 181.1%, from \$148.6 billion to \$417.7 billion, in 2011 compared to that of 2000. It had reached its peak in 2007 with \$544.1 billion.

Figure 3 follows a path of industrial share repurchases and total share repurchases of dividend payers over 1978-2011. It demonstrates that a majority of share repurchases is completed by dividend payers. Although a huge majority of aggregate share repurchases is paid by dividend payers over 1985-2011, as reported in table 18, this proportion decreased slightly from 96.8% in 1985 to 79.8% in 2011.

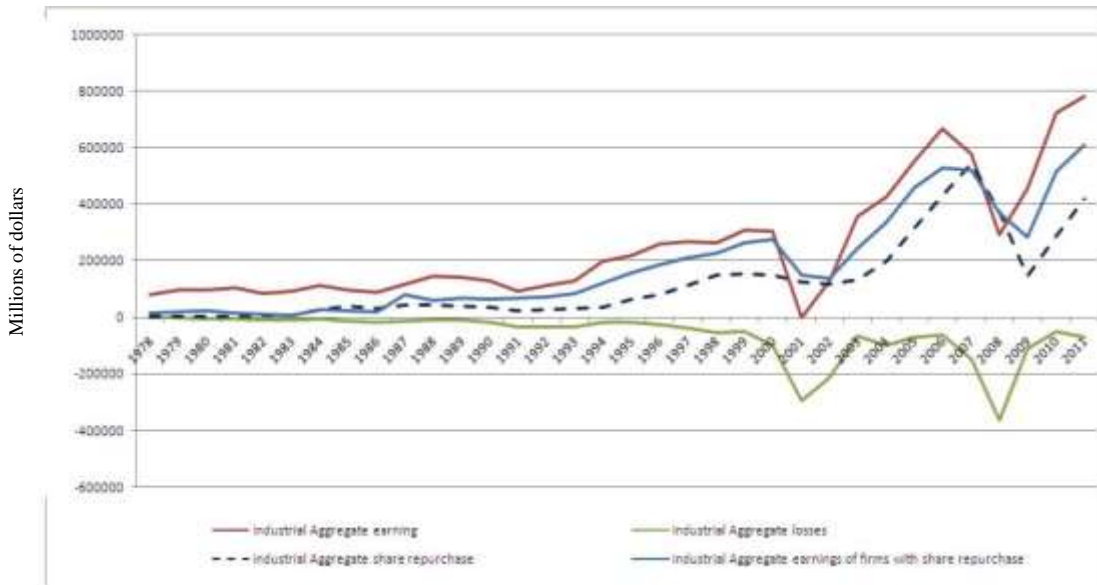


Figure 2. Aggregate share repurchases, aggregate earnings, aggregate losses, and total earnings for dividend payers for industrial firm during 1978-2011

Table 6. Comparing dividends and share repurchases over 1978-2011.

Fiscal year	Industrial Aggregate earning	Industrial Aggregate losses	Industrial Aggregate dividend	Industrial Aggregate share repurchase	Total share repurchase by dividend payers	Sum of share repurchase and dividend by dividend payers	% of share repurchase completed by dividend payers to total share repurchase	If aggregate dividend is bigger than total share repurchase	If dividend is bigger than total share repurchase for dividend payers	If share repurchase is bigger than aggregate earnings
1978	70979	-764	28901	3651	3283	-32184	89.9%	yes	yes	FALSE
1979	94514	-1756	32151	-4630	4410	-36561	95.2%	yes	yes	FALSE
1980	96586	-6387	36439	5344	4638	41076	86.6%	yes	yes	FALSE
1981	101274	-3351	39623	5111	4763	44886	93.2%	yes	yes	FALSE
1982	83817	-7068	41470	8030	8205	49675	80.6%	yes	yes	FALSE
1983	92150	-8798	43695	8482	7521	51216	88.7%	yes	yes	FALSE
1984	110580	-6678	46213	26176	22684	68987	86.7%	yes	yes	FALSE
1985	93737	-12297	47196	41236	39626	87122	96.6%	yes	yes	FALSE
1986	87080	-17004	53123	32887	31105	84287	84.7%	yes	yes	FALSE
1987	114239	-14782	57912	45518	40792	98704	89.6%	yes	yes	FALSE
1988	145103	-9379	60986	48900	39163	108260	85.3%	yes	yes	FALSE
1989	140036	-10683	64443	41934	38386	103832	93.0%	yes	yes	FALSE
1990	128445	-18977	66421	35941	33638	100088	83.0%	yes	yes	FALSE
1991	92049	-32735	66909	23688	20562	87471	90.6%	yes	yes	FALSE
1992	111816	-32988	70923	28218	24685	95608	87.6%	yes	yes	FALSE
1993	127646	-33057	73281	32248	28543	101824	88.6%	yes	yes	FALSE
1994	196710	-15835	75837	37043	32911	108748	88.8%	yes	yes	FALSE
1995	217917	-17183	89527	65943	61237	150764	82.6%	yes	yes	FALSE
1996	255802	-24488	91227	78879	68805	158033	84.7%	yes	yes	FALSE
1997	285311	-35838	92977	113257	93911	189888	82.0%	FALSE	FALSE	FALSE
1998	292767	-63192	98760	150160	120161	218922	80.0%	FALSE	FALSE	FALSE
1999	304715	-49690	101205	153097	113079	214284	73.9%	FALSE	FALSE	FALSE
2000	302483	-100114	102069	148600	105160	207229	70.8%	FALSE	FALSE	FALSE
2001	-2989	-284393	98405	124895	85654	184258	68.7%	FALSE	yes	yes
2002	128076	-212573	101746	118779	77602	179347	65.3%	FALSE	yes	FALSE
2003	355514	-87640	111649	132287	92125	203774	69.6%	FALSE	yes	FALSE
2004	423485	-100786	134057	200424	145688	279145	72.4%	FALSE	FALSE	FALSE
2005	549037	-71334	183290	314724	234897	418157	74.6%	FALSE	FALSE	FALSE
2006	666967	-62062	177877	429602	323629	501505	75.3%	FALSE	FALSE	FALSE
2007	577382	-149114	222373	544114	421781	644134	77.5%	FALSE	FALSE	FALSE
2008	289843	-364643	192731	371766	278575	469306	74.4%	FALSE	FALSE	yes
2009	451643	-111443	180218	148653	110677	301154	75.2%	yes	yes	FALSE
2010	722591	-49301	202009	286688	208373	411362	73.0%	FALSE	FALSE	FALSE
2011	779181	-70135	220300	417745	329252	549552	78.8%	FALSE	FALSE	FALSE
<b>Total</b>	<b>8440085</b>	<b>-2065980</b>	<b>3324321</b>	<b>4224341</b>	<b>3263765</b>	<b>6578087</b>				

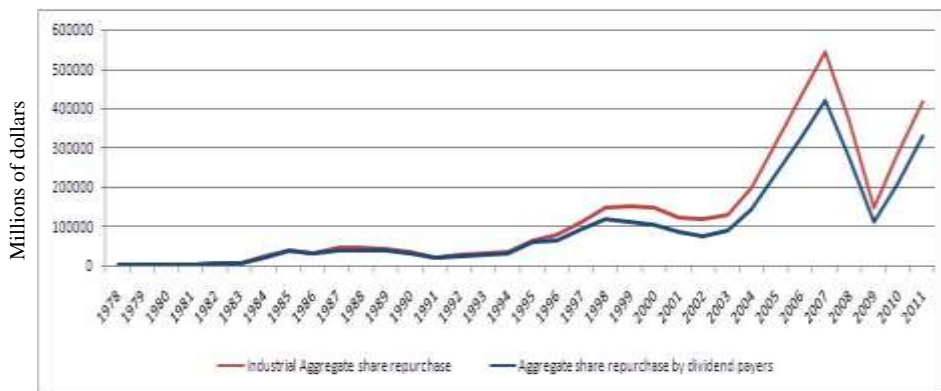
Table 6 documents that from 1997 to 2011, except for 2009, the value of share repurchases is more than dividends. Such result seemingly supports the fact that US industrial firms have more propensity to return

cash to their shareholders in form of stock repurchase rather than dividends (Fama and French (2001); Grullon and Michaely (2002), Skinner (2008)). It also shows that whenever industrial firms sustained huge aggregate losses, dividend payers paid cash in form of dividends rather than share repurchases. For example, following a massive loss of -\$294.3 billion in 2001, the value of dividends grew more than share repurchases over 2001-2003. In addition, and in 2008, when the total loss was -\$364.6 billion, the value of dividends was greater than that of share repurchases in 2009.

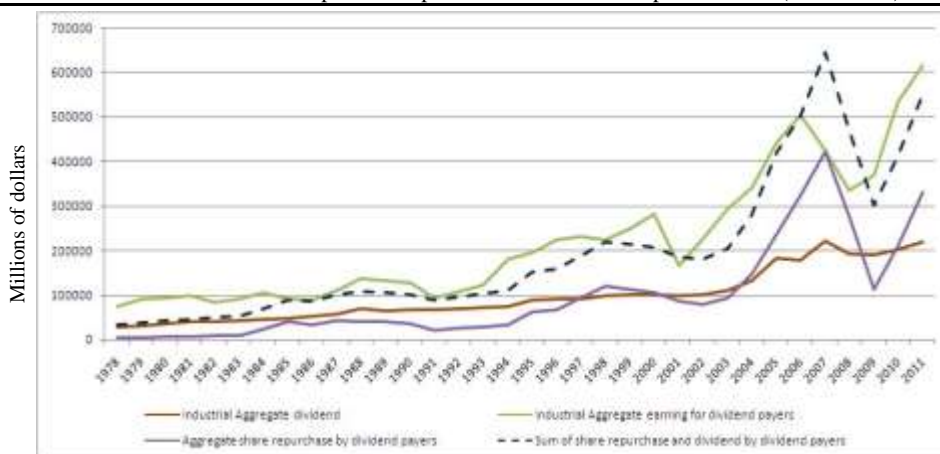
Figure 3 demonstrates industrial aggregate dividends, industrial aggregate earnings for dividend payers, aggregate share repurchases completed by dividend payers, and sum of share repurchases and dividends completed by dividend payers. It illustrates the whole situation of total cash payout in both forms of dividends and share repurchases by dividend payers. As outlined, total cash payout distributed by dividend payers in both forms of dividends and share repurchases increased substantially from \$87.1 billion to \$546.5 billion over 1985-2011. Sixty percent of 2011's total cash out value comprises share repurchases while such value for 1985 is 46%. Such observation seemingly suggests an increased propensity of industrial firms to share repurchases rather than dividend payments over 1985-2011.

In sum, figure 2, 3 and 4 and table 5 demonstrate that (1) total share repurchases performs as a function of aggregate earnings over 1978-2011, except for 2001 and 2008, (2) the massive amount of industrial earnings is generated by the firms that pay cash via stock repurchases (3) dividend payers account for the huge volume of industrial total share repurchases in all years considered, although this volume somewhat decreased over 1978-2011 and (4) industrial firms with no payment in dividends may have a returning cash in form of share repurchases.

Table 7 and table 8 illustrate the performance of industrial firms in paying cash via share repurchases for all industrial firms and also industrial dividend payers over 1985-2011, respectively. Row 1 in table 19 reports that aggregate nominal stock repurchases in 2011 increased by more than 9 times (913.1%) for CRSP/Compustat industrial firms, from \$41 billion in 1985 to \$418 in 2011, and aggregate real value of share repurchases, shown in row 2, increased by 388.4% from 1985 to 2011. Rows 3 4 show that the mean real cash payout on stock repurchases rose from \$50 million in 1985 to \$149.5 million in 2011, while the median increased from \$1.2 million to \$10.1 million in the given years, respectively. The difference between median and mean and also the huge extension of this difference over 1985-2011 may be indicative a considerable concentration in terms of share repurchases amongst industrial firms.



**Figure 3. Aggregate share repurchase and aggregate share repurchase completed by dividend payers whereby particular emphasis is on NYSE, NASDAQ**



**Figure 4. Aggregate share repurchase, aggregate share repurchase by dividend payers, sum of share repurchase and dividend (total cash out) by dividend payers and total earnings for dividend payers**

As shown in row 7 and row 8, NYSE firms accounted for 53.5% of all industrial firms with share repurchases and 95% of dollar value of such firms in 1985, while such proportions decreased to 46.8% and 68.8% in 2011, respectively. This reduction likely demonstrates more firms that list and trade their shares in NASDAQ and AMEX have a tendency now to buy back their shares. However, as already reported in table 3, the contribution of NYSE industrial firms has reduced in both forms of cash out including dividends and share repurchases over the last decade. This may suggest the probability that industrial firms who have become older and more stable in NASDAQ and AMEX in recent years have generated a higher level of earnings and greater value of share repurchases.

**Table 7. Aggregate share repurchase in 1985 and 2000.**

	1985	2011	Absolute% change for 1985 to 2011
1. Aggregate nominal cash payout via stock repurchase by industrial firms (\$billions)	41	418	377 913.1%
2. Total real cash payout via stock repurchase by industrial firms (\$ billions, 1985 base)	41	201	160 388.4%
3. Mean real stock repurchase (\$ millions, stock repurchase-paying firms)	50.0	149.5	99 198.8%
4. Median real stock repurchase (\$ millions, stock repurchase-paying firms)	1.2	10.1	9 754.3%
5. Number of industrial firms paid for stock repurchase on CRSP/COMPUSTAT	824	1347	523 63.5%
6. Percent of all industrial firms paid for stock repurchase on CRSP/COMPUSTAT	33.8%	47.5%	13.7%
7. Percent of all industrial firms pay for stock repurchase that are NYSE-listed	53.5%	46.8%	-6.7%
8. Percent of total dollar for firms pay for stock repurchase as NYSE-listed	95.0%	68.8%	-26.1%

As regards the proportion of share repurchases completed by dividend payers, 96.8% and 78.8% were accounted for in 1985 and 2011, respectively (Table 8). Such reduction during this time phase is consistent with the decrease in proportions displayed in row 4, from 64.2% in 1985 to 42.2% in 1985. On the other hand, row 5 shows that the proportion of dividend payers with share repurchases to total industrial dividend payers increased in number by 23.7% (from 41.6% to 65.3%). Accordingly, row 6 demonstrates



that the proportion of aggregate share repurchases to total cash payout of dividend payers increased by 14.1% (from 45.8% to 59.9%) from 1985 to 2011.

In sum, the number of firms that have a tendency to expend on share repurchases increased over 1985-2011. Correspondingly, although the proportion of dividend payers that also repurchased shares to all industrial firms with share buy-back has decreased in terms of number and dollars in 2011 compared to 1985, the proportion of such dividend payers to all industrial dividend payers increased in the same period. These observations may likely suggest that in 2011, not only did considerable number of firms prefer to pay cash via stock repurchases rather than dividend payments, but the majority (65.3%) of dividend payers also contributed in share repurchasing. In this regard, 59.9% of total cash payouts, including dividends and share repurchases together was spent on share buyback in 2011, while such amount was 45.8% in 2000.

**Table 8. Aggregate share repurchase for dividend payers in 1985 and 2000.**

	1985	2011	Absolute% change for 1985 to 2011
1. Aggregate nominal cash payout via stock repurchase by dividend payers (\$billions)	40	329	289
2. Total real cash payout via stock repurchase by dividend payers (\$ billions, 1985 base)	40	159	119
3. Number of dividend payers paid for stock repurchase on CRSP/COMPUSTAT	529	569	40
4. Percent of all industrial firms paid via stock repurchase on CRSP/COMPUSTAT	64.2%	42.2%	-22.0%
5. Percent of all dividend payers paid for stock repurchase on CRSP/COMPUSTAT	41.6%	65.3%	23.7%
6. Percent of total dollar paid on stock repurchase by dividend payers	96.8%	78.8%	-18.0%
7. Percent of total dollar paid on share repurchase to total cash including dividend+share repurchase	45.8%	59.9%	14.1%

#### 4.2.2 Stock repurchases and earnings concentration and payout ratios

**Table 9. Panel A reports real payment via stock repurchase by total industrial firms. Panel B reports real payment via stock repurchase by dividend payers.**

**Panel A: Number of firms and real share repurchase in 1985 and 2011 for samples of industrial firms that paid given amounts of real Purchase of Common and Preferred Stock (\$ millions, 1985 dollars)**

Real payment via stock repurchase by industrial firms (1985 dollar)	Number of firms 1985	Number of firms 2011	Change from 1985 to 2011	Percent change from 1985 to 2011 (%)	Real share repurchase 1985	Real share repurchase 2011	Change from 1985 to 2011	Percent change from 1985 to 2011
\$500 million or more	16	85	69	431.3%	25,520	135,490	109,970	430.9%
\$400- 499.9 million	5	26	21	420.0%	2,208	11,709	9,501	430.3%
\$300- 399.9 million	7	31	24	342.9%	2,459	10,482	8,023	326.3%
\$200- 299.9 million	8	45	37	462.5%	1,927	10,863	8,936	463.6%
\$100- 199.9 million	26	114	88	338.5%	3,590	16,464	12,874	358.6%
\$80- 99.9 million	10	42	32	320.0%	906	3,800	2,894	319.4%
\$60- 79.9 million	8	45	37	462.5%	568	3,141	2,573	452.7%
\$40- 59.9 million	20	59	39	195.0%	988	2,942	1,955	197.9%
\$20- 39.9 million	45	123	78	173.3%	1,260	3,488	2,227	176.7%
\$10- 19.9 million	51	103	52	102.0%	732	1,485	753	102.8%
\$5- 9.9 million	66	103	37	56.1%	465	759	294	63.3%
\$1- 4.9 million	161	231	70	43.5%	407	588	181	44.6%
less than \$1 million	399	332	-67	-16.8%	101	99	-2.7	-2.7%
<b>Total</b>	<b>822</b>	<b>1339</b>	<b>517</b>	<b>62.9%</b>	<b>41,132</b>	<b>201,310</b>	<b>160,178</b>	<b>389.4%</b>
<b>\$100 million and above as % of total</b>	<b>62</b>	<b>301</b>	<b>239</b>	<b>385.5%</b>	<b>35,704</b>	<b>185,008</b>	<b>149,304</b>	<b>418.2%</b>
<b>Less than \$100 million as % of total</b>	<b>760</b>	<b>1038</b>	<b>278</b>	<b>36.6%</b>	<b>5,428</b>	<b>16,302</b>	<b>10,874</b>	<b>176.5%</b>
<b>less than \$5 million</b>	<b>560</b>	<b>563</b>	<b>3</b>	<b>0.5%</b>	<b>508</b>	<b>687</b>	<b>179</b>	<b>35.2%</b>

In this segment, the relationship between earnings concentration and share repurchases concentration is examined. Similar to the format of table 3, table 9 grades the firms with stock repurchases by their earnings in 1985 and 2011. The 100 top firms that paid cash in form of stock repurchases generated 77% earnings of all payers in 1985, while the top 200 firms cumulatively accounted for 88%. In 2011, though, the top 100 firms produced 66.1% earnings of all payers, whereas the top 200 firms collectively combined for 75.6% earnings. Earnings of top 100 largest payers increased substantially by \$156.3 billion from \$38.5 billion in 1985 to \$194.8 billion in 2011. All remaining groups also show a growth in real earnings in 2011. Although there is a high earning concentration in both 1985 and 2011, this concentration decreased in 2011 compared to 1985. This suggests that in recent years, more firms have the propensity to repurchase their shares even those with low earnings. Overall, aggregate real earnings of firms who paid on stock repurchases considerably increased by 488% from \$50.1 billion in 1985 to \$294.9 billion in 2011 (to \$611.7 billion in year 2000 dollars)

**Panel B: Number of firms and real share repurchase in 1985 and 2011 for samples of industrial firms that paid given amounts of real dividend and real Purchase of Common and Preferred Stock simultaneously (\$ millions, 1985 dollars)**

Real dividends payment (1985 dollar base)	Number of dividend payers with share repurchase 1985	Number of dividend payers with share repurchase 2011	Change from 1985 to 2011	Percent change from 1985 to 2011	Real share repurchase 1985	Real share repurchase 2011	Change from 1985 to 2011	Percent change from 1985 to 2011
\$500 million or more	5	38	29	322.2%	8,415	76,541	68,127	809.6%
\$400- 499.9 million	5	4	-1	-20.0%	872	8,478	7,606	872.3%
\$300- 399.9 million	7	18	11	157.1%	866	20,983	20,117	2323.1%
\$200- 299.9 million	8	12	10	125.0%	7,530	9,273	1,743	23.1%
\$100- 199.9 million	24	48	24	100.0%	9,585	15,196	5,611	58.5%
\$80- 99.9 million	9	26	17	188.9%	2,291	7,997	5,706	249.0%
\$60- 79.9 million	8	21	13	162.5%	2,930	3,391	460	15.7%
\$40- 59.9 million	14	28	14	100.0%	2,344	2,905	561	23.9%
\$20- 39.9 million	41	87	46	112.2%	2,189	7,931	5,742	262.3%
\$10- 19.9 million	89	74	-15	-16.7%	766	2,521	1,755	229.1%
\$5- 9.9 million	44	69	25	56.8%	1,466	2,040	574	39.2%
\$1- 4.9 million	99	102	3	3.0%	519	1,366	847	163.4%
less than \$1 million	212	34	-178	-84.0%	149	71	-78	-52.3%
<b>Total</b>	<b>519</b>	<b>567</b>	<b>48</b>	<b>9.2%</b>	<b>39,922</b>	<b>158,692</b>	<b>118,771</b>	<b>297.5%</b>
<b>\$100 million and above as % of total</b>	<b>53</b>	<b>126</b>	<b>73</b>	<b>137.7%</b>	<b>27,267</b>	<b>130,471</b>	<b>103,204</b>	<b>378.5%</b>
<b>Less than \$100 million as % of total</b>	<b>466</b>	<b>441</b>	<b>-25</b>	<b>-5.4%</b>	<b>12,655</b>	<b>28,221</b>	<b>15,566</b>	<b>123.1%</b>
<b>less than \$5 million</b>	<b>311</b>	<b>136</b>	<b>-175</b>	<b>-56.3%</b>	<b>667</b>	<b>1,427</b>	<b>760</b>	<b>114.0%</b>

## 6. CONCLUSION

This research study presents evidence that, despite of previous findings demonstrating a reduction in number of industrial firms paying dividends after 1978 until up to 2000, the number of industrial dividend payers increased slightly by 1.87% from 855 in 2000 to 871 in 2011. Though the aggregate earnings decreased dramatically between 2000-2001 and also 2007-2008, aggregate dividends paid by industrial firms maintained a steady long-run uptrend in 2001 and 2008. In this sense, the total value of dividends paid in 2001 was larger than dividends paid in each year before 1998, and the value of aggregate dividends in 2008 was greater than dividends supplied in each year before 2007.

Dividends distributed by industrial firms are highly concentrated in 2011, as the top 200 dividend payers supplied 91.2% of total dividends. This concentration, though, slightly decreased by 1.4% compared to 2000, which reflected a negligible increase in the number of industrial dividend payers over 2000-2011. In this sense, the number of firms distributing a very large percent of dividends (firms with \$100 million-plus real dividend) in the last decade has increased. Hence, top categories account for more firms that paid dividends. On the other hand, the number of firms with very small share in paying dividends (firms with less than \$5 million real dividends) has decreased.

In terms of the positive correlation between the number of firms paying dividends and the level of their earnings, this relationship seems stronger in 2011 than it was in 2000, as most firms with high levels of earnings contributed in dividend distribution. In this regard, the number of firms paying dividends with \$500 million-plus and \$100 million-plus in real earnings increased by 28 and 89 firms, respectively. The combination of these findings may explain the increase in number of industrial firms that pay dividends and substantial increase in aggregate dividends over 2000-2011.

In 2011, 76 firms generated \$1 billion or more in real earnings, which accounted for 64% of aggregate industrial earnings. Amongst such firms, 65 of them as dividend payers paid 68.4% of total dividends, whereas 49 companies in 2000 with the same level of real earnings generated 69.2% of aggregate industrial real earnings. Moreover, 39 of these firms supplied 60.2% of real dividends. Despite the substantial increase in the number of industrial firms with more than \$1 billion in real earnings (from 49 to 76) over 2000-2011, such firms had slightly less share in earnings generation, yet contributed more in dividend distribution.

The present review acknowledges that a large majority of aggregate share repurchases are paid by dividend payers over 1985-2011. As such, the proportion of dividend payers paying on share repurchases to total industrial firms with share repurchases decreased, while its proportion to total dividend payers increased over 1985-2011. These observations may suggest that not only did considerable number of firms prefer to pay cash via stock repurchase rather than pay dividends, but also the majority (65.3%) of dividend payers contributed in share repurchasing. In this regard, 59.9% of total cash payout, including dividends and share repurchases together, is spent on share buyback in 2011 compared to 45.8% in 2000.

Considering the industrial firms with expenditure on share repurchases in 1985 and 2011 in group of 100 firms, more concentration was observed in share repurchases amongst firms with high level of cash payout and less concentration for those with lower levels of paying cash. As for dividend payers contributing in share repurchases, the top dividend payers (with more than \$100 million dividends) have the most significant role in share buy-back. Such firms repurchased 66% and 65% of total shares in 1985 and 2011, respectively. These observations imply that a very large portion of share buy-back is completed by top dividend payers. Accordingly, firms with high level of earnings that distributed a substantial portion of dividends also have a considerable performance in share repurchases. These findings are consistent with **Grullon and Michaely (2002)'s findings, who documented that not only do young firms have more tendency to pay cash in form of stock repurchases, but also well-known and large firms paying dividends have a high propensity to spend cash on share repurchases.**

A positive correlation between real earnings and stock repurchases was observed in this study. The increase in propensity of industrial firms in order to pay cash in form of share buyback over 1985 -2011 is consistent with the considerable growth in aggregate value of real share buyback over the same time period by \$160 billion. This may be due to the substantial increase in real earnings of industrial firms with share repurchases over 1985-2011.

Overall, findings observed in this study suggest of a higher concentration of cash payout via stock repurchases over 1985-2011. They also indicate that firms with higher level of earnings (\$500 million-plus) had a substantial share buy-back. All categories with higher levels of real earnings have a higher propensity to buy back the shares over 1985-2011. As a consequence, there was a substantial increase in number of firms and value of share repurchases from 1985 to 2011.

A significant drawback observed in the present study is the availability of data. Due to the unavailability of some proportions of the data, it was required to apply data taken from different sources, thus making the process of data gathering all the more difficult and time-consuming. Furthermore, in terms of share repurchases, it was initially planned to use data related to common share repurchases, but since companies have announced their report in preferred share repurchases, there was no alternative but to apply data for common and preferred share repurchases. This in turn may have influenced the reliability of findings.

There are certain issues of research directions that may be worthy of future investigation. The present investigation solely examined the performance of US industrial firms in dividend payments and share repurchases. Hence, it would be noteworthy to investigate how other powerful nations may contribute in paying dividends and share repurchases. This may provide us with a better appreciation of whether, from a worldwide standpoint, concentration of industrial firms is positively correlated with dividends concentration and share repurchases concentration or not.

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# INVESTIGATING PROFIT AND CASH FLOWS FLUCTUATIONS (VARIANCES) EFFECTS ON RISK MANAGEMENT IN THE ACCEPTED CORPORATIONS IN TEHRAN STOCK EXCHANGE

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## Abstract

*Profit is calculated by commitment system and accounting policies effects which choose management. If profit doesn't have essential quality, it can't be efficient in decision making. So, profit quality is one of the important standards in decision making. Based on the mentioned statements the research aim is investigating profit and cash flows fluctuations effects on risk management in the accepted corporations in Tehran Stock Exchange. The research method is implicational in term of its aim, is deductive in terms of its performance rational, is sectional in term of its time and is quantitative based on its data. Research statistic population includes 127 accepted corporations in Tehran Stock Exchange which have been chosen by systematic deletion among 635 corporations from beginning of 2009 to 2015. Research findings indicate that profit fluctuations have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange. Moreover, cash flows fluctuations have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange. Research conclusions express that cash flows have informative contents and their fluctuations of the relative information will be used for the anticipation of stocks returns. So, investors should attend to cash flows fluctuations in their decisions making. Comparison between cash flows fluctuations and accounting profit in short term duration can give investors information about profit quality. However, comparison between profit fluctuations and cash flows in long term duration can give investors suitable information about amount of commitment items, profit continuous flow and operational cash flows.*

JEL classification: G32

**Keywords:** profit fluctuations, cash flows, risk management

## 1. INTRODUCTION

Profit is one of the accounting organizing products and its main aim is providing essential information for performance evaluation and future cash flows anticipation ability. Profit is calculated by commitment system and accounting policies effects which choose management. If profit doesn't have essential quality, it can't be efficient in decision making. Every transaction or service which is done by banks has risk. The risks which affected banks are arisen from shortness in program flow or unsuccessful politics or system inadequacy. These factors may cause customers loss or commercial situations or pay compensation. If banks make mistakes in financial securement or service value pricing, they may be encountered by risk. So, banks need total awareness of society from financial sources costs and their services, (Saghafi and Kordestani, 2011).

Profit is one of the financial statements' basic element, which has been considered as a standard to evaluate activity continuance and to investigate the structure of the contracts between economic unity indicators. Previous studies show that accounting profit is a good indicator for stock exchange returns and future flows' prospect. Some analyst conclude that economic profit is a good indicator in comparison with accounting profit for future flows' prospect. Economic profit was introduced by Adan Smith for the first time then was defined by Biver, 2002. He defined profit as an amount that an individual could use during one duration and finally could get that amount of welfare which he owned from the beginning of the duration.

Profit Qualitative theory was introduced by financial analyst and stock exchange correspondents for the first time because they believed that reported profit would show profit power which had been imagined in the mind. They found that future profits prospects based on reported conclusions are difficult. So, they concluded that analysis of corporations' financial statements because of their weakness parts in measuring **accounting information are difficult, too. The main question is "Why financial analyst don't use reported net profit or profit of each corporation's share? They should behave carefully. The answer is "To measure corporation cost we should pay attention not only to profit quantity but also to its quality." Profit quantity** means profit growth potential basis and probability rate of future profits realization. In otherwise, the cost of each share doesn't relate to profit of current year corporation's each share, it relates to future corporation's expectance, profitability power of future tears, and insurance coefficient.

Investors often tend to invest in corporations which have less risk and can earn more efficient return based on their investments. Market return of a corporation is measured by its stocks return fluctuations and stocks prices are related with profit of corporation each share. The necessity of growth and development of asset market is trust attention of asset. By division of ownership from management, managers as shareholders' representatives manage corporations. However, there are differences between managers and ownerships because of different theory to risk, division profit and eyesight horizon, Taktor, 2005.

Shareholders as the proportionate ownership try to increase their wealth, so this aim can be very helpful for any business unity to improve that business. The advancement and improvement of a business can be defined based on the facilities (hardware) and the ways (software) that are useful for that business unity. One business can be defined based on its creation value because no business unity can be continued without any helpful thoughts and economical activities. One of the management duties is performance assessment, an identical concept introduced to business. In management literature different branches from different views have been suggested for performance assessment. In these branches views, destinations, and aims of performance assessment have been specified.

Performance assessment can play an important role in management agencies because it shows business management output from different views and dimensions. In comprehensive indications performance management notices to financial and nonfinancial dimensions.

Accounting profit always as an exhibited item in financial statements has been considered by investors whom are attended as the most significant users of financial statements, so profit is a basis for the most economical decisions. One of the characteristics of stock exchange is parting ownership from their management. So, situation is created for managers to exclusively access information and exhibit financial information. This characteristic and commitment accounting characteristic because of postpones (difference between cash profit and commitment profit), reward motivations, profit smoothing, and rule regulating give **manager's** motivations and situations to invest information for ejection their benefits against other groups' benefits, in otherwise managers want to create profit managers' works. Accounting profit is produced by commitment system. Some of the users believe that financial statements are instruments for corporations' operation evaluation. Corporations' operation evaluation mean total evaluation of financial situations and operations conclusions to make logical decisions. Profit, as an important basic accessible information for users, can be changed by managers with different motivations. Corporations' managers for intended profit report try to direct profit management.

Khajavi and Nazemi (2004), investigated relationship between credit liquidity risks in banking industry from 2003 to 2012. Research findings indicated that there was a negative relationship between credit risk and liquidity risk and this relationship was intensified from credit risk toward liquidity risk. In otherwise, effect of credit risk variable was accepted as dominant variable in this relationship and would change it to up to date noticeable phenomenon.

**Bolo (2005), "liquidity factors' roles and non-liquidity risk on stock return added in Tehran Stock Exchange"**, by gathering information of 11 accepted corporations in Teharn Stock Exchange, from the beginning of 1995 until the end of year for one month, concluded liquidity factors' roles and non-liquidity risk have positive effects on stock return added in Tehran Stock Exchange.

Esmail Zadeh and et.al (2009), in their research investigated the effect of credit risk and liquidity operational efficiency of Iran banking system. To evaluate categorizing efficiency of banks, choice optimized mother of mathematics had been used. In the research 15 banks as research sample had been chosen from 2004 to 2009. Research findings indicated difference in parametric and non-parametric methods of banks categorization evaluation and showed the superior of parametric method than non-parametric method. Moreover, the research conclusions indicated that there was a meaningful relationship between credit risk and liquidity operation of Iran banking system.

Jan Jani and Khodadadi (2010), in a research investigated credit risk management in banking system and comparative view of data coverage analysis and neural channel. They found that data coverage model and neural channel had more efficiency.

Arabzadeh and et.al (2005), investigated relationship between economic added value and asset return as operational evaluation criterion in the accepted corporations in Tehran stock exchange, research findings represent that there is no correlative meaningful relationship between economic added value and asset return as operational evaluation criterion in the accepted corporations in Tehran stock exchange.

Vang and Zin (2011), investigated loan, advance and non-play loans and asset quality variables of a bank **in Kenya from 2004 to 2008. This research indicated that main parts of commercial banks profit weren't** affected by loan and credit.

Gesh and et.al (2004), investigated credit risk management methods in of Bangladesh banks, investigation of public bank of Volition education. This article helped efficiency in credit risk of Bangladesh banks and was used as a definite source for study of credit risk management to increase profit ability, long term resistance of commercial banks. Credit risk management included recognition, measuring, mitigation, supervision and controlling of credit risk.

Mar and Kerishnan (2008), in a research of Nigeria banks investigated meaningful relationship between banks operation and credit risk management.

Micro Westrhom (2011), and his coworkers used information of more than 100 famous banks in the USA during a decade of 1986 to 1995 to investigate MVA and its correlation with EVA and other usual accounting standards such as EPS, ROE, and ROA. The result showed that EVA had the most coherent relationship with MVA among the other standards.

Francisco and et.al (2005) investigated the relationship between unusual long durative output and Spain stock exchange profit consistency in 2009. The result of this research proved the existence of the profit consistency in Spain stock exchange. Profit consistent companies had more output for their shareholders in comparison to profit inconsistent companies.

Confirmation of an effective and efficient corporation government system can keep managers and ownerships for one aim, (Hav and et.al, 2001). Corporation government is rules, structures, processes and systems which cause access to answering aims and keeping beneficiaries rights by commercial unit. Doctrine publication of corporation government can help consistence of financial markets, investors' encouragements and economic growth of countries to compete in doctrine performance of corporation government. In fact, the mentioned doctrine can play important role in investment improvement efficiency, economic growth and increase of investors' confidences. Corporation government doctrine can create relationships between management, corporation board and investors, moreover, it causes situations to determine corporation aims and access to these aims. Doctrine correct performance can create motivations for the corporations' managements to determine aims' accessibilities and determine investors' supervisions efficiencies. In fact, the first aims of corporation guiding are directly corporations' performances improvements and harmonization of investors' beneficiaries with managers' beneficiaries to solve representing problems.

## 2. RESEARCH HYPOTHESES

**First Hypothesis:** Profit fluctuations have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.

**Second Hypothesis:** Cash flow fluctuations have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.

### 2.1. RESEARCH METHODOLOGY AND STATISTIC POPULATION

The research method is an application oriented in term of its aim, is deductive in terms of its performance rational, descriptive, correlative and measuring and the research is sectional in term of its time and is quantitative based on its data. Research statistic population include 127 accepted corporations in Tehran Stock Exchange which have been chosen by systematic deletion among 635 corporations from beginning of 2009 to 2015, **corporation's** financial years will begin on the first of February, 2009.

### 2.2. RESEARCH VARIABLES AND MODELS

#### Accounting Quality

This research based on the previous studies (Francis and et.al, 2005; Vardi, 2006), has defined accounting quality as a financial reporting ability in better reflection of expected cash flows for beneficiaries. Commitment items include suitable information about expected cash flows for beneficiaries. Quality standard of commitment item has been considered as representative for accounting quality.

#### Risk of Information

Risk of information is an undeleting (no various) risk factor that indicates information of corporations own weak quality in investors` decision making. Investors who are less informative than investors with more information will be encountered by high level of information risk. In otherwise, no various information risk will force uninformative investors to ask for high returns of stocks with more private information, (Serania, 2014).

#### Profit Fluctuations

Profit fluctuations can be one of the time series variables of profit quality. More fluctuations will be continued by more risk. In otherwise, the lowest and the highest proofing amount in an amplitude during one or several formal sessions of stock exchange meetings can be considered as profit fluctuations, (Serania, 2014).

The following first model is the short term duration and the second model to the fifth model are related to the long term duration, (Haghighat and Moetamed, 2011).

$E_t, E_{t+1}, E_{t+2}, E_{t+3}, E_{t+4}, E_{t+5}$  are profits in the following years

$t, t+1, t+2, t+3, t+4, t+5$

$$E_{t+1} = \beta_0 + \beta_1 E_t + \varepsilon_t$$

$$E_{t+2} = \beta_0 + \beta_1 E_t + \varepsilon_t$$

$$E_{t+3} = \beta_0 + \beta_1 E_t + \varepsilon_t$$

$$E_{t+4} = \beta_0 + \beta_1 E_t + \varepsilon_t$$

$$E_{t+5} = \beta_0 + \beta_1 E_t + \varepsilon_t$$



$$E_{i,t} = Cf_{i,t} + AC_{i,t}$$

E<sub>i,t</sub> is corporation profit in t year

Cf<sub>i,t</sub> is i corporation cash flow in t year

AC<sub>i,t</sub> is i corporation commitment in t year

Profits variances are calculated by following formulas:

(1)  $Var(E_{i,t}) = var(Cf_{i,t}) + var(AC_{i,t}) + 2cov(Cf_{i,t}, AC_{i,t})$

Commitment indicators of profits fluctuations and cash flows fluctuations by following formulas:

(2)  $ACEV_{i,t} = var(AC_{i,t}) + 2cov(Cf_{i,t}, AC_{i,t})$

(3)  $ACEV_{i,t} = var(E_{i,t}) - var(Cf_{i,t})$

ACEV is calculated by difference of profits fluctuations and cash flows fluctuations.

### 3. CASH FLOWS

Cash flows are calculated by following formula, (Hosseini, 2012):

$$R_{i,t} = \beta_0 + \beta_1 CFO_{i,t} + \beta_2 CFI_{i,t} + \beta_3 CFF_{i,t} + \beta_4 PLF_{i,t} + \epsilon_{i,t}$$

**Table 1: Measuring method of profit fluctuations variables:**

Calculation method	Source	Abbreviation
Pure entrance (exist) of operational received cash flow	Statement of cash flow	
Pure entrance (exist) of investment received cash flow	Statement of cash flow	
Pure entrance (exist) of financial secured received cash flow	Statement of cash flow	
Operational (loss) profit	Statement of profit and loss	
If corporation owns profit, the amount will be 1 in otherwise will be 0	Statement of profit and loss	PLE

Source: Author

#### 3.1. DEPENDENT VARIABLE

**Risk management:** dependent variable in the research is risk management. Stock risk management includes; price expectancy distribution of stock return that will be calculated through quotation of stock return standard deviation by following formula:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (R_i - \bar{R})^2}{n}}$$

σ: risk management

R<sub>i</sub>: corporation price expectancy distribution of stock return

### 3.2. INDEPENDENT VARIABLE

Cash flows fluctuations:

$$VCF_{it} = \beta_0 + \beta_1 DPO_{it} + \beta_2 CFS_{it} + \beta_3 SIZE_{it} + \beta_4 LEV_{it} + \beta_5 ROE_{it} + \varepsilon_{it}$$

In the above model:

$DPO_{it}$ : indicates payment proportionate of stock profit. It is a proportionate that measures paid profit percent as stock profit and is a politic standard of profit division (DPS/EPS). This criterion in the previous researches (Ezadi Nia and et.al, 2010), was considered as profit division politic, this proportionate represents amount profit of each share. Stock profit amount in board annual general collection will be suggested and then will be accepted and proves.

$CSF_{it}$ : has been considered for long term cash flows fluctuations about on duration of six years. Operational cash flow variance will be used to measure long term fluctuations. To compensate difference effect on corporations` sizes, operational cash flows variances in each duration will be divided on each corporation` assets in that duration, (Goldman and Visvanas, 2013).

$CFS_{it}$ : To measure sensitive level of a corporation cash flows, based on Khorana Martin, 2006 and Afza and Hasan Mirza 2010, one sensitive indicator of cash flows called annual changes in all cash flows has been used.

To credit the model and research conclusions more, some controlling variables will be added to the mode, too. They are size, financial lever and shareholders` rights returns

Size: represents corporation size and will be calculated by natural logarithm of stock value, (Fama and French 2001, Grolen and Mikaeile 2002, and Afza and Hasan Mirza 2010).

Lev it: represents corporation financial lever and will be calculated by proportionate of total liability to corporation total asset, (Fama and French 2001, Grolen and Mikaeile 2002, and Afza and Hasan Mirza 2010).

ROE: is an indicator to measure profitability and represents shareholders` rights returns that will be calculated by proportionate of net profit to shareholders` rights, (Afza and Hasan Mirza 2010).

### 4. RESEARCH MODEL

$$RM_{it} = \alpha \pm EV_{it} X_1 \pm CFV_{it} X_2$$

RM: Risk Management

EV: Profit Variance (Fluctuation)

CFV: Cash Flows Variances (Fluctuations)

#### 4.1. DATA ANALYSIS

**Table 2: Conclusions of F Limer and Hasman Tests**

Hasman Test	F Limer Test	Test Type	Model
6.264	1.157	Statistic amount	Firm's First
0.0000	0.000	P-Value	
Constant effects	Paneling	Model type	

Source: Author

Based on F limer test in the above table, in the related model of the research hypotheses, P-Value amount with 0/095 assurance level is 0/000, in otherwise P-Value is less than 0.05. So, pooling model of the H0 is

rejected (hypothesis is equal for pass cross origin for all the sections), and its contrast hypothesis will be accepted. So, for each studying corporation one pass cross origin should be considered. To measure this part, panel model will be used. Moreover, Hasman test conclusions for the first hypothesis based on  $\alpha= 0.05$  is 6/264 for this model and P- Value<0.05, so H0 is rejected. Rejection of H0 represents that Accidental Effects Method is heterogeneous and Constant Effects Method should be used.

**Table 3: Conclusions of the constant effects model (Research Hypotheses)**

P-Value	t statistic	Standard deviation	Coefficients	Constant effects model	Situation
0.0000	8.109	0.150	1.218	C	
0.0000	7.789	0.048	0.375	EV	
0.0000	13.427	0.065	0.874	CFV	
0.936				R <sup>2</sup>	
				$\bar{R}^2$	
1.745				D.W	
3309.943(prob=0.0000)				F (Fisher)	
RM <sub>it</sub> = 1.218 + 0.375x <sub>1</sub> +0.874X <sub>2</sub>					

Source: Author

Received correlation coefficient (R<sup>2</sup>) in the research model represents that descriptive variables can describe 0/936 percent of the dependent variable changes. Based on the adjusted determination coefficient 0/936, clarifies that these coefficients have been high and it means the suitable determination ability of the model. Calculated Durbin Watson (D. W= 1/7) shows the self-correlation in the model and based on F Fisher Test (3309/943) and (prob=0/000) practice of all regression is credit.

**First Hypothesis: Profit fluctuations (variances) have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.**

Based on the received conclusions of the above tables in the studying corporations while dependent variable is risk management and in term of t statistic amount (7/789) and probability level (0/000), profit fluctuations (variances) have positive meaningful effect with amount of 0/375 on risk management of the accepted corporations in Tehran Stock Exchange. So, meaningful effect between these two variables will be affirmed.

$$RM_{it} = 1.218 + 0.375x_1$$

**Second Hypothesis: Cash flows fluctuations (variances) have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.**

Based on the received conclusions of the above tables in the studying corporations while dependent variable is risk management and in term of t statistic amount (13/427) and probability level (0/000), cash flows fluctuations have positive meaningful effect with amount of 0/874on risk management of the accepted corporations in Tehran Stock Exchange.

$$M_{it} = 1.218 + 0.874X_2$$

**5. CONCLUSIONS**

**First Hypothesis: Profit fluctuations (variances) have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.**

Received conclusions of the first hypothesis are similar to Karawat and Sholin (2010), and Fama and French Model. They investigated relationship between re- exhibition of financial statement and information risk based on the commitment item quality. They believed that considerable increase in information voluntary risk existed for exhibited corporations after again advertisement.

Moreover, the received conclusions are related to Kelab & Koli Av (2004), investigated credit risk management methods in of Bangladesh banks, investigation of public bank of Volition education. This

article helped efficiency in credit risk of Bangladesh banks and was used as a definite source for study of credit risk management to increase profit ability, long term resistance of commercial banks. Credit risk management included recognition, measuring, mitigation, supervision and controlling of credit risk. Borojerdi and et al. (2012), in a research investigated credit risk management in banking system and comparative view of data coverage analysis and neural channel. They found that data coverage model and neural channel had more efficiency.

**Second Hypothesis: Cash flows fluctuations (variances) have positive meaningful effect on risk management of the accepted corporations in Tehran Stock Exchange.**

This second hypothesis conclusions are related to Karawat and Sholin (2010), investigated relationship between commitment items and cash flow with stock market measure. They found many positive relationships between commitment item measure and stock market. However, negative relationship existed between cash flows and stock market.

Chan and et.al (2004), investigate relationship between commitment items and stock future return and concluded that stock market of corporations with high commitment item in next duration of financial information reporting would decrease. These findings indicate that time investors would discover profit low quality and stock price would decrease with delay, too.

Confirmation of an effective and efficient corporation government system can keep managers and ownerships for one aim, (Nickos and et.al, 2008), cause access to answering aims and keeping beneficiaries rights by commercial unit. Doctrine publication of corporation government can help consistence of financial markets, investors' encouragements and economic growth of countries to compete in doctrine performance of corporation government. In fact, the mentioned doctrine can play important role in investment improvement efficiency, economic growth and increase of investors' confidences. Corporation government doctrine can create relationships between management, corporation board and investors, moreover, it causes situations to determine corporation aims and access to these aims. Doctrine correct performance can create motivations for the corporations' managements to determine aims' accessibilities and determine investors' supervisions efficiencies, (Hant and et.al, 2000). In fact, the first aims of corporation guiding are directly corporations' performances improvements and harmonization of investors' beneficiaries with managers' beneficiaries to solve representing problems.

Arabzadeh and et.al (2005), investigated relationship between economic added value and asset return as operational evaluation criterion in the accepted corporations in Tehran stock exchange, research findings represent that there is no correlative meaningful relationship between economic added value and asset return as operational evaluation criterion in the accepted corporations in Tehran stock exchange.

## **5.1. RESEARCH PRACTICAL SUGGESTIONS**

- Based on received conclusions of first hypothesis there are some suggestions which attend involuntary commitment item factors to avoid managers' manipulations because involuntary commitment items are considered by management.

- Based on received conclusions of first hypothesis, involuntary commitment items are limited because of organizations' rules and other outside factors. Involuntary commitment items can be performed by management. Total commitment items which a corporation uses for its business accounts are received accounts and documents, payment accounts and documents, pre-payment and parts of incomes and costs (however, increase or decrease in incomes and costs are results of recorded in assets and liabilities). Above factors aren't done by management, so they don't effect on price synchronism and should be considered.

- Based on received conclusions of second hypothesis which suggest factors related with internal corporation costs and incomes should be considered because these factors can play important roles for effecting on price and stock return.

Financial markets in developing countries are important because of financial credit securement of production projects and less substructure sources. Moreover, money market will be important twice time

because of lack of asset market development in these countries. While existence of financial verified risks in country banking system specialty operation credit risk will encounter banks with problems. In Iran traditionally asset market is covered by banking system that can be important by recognition of banking variables credit risks effect.

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# INVESTIGATING THE RELATIONSHIP BETWEEN ORGANIZATIONAL COMMITMENT AND ORGANIZATIONAL BEHAVIOR (CASE STUDY: SARAB AND MEHRBAN CENTER ISLAMIC AZAD UNIVERSITY)

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## Abstract

*The purpose of this study was to investigate the relationship between organizational commitment and organizational citizenship behavior in the staff of Sarab and Mehraban Islamic Azad University. The statistical population in this research was all staff of Sarab and Mehraban Islamic Azad University (73 people) includes (25 official definitive, 6 official trial, 42 contractual). This research in terms of type of method is descriptive-survey and in terms of purpose is applied. In this research, two standard questionnaires have been used. One, Allan & Mijer Organizational Commitment Questionnaire, which consists of 24 questions, and another, Netherm Organizational Citizenship Behavior Questionnaire, which consists of 21 questions. The data were analyzed using SPSS software and the results of the analysis of hypotheses show that there is a significant relationship between organizational commitment components (emotional commitment, normative commitment, continuous commitment) and organizational citizenship behavior of staff.*

JEL classification: D23

**Keyword:** Organizational Commitment, Citizenship Behavior, Islamic Azad University

## 1. INTRODUCTION

Understanding the commitment process for the organization and the community is useful as it leads to the creation of staff, more sustainability in the organization, and more organized competitive power. At the same time, society also benefits from more optimal organizations and better quality of products and services. Organizations can increase organizational commitment of their staff in two ways. First, organizations can increase staff perceptions of organizational membership. Second, organizations can show staff that they are considered by employer and employer value them (Tavakoli et al., 2009). Since one of the hidden but influential factors in staff behavior is their commitment to the organization, attention to the commitment of human resources in the public sector and it's important in the private sector. Knowing the status of staff commitment can help managers improve and improve their staff. On the other hand, today, the conditions of a completely revolutionary and dominant organization, increased competition and the necessity of their effectiveness in such situations reveal their need for a valuable generation of staff, a generation from which they are called soldiers of the organization. Undoubtedly, these staffs are distinguishing effective organizations from ineffective (Abilly et al., 2010).

Organizational commitment is considered based on individual identity and participation in an organization. Human resources managers have better understand of organizational commitment and improving organizational goals and explaining strategies for the development of the organization. Organizational commitment is in fact a kind of attitude toward work that is specifically related to the participation of staff and their willingness to remain in the organization and is effective in the job performance of staff (Tabarsa et al, 2010). One of the most important attributes of each organization for working in a changing situation is the presence of people who are unhappy with the success of the

organization without the formal requirements of the participating occupation; behaviors that are rooted in formal expectations but crucial to the survival of the organization and are even necessary and are defined as organizational citizenship behaviors. Considering the importance of organizational behavior in advanced countries due to the effect of such staff behaviors on organizational performance, organizational effectiveness, organizational success, customer satisfaction, customer loyalty, service quality, and so on it is necessary to identify the organizational actions that lead to such behaviors in the staff (Bahlouy Zeinab et al, 2010). Successful organizations need staff that has more than their usual functions and functions beyond the organization's expectations. Organizational citizenship behavior describes actions in which staff act beyond their predetermined needs. This increases the effectiveness of the organization (Mirespasi et al., 2010). Now that the importance of citizens is perceived as one of the most important sources of the organization, their behavior can also be considered very important and because of this, many researchers have analyzed the behavioral citizenship (Islami and Sayar, 2007). Considering the importance and position of organizational commitment as well as the status and importance of organizational citizenship behavior in today's organizations, conducting research in this field is necessary.

In the dictionary, in the definition of commitment, it is binding obligation that limits the freedom of action. Organizational commitment is an attitude about staff loyalty to the organization and a continuous process which is due to the participation of individuals in organizational decisions, attention of individuals to the organization and the success and welfare of the organization. "Liman W Porter et al," organizational commitment has defined the degree of relative identification of the individual with the organization and its participation in it. In this definition, organizational commitment consists of three factors:

- Belief in the goals and values of the organization
- The desire to work hard on the way of the organization
- The desire to continue membership in the organization (Hanifer et al., 2009).

Meyer and Allen have divided organizational commitment into three dimensions:

1. Emotional commitment: The person takes his identity from the organization and gives it a sense of belonging and affiliation and enjoys the continuation of membership and does not leave the organization.
2. Sustained commitment: The desire to conduct continuous activity based on the individual's identification of the costs associated with leaving the organization.
3. Normative commitment: People in the organization, because they feel like they should not leave the organization.

One of the most common ways to deal with organizational commitment is to consider organizational commitment as an emotional and psychological affiliation with the organization. According to this method, a person who is strongly committed to his organization takes its identity from the organization; it has an active partnership, blends in and enjoys membership in the organization (Mogli et al., 2009).

Organizational citizenship behavior has attracted particular attention in the organization and management literature and definitions, determinants and consequences of this phenomenon in the workplace. Some of these behaviors include: volunteering to do things that are not necessary, providing new suggestions for improvement of the organization, failure to disregard the rights of colleagues, voluntary participation in specialized committees of the group (Jamali et al., 2009).

Citizenship behaviors are behaviors that are not directly mentioned in the official reward system of the organization and often are forgotten and often they are volunteered but still play an important role in the organization's activities (Mohebibar, 2012). Among the features of organizational citizenship behavior of staff is:

Organizational citizenship behavior is irrevocable, behavior should be voluntary, not a predetermined task, nor part of the formal duties of an individual.

- Organizational citizenship behavior interacts with the highest interests of the organization, that is, behavior has an organizational aspect.



- Organizational citizenship behavior has a multifaceted nature (Ebrahimzadeh, 2011).

Among the key elements of citizenship behavior is:

- Behavior is beyond what is officially defined by the organization.
- Absolutely optional.
- Approved and rewarded directly from the organization's formal structure.
- It is essential for the success and function of the organization (Tavakoli et al., 2009).

Various studies have been conducted on organizational commitment and organizational staff behavior at home and abroad, and several of them are:

Poursolandani and Amirji (2013) in a research examined the relationship between organizational commitment and organizational citizenship behavior of physical education teachers in Mashhad. The purpose of this study was to examine the relationship between organizational commitment and organizational citizenship behavior of physical education teachers in Mashhad. The statistical population of the study was all teachers of physical education in Mashhad schools (N=1200). Using Morgan table, the statistical sample was 291 people. Data were collected using two standard organizational commitment questionnaires (Allen and Meyer, 1993) and organizational citizenship behavior (Oregon and Kanovsky, 1996). The validity of both questionnaires was obtained using the corrective comments of sports management professors. The internal consistency of organizational commitment and organizational citizenship behavior questionnaire using Cronbach's alpha was 0.85 and 0.76, respectively. The research method was descriptive relationship that was implemented in the field.

In order to analyze the data, descriptive indices, and Kolmogorov-Smirnov tests, Pearson relationship coefficient and multiple regressions were used. The results of the Kolmogorov-Smirnov test confirmed the normality of the data ( $p > 0.05$ ). The results of relationship test showed that there is a positive and significant relationship between organizational commitment and organizational citizenship behavior ( $P > 0.01$ ,  $r = 0.349$ ). Also, the results of regression analysis showed that, among the components of organizational commitment, emotional commitment has more power to predict the organizational citizenship behavior of teachers (Poursolandani and Amirji, 2013).

Jafari et al (2011) conducted a research on the relationship between organizational citizenship behavior and organizational commitment of staff at Shahid Hashemi Nejad Hospital in Tehran. The purpose of this study was to investigate the relationship between organizational citizenship behavior and its dimensions with organizational commitment of staff at Shahid Hashemi Nejad Hospital in Tehran. The present study is descriptive-analytic. The research population was staff of Shahid Hasheminejad Hospital. 130 students were selected by random stratified sampling method. Data were collected using Williams and Anderson's Organizational Citizenship Behavior Questionnaire and McGrawford's Organizational Commitment Questionnaire. Spearman relationship test was used to analyze the data. Most of the people surveyed in this hospital (83%) rated the status of citizenship behavior appropriate. There was a significant relationship between organizational citizenship behavior and organizational commitment of staff ( $P < 0.05$ ) and positive relationship ( $r=0.32$ ) (Jafari et al., 2011).

In this regard, Yalmaz and Kookkel Bokiphi (2008), in their study of organizational citizen behavior and organizational commitment in Turkish primary schools, concluded that there was a positive and significant relationship between organizational citizenship behavior and organizational commitment. They acknowledged that a high organizational commitment would increase organizational citizen behavior because the attitude of individuals affects their behavior. There is also a positive and significant relationship between acceptance of teachers' organizational citizenship behavior and continuous commitment. Therefore, it can be said that continuous commitment increases the incidence of corporate citizen behavior. There is also a positive and significant relationship between accepting organizational citizenship behavior and emotional commitment. Therefore, it can be said that high emotional commitment increases the incidence of organizational citizenship behavior.

In another study, Lambert et al (2008) carried out a study entitled "organizational commitment and organizational behavior among correctional workers". They found that age, education level, monitoring status and organizational commitment had a significant and positive relationship with organizational citizenship behavior and as people grows older, they tend to exhibit more organizational citizenship behaviors (Abilly et al., 2010).

In general, the present research seeks to answer the following question:

What is the relationship between the components of organizational commitment and the staff's organizational citizenship behavior?

The main purpose of this study was to investigate the relationship between organizational commitment and organizational citizenship behavior of staff of Sarab and Mehraban Islamic Azad University. In pursuit of this goal, the following goals are pursued:

- 1- The Relationship between emotional commitment and organizational citizenship behavior of staff of Sarab and Mehraban Islamic Azad University.
- 2- Explaining the relationship between normative commitment and organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.
- 3- Explaining the relationship between continuous commitment and organizational citizenship behavior among the Staff of Sarab and Mehraban Islamic Azad University.

The theoretical framework of this study is based on the Allan and Meyer organizational commitment model, which includes three components of emotional commitment, normative commitment, and continuous commitment.

## 2. METHODOLOGY

The present study is descriptive-survey based on method, and is applied in terms of purpose. The population of this research consisted of all staff (official definitive, official trial, contractual) of Sarab and Mehraban Islamic Azad University. The total number of staff is 73, as shown in Table (1) by staff.

**Table 1. Statistical society, staff information in the statistical society**

No	Staff	Sarab Islamic Azad University	Mehraban Islamic Azad University
1	Official definitive	25	-
2	Official Trial	6	-
3	Contractual	39	3
<b>Total</b>		<b>70</b>	<b>3</b>

*Source: Author*

Since the number of people in the statistical community is limited and considering that there may be some people on leave or do not complete the questionnaire because of a busy or unwillingness and also considering that, in order to obtain a reliable result, the researcher has enough questionnaires. It was decided to distribute the questionnaire among all staff and after collecting questionnaires and isolating the questionnaires that were incompletely answered, the completed questionnaires, which were completely completed, containing 41 questionnaires were analyzed.

To collect data from the statistical sample, two standard questionnaires have been used to test the hypotheses, one, Allan & Meyer Organizational Commitment Questionnaire, which consists of 24 questions, which are made up of three components of "emotional commitment, normative commitment, continuous commitment" and another, Netherman's Citizenship Behavior Questionnaire, with 12 questions, was made from four dimensions: "chivalry, behavioral, conscientiousness, friendship". Also, the library method and the use of resources such as books, articles and various journals, Internet, and

dissertations have been used in literature and research records. To assess the validity and reliability of questionnaires used in the research, considering that both the questionnaires were used, organizational commitment questionnaire and the organizational behavior questionnaire were standardized; they themselves have validity and reliability. Descriptive and inferential statistics were used to analyze the data obtained from the collected questionnaires. Descriptive statistics were used to categorize, describe and describe the collected data. To test the hypotheses and to calculate the results, inferential statistics were used with SPSS software. So, for descriptive analysis of the research data, using frequency distribution table and descriptive statistics charts and graphs such as mean, mean and median of standard deviation, variance and skewness coefficient were used. To analyze the data inferential, with the help of the test, statistical hypothesis was rejected or confirmed by the hypothesis of the research. The Pearson relationship test was used to test the research hypotheses. In this analysis, normal distributions and test statistic are used. In the next stage, using the hypothesis tests, the results of each of the three hypotheses were analyzed. Also, Friedman test was used to rank the hypotheses.

### 3. RESEARCH FINDINGS

Test of Hypothesis 1: There is a relationship between organizational commitment and organizational citizenship behavior among staff of Sarab and Mehraban Islamic Azad University.

H1 There is a relationship between organizational commitment and organizational citizenship behavior among the staff of Sarab and Mehraban Islamic Azad University.

H0 There is no relationship between organizational commitment and organizational citizenship behavior among the staff of Sarab and Mehraban Islamic Azad University.

**Table 2. Pearson r test to determine the relationship of organizational commitment with organizational citizenship behavior of staff**

Organizational citizenship behavior of staff	Organizational commitment	
0.655 0.000 41	1 0 41	Pearson relationship organizational commitment Sig.(2-tailed) N
1 0 41	0.655 0.000 41	Pearson relationship organizational citizenship behavior of staff Sig.(2-tailed) N

*Source: Author*

As it is seen in table (2), at the significant level of two domains, the significance level of Pearson's test r is 0.000 and this level is less than the minimum level of 0.05 and also with regard to the value of r, is calculated to be 0.655, and this value is from 0.148 and critical values of R-Pearson at a confidence level of 95% and the degree of freedom is 40, there is a significant relationship between the two variables in hypothesis 1, so the hypothesis H1 is accepted and the hypothesis H0 is rejected. In other words, there is a relationship between organizational commitment and organizational citizenship behavior among the staff of Sarab and Mehraban Islamic Azad University.

Hypothesis 1-1: There is a relationship between affective commitment and organizational citizenship behavior among the staff of Sarab and Mehraban Islamic Azad University.

H1 There is a relationship between the affective commitment and the organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

H0 There is no relationship between emotional commitment and organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

**Table 3. Pearson r test determine the relationship of emotional commitment with organizational citizenship behavior of staff**

Organizational citizenship behavior of staff	Affective commitment	
0.614 0.000 41	1 0 41	Pearson relationship affective commitment Sig.(2-tailed) N
1 0 41	0.614 0.000 41	Pearson relationship organizational citizenship behavior of staff Sig.(2-tailed) N

*Source: Author*

As it is seen in table (3), at the significant level of two domains, the significance level of Pearson test was 0.000 and this level is smaller than the minimum level of 0.05 and also, according to the calculated value of  $r$ , is 0.614, and this value is from 0.148 critical values of  $r$ -Pearson at a confidence level of 0.95 and a degree of freedom of 40 is greater, there is a significant relationship between the two variables in hypothesis 1-1, so the hypothesis H1 is accepted and the hypothesis H0 is rejected. In other words, there is a relationship between the affective commitment and the organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

Hypothesis 1-2: There is a relationship between normative commitment and organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

H1 There is a relationship between normative commitment and organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

H0 There is no relationship between normative commitment and organizational citizenship behavior of the staff of Sarab and Mehraban Islamic Azad University.

**Table 4. Pearson r test determine the relationship between normative commitment and staff behavioral citizenship behavior**

Organizational citizenship behavior of staff	Normative commitment	
0.478 0.000 41	1 0 41	Pearson relationship normative commitment Sig.(2-tailed) N
1 0 41	0.478 0.000 41	Pearson relationship organizational citizenship behavior of staff Sig.(2-tailed) N

*Source: Author*

As it is seen in Table (4), at the significant level, two domains, the significance level of Pearson  $r$  test was 0.000 and this level was less than the minimum level of 0.05 and also according to the value of  $r$  is calculated to be 0.478, and this value is from 0.148 of the critical value of  $r$ -Pearson at the confidence

level 0.95 and the degree of freedom is 40, there is a significant relationship between the two variables in hypothesis 1-2. So the hypothesis H1 is confirmed and the hypothesis H0 is rejected.

In other words, there is a relationship between normative commitment and organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University.

Hypothesis 1-3: There is a relationship between continuous commitment and organizational citizenship behavior among the staffs of Sarab and Mehraban Islamic Azad University.

H1: There is a relationship between continuous commitment and organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University.

H0: There is no relationship between continuous commitment and organizational citizenship behavior among the staffs of Sarab and Mehraban Islamic Azad University.

**Table 5: Pearson r test determine the relationship of continuous commitment with organizational citizenship behavior of staffs**

Organizational citizenship behavior of staff	Continuous commitment	
0.532 0.000 41	1 0 41	Pearson relationship continuous commitment Sig.(2-tailed) N
1 0 41	0.532 0.000 41	Pearson relationship organizational citizenship behavior of staff Sig.(2-tailed) N

*Source: Author*

As it is seen in table (5), at the significant level of the two domains, the significance level of Pearson r test was 0.000 and this level was smaller than the minimum level of 0.05 and also calculated with respect to the value of r, which is 0.532 and this value is 0.148 and the critical value of R-Pearson at a confidence level of 0.95 and a degree of freedom 40 is greater, there is a significant relationship between the two variables in hypothesis 1-3.

So the hypothesis H1 is confirmed and the hypothesis H0 is rejected. In other words, there is a continuing relationship between the organizational citizenship behavior of the staffs of the Sarab and Mehraban Islamic Azad University.

#### 4. CONCLUSION

**Conclusion from the first hypothesis of the research:** In this hypothesis, the relationship between emotional commitment and organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University was investigated. According to the results of the analysis first hypothesis of the research, there is significant relationship between the emotional commitment and the organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University and this hypothesis was confirmed.

**Conclusion from the second hypothesis of the research:** In this hypothesis, the relationship between normative commitment and organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University was investigated. According to the results of the analysis second hypothesis of the research, there is significant relationship between the normative commitment and the organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University and this hypothesis was confirmed.

**Conclusion from the third hypothesis of the research:** In this hypothesis, the relationship between normative commitment and organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University was investigated. According to the results of the analysis second hypothesis of the research, there is significant relationship between the normative commitment and the organizational citizenship behavior of the staffs of Sarab and Mehraban Islamic Azad University and this hypothesis was confirmed.

The findings of this research show that there is a positive and significant relationship between organizational commitment and staff organizational behavior. The present study findings are in accordance with the findings of Poursolandani and Amirji (2013), Jafari et al (2011), Yalmaz and Kookkel Bokiphi (2008), Lambert et al. (2008).

### **Functional suggestions**

- 1- Staff should be taking into account their field of work and their expertise participate in organization decision making. They used their suggestions and ideas in the affairs of the organization to view their staffs as part of the organization and show loyalty and commitment to their responsibilities.
2. It has to arrange celebrations and celebrations in the presence of the staff family that staff to honor responsible, loyal, enthusiastic, and happy staffs. In this way, staffs feel more loyal to the organization.
3. Organizations need to hire specialist staff and training in their jobs; the job security of their staffs will increase their loyalty and commitment to the organization.

### **Suggestions for future research**

- 1 In this research, the organizational commitment of the four components of "emotional commitment, normative commitment, and continuous commitment" has been studied. It is suggested that organizational commitment be considered on the basis of other components.
- 2 This research has been carried out at Sarab and Mehraban Islamic Azad University, it is suggested that such research be carried out at universities and other educational institutions and their results compared.
- 3- It is suggested that further research on organizational commitment with variables such as; staff empowerment, organizational justice, self-esteem, organizational performance, organizational culture, etc. in universities.

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# INVESTIGATING THE EFFECT OF PROCESS INNOVATION ON POST-PURCHASE INTENTION CASE STUDY: SME COMPANIES IN KERMAN

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## Abstract

*Innovation is a key factor for competitiveness in the world and the secret of survival of the today's organization is their innovation. Process innovation is one of the items which is considered in this study. The aim of this study is to investigate the effect of process innovation on post-purchase intention using intermediate variables of perceived value, service quality and customer satisfaction. This study is an applied research in terms of purpose and is descriptive-survey in terms of the type and nature. In this study, the population is 300 SME manufacturing companies operating in the industrial towns, number 1 and 2 in Kerman. Sample using Cochran sampling formula was estimated up to 168 companies, respectively. After calculating the sample size, the researcher used a closed questionnaire as tool of research data collection and distributed questionnaires among the managers and corporate clients. For descriptive statistical analysis, SPSS software was used and in order to fit model and investigating hypotheses, structural equation modeling (SEM) and software AMOS18 was used. The findings suggest that the process innovation has a significant positive impact on post-purchase intention in the population at a level of 0.779.*

JEL classification: O31

**Keywords:** process innovation, perceived-value, service quality, customer satisfaction, post-purchase intention, SME

## 1. INTRODUCTION

In today's dynamic and changing environment, the way to grow and achieve high performance and survival in the global economy is innovation. The requisite of leading competitors is to ask and ability of the organization to create and trade processes, products and new business systems or the innovation that helps companies to be different. Process innovation is a concept that there is a lot misunderstood about it and its value is often overlooked. Many business people believe that innovation is an accidental issue that is inspired to a person. Others believe that innovation requires a special set of skills and it is for the small number of individuals. Innovation is important for many companies and organizations because it can provide a sustainable competitive advantage for them. On the other hand, customer satisfaction is the main factor of success in many organizations and in several studies, it is referred to the relationship between customer satisfaction and word of mouth communication, loyalty, repeat purchase and increase, the profitability of the organizations. In recent years, it has been found that in addition to service quality and customer satisfaction, by analyzing better perceived value can analyze customer behavior. Previous studies point out that a major factor in the company's success and competitive advantage is to increase the perceived value, perceived quality and customer satisfaction. Therefore, this study tries to investigate the relationships between process innovation, perceived value, perceived quality, customer satisfaction and post-purchase intention.



## **2. THEMATIC LITERATURE**

### **2.1. INNOVATION PROCESS**

According to the instructions of Oslo (2005), the innovation process is considered in order to reduce production costs or delivery of each unit, with an increase in quality or production or delivery of new products with significant improvements. The ultimate goal of process innovation in this instruction is considered strengthen efficiency. Process innovations may include such cases: input, job characteristics, workflow and information. In the case of kinds of process innovation, it is appropriate to be considered that a process practically included what cases that this may be provide a better view of process innovation. Davenport (1993) considered common processes in manufacturing companies, including operational and management processes. He considers operational processes as cases including product development, customer acquisition, identify customer needs, manufacturing, integrated support, order management, service and management processes, including monitoring performance, information management, asset management, human resource management, planning and resource allocation (Davenport, 1993). Process innovativeness often explicitly not discussed in the literature yet. In many studies, this type of innovation is considered a subset of technological innovation. For example, Avlonity and colleagues consider challenges of technological innovation in relation to production methods and machines as the measures of technological innovation and process innovation, including the development of quality and business process reengineering. So it can be said innovation in process, ie innovation in new production methods, new management approaches and new technology that improves the management and production processes. In general, innovation in process refers to the organization's ability to exploit the resources and capabilities, recombination and re-shaping them to respond to the needs of production.

### **2.2. PERCEIVED VALUE**

Lin et al (2005), believe that customer perceived value is critical for organizations and therefore, in recent years, it has become the focus of the marketing strategies. According to the view of Williams and Sotar (2000), the findings of research around the perceived value can retell better marketing strategies, promotion and market segmentation. For **consumer's** perceptions are considered a good source for development services. Using criteria developed and adapted the concept of perceived value; service providers will have the opportunity to compare the value of their different programs and products. In addition, this issue improves the capacity and ability of service providers to identify the dimensions of perceived value as positive or negative features of their products. In fact, the perceived value should be at the center of marketing efforts in understanding consumer behavior. Based on this, empirical studies conducted by people like (Babyn et al., 2005; Galarza and Saura, 2006 Gravel et al., 1998; Lin et al., 2005, etc.) show that the concept of perceived value can be impressive in making clear decisions of consumer behavior because this concept is a part of consumer behavior.

#### **The quality of service**

Cronin and Taylor in their experimental findings investigate the relationship between service quality, customer satisfaction and buyer's decision. Studies conducted by them providing this that quality of services is from preliminary of customer satisfaction and customer satisfaction will have a significant influence on the purchase decision. Quality is the most important factor in purchase decisions. Garanruos (1998), says quality means the size and the difference between the customer's perception from service and expectations. Crosby believes that the quality not has any sense except what the customer really wants. In other words, a product is good when comply with the demands and needs of customers. Quality should be defined as product conformity to customer requirement.

#### **Customer satisfaction**

Customer satisfaction plays a key role in service. Along with the development of the service sector, researchers have taken larger steps towards defining and understanding the satisfaction from the viewpoint of customer. Richard Oliver believes that customer satisfaction or dissatisfaction of him is obtained from the difference between customer expectations and the quality that he has received. In order to measure customer satisfaction can be used the following relation:

Customer satisfaction = customer perception from quality - customer expectations

Sharma and Patterson (2000) consider that customer satisfaction is his evaluation after purchasing a service, which is derived from the experience of consumption. Customer satisfaction can be considered as the basis for the ultimate foundation in modern marketing, so that success of firm depending on identifying and satisfying the needs and desires of the customer is superior to competitors. Cutler defines customer satisfaction as a degree which meets actual performance of a company. According to Cutler, if the company's performance meets customer expectations, customer feels satisfaction and otherwise feels dissatisfaction. Jamal and Nasser (2002) define customer satisfaction as a feeling or attitude of a customer towards a product or service after using it. The two researchers argue; customer satisfaction is the main result of marketing activity that acts as a link between the various stages of consumer buying behavior.

### **Post-purchase intention**

Post-purchase intention can be investigated as a basis for predicting the future behaviors of customers and it can be defined as intention of customers for repurchasing products or services and experiences of buying and offering use of the product or service to their friends. Post-purchase intention can be categorized for the purpose of economic behavior and social behavioral intention. Economic behavior intention refers to the behavioral reaction of customers from financial aspects, such as the repurchase intention. Repurchase intention represents customer loyalty, which is essential for the success of the seller. While social a behavioral intention refers to the cognitive reaction of customers to provide services, including the intention for complaint and verbal communication (Kuo & Wu, 2011).

Post-purchase behavioral intention is governing the loyalty, consumer complaint and change of consumer. Intention to change reflects the intention of consumers to change the brand. Apart from the intent to repurchase, consumer loyalty includes recommendations to others. Post-purchase behavioral intention can be used to predict whether consumers can be in long-term customer and bring stable profit to the company or not (Meng et al, 2011).

In order to assess the post-purchase intention, Zythaml et al (1996) used loyalty, change and pay more. Beldyng et al (1993) used intention to repurchase and verbal communications to evaluate post-purchase intention of customers. Intent to repurchase is a process by which a person buys goods or services from the same company and primarily the reason to the repurchase is past shopping experience. Compare to attract new customers, company can spend lower cost for marketing to maintain old customers. Verbal communication is a process in which consumers that use a product or service transfer their experiences through word of mouth communication to other consumers. In previous studies, post-purchase intention is often used to check the quality of services. In other words, good quality of service can induce positive post-purchase intention in consumers (Kuo et al, 2009).

## **3. HYPOTHESES**

Process innovation has a positive and significant impact on the quality of service.

Process innovation has a positive and significant impact on perceived value.

Services quality has a significant positive impact on the perceived value.

Services quality has a significant positive impact on customer satisfaction.

Perceived value has a positive and significant impact on customer satisfaction.

Service quality has a significant and positive impact on post-purchase intention of consumers.

The perceived value has a significant and positive impact on post-purchase intention of consumers.

Customer satisfaction has a significant and positive impact on post-purchase intention of consumers.

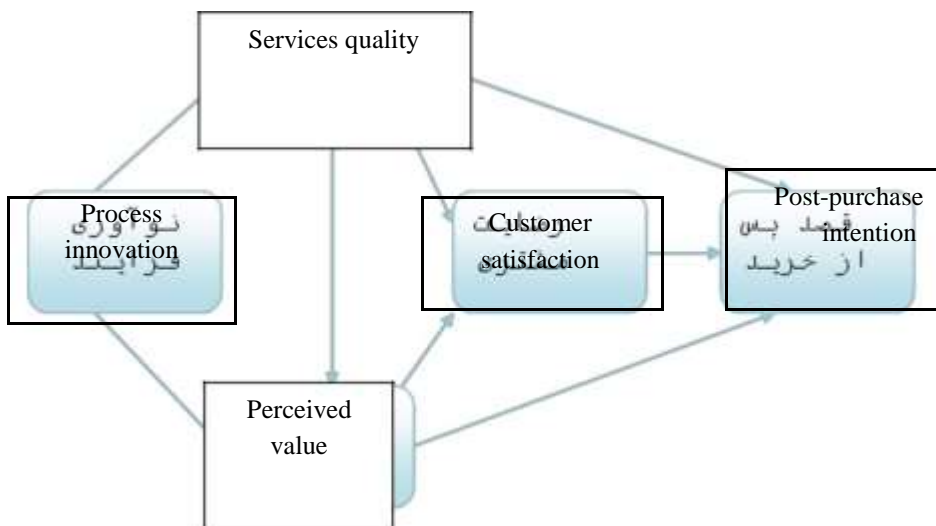
#### 4. RESEARCH METHOD

This study is an applied research objectively and in terms of the type and nature of the research is descriptive-survey. In this study, the population is 300 SME manufacturing companies operating in the industrial towns, number 1 and 2 in Kerman. The population is 300 companies according to statistics provided. In this study, sampling method is simple random sampling method and number of samples used was calculated by Cochran sampling ( $d=0.01$ ,  $t = 96/1$ ,  $p = 0.5$ ) was calculated. Considering the mentioned cases, the sample size was estimated 168 companies, respectively. After calculating the sample size, the researcher distributed questionnaires among customers. The most important methods of data collection in this study are as follows: to collect information on literature of this research and theoretical issues related to the topic, library studies method is used and to collect information on the variables, questionnaire is used. The great thing about this study is that the results of this research can be generalized to the population that a common feature to be found between them. In this study, for receiving information and research data collected, a questionnaire containing twenty questions was used. The confirmatory factor analysis to ensure fit data from research and variables along with its related components has been used and finally to test the hypotheses, structural equation modeling was used. To do analysis, SPSS statistical software and AMOS were used.

**Table 1. Cronbach's alpha coefficient of variables**

Variable	Cronbach's alpha	Result
Process innovation	0.989	Confirmed
Service quality	0.993	Confirmed
Customer satisfaction	0.974	Confirmed
Perceived value	0.979	Confirmed
Post-purchase intention	0.976	Confirmed
<b>Total</b>	<b>0.995</b>	<b>Confirmed</b>

*Source: Author*



**Figure 1. Conceptual model**

In this section, in order to check the hypotheses, structural equation modeling approach is used. In this regard, the model fit indices ( $NFI = 974/0 > 00.9$ ,  $RFI = 934/0 < 0.90$ ,  $IFI = 976/0 >$ ,  $TLI = 941 / 0 > 90/0$ ,  $CFI = 976/0 > 90/0$ ,  $GFI = 927/0 > 90/0$ ) according to the standard value is at an optimal level 0.09. So the model according to the indices is confirmed and has a desirable fit. In the next step, it was investigated the hypotheses with respect to the path coefficients. Innovation latent variable (IN) has been explained by ten variables observed. The latent variable of quality of service (QU) is explained by ten variables observed. The latent variable of customer satisfaction (SAT) has been explained by four variables observed. Also latent variable of perceived value (VAL) and post- purchase intention (INT) each are explained by three variables observed.

**Table 2. The results of path analysis**

			Estimate	Standard error	Standard estimate	Significant level
IN1	<---	Innovation	1.000		.941	
IN2	<---	Innovation	.923	.045	.889	0.000
IN3	<---	Innovation	1.121	.043	.949	0.000
IN4	<---	Innovation	1.181	.048	.936	0.000
IN5	<---	Innovation	1.300	.052	.941	0.000
IN6	<---	Innovation	1.041	.045	.922	0.000
IN7	<---	Innovation	1.015	.047	.902	0.000
IN8	<---	Innovation	1.213	.054	.916	0.000
IN9	<---	Innovation	1.167	.049	.930	0.000
IN10	<---	Innovation	.833	.046	.856	0.000
Q1	<---	Service quality	1.000		.913	
Q2	<---	Service quality	1.022	.046	.937	0.000
Q3	<---	Service quality	.855	.041	.923	0.000
Q4	<---	Service quality	.880	.046	.894	0.000
Q5	<---	Service quality	.980	.044	.938	0.000
Q6	<---	Service quality	1.045	.046	.945	0.000
Q7	<---	Service quality	1.069	.049	.933	0.000
Q8	<---	Service quality	1.081	.047	.946	0.000
Q9	<---	Service quality	.979	.050	.901	0.000
Q10	<---	Service quality	.975	.050	.901	0.000
V3	<---	Perceived value	1.000		.986	
V2	<---	Perceived value	.853	.019	.976	0.000
V1	<---	Perceived value	.839	.019	.974	0.000
S1	<---	Customer satisfaction	1.000		.922	
S2	<---	Customer satisfaction	1.176	.052	.937	0.000
S3	<---	Customer satisfaction	1.136	.046	.960	0.000
S4	<---	Customer satisfaction	1.007	.051	.896	0.000
I1	<---	Post-purchase intention	1.000		.956	
I2	<---	Post-purchase intention	1.087	.033	.975	0.000
I3	<---	Post-purchase intention	1.138	.030	.990	0.000

*Source: Author*

Due to the smaller of the significant level of factor loadings than 0.05, it is characterized the observed variables significantly explain latent variable related to self. After investigating the significance of factor loadings, the hypotheses are investigated.

**Table 3. The impact and the relationship between the variables**

			Estimate	Standard error	Standard estimate	Significant level
Service quality	<---	Innovation	1.002	.058	.905	0.000
Perceived value	<---	Service quality	.803	.058	.785	0.000
Perceived value	<---	Innovation	<b>-.130</b>	<b>.142</b>	<b>-.115</b>	<b><sup>1</sup>.359</b>
Customer satisfaction	<---	Service quality	.441	.040	.487	0.000
Customer satisfaction	<---	Perceived value	.480	.037	.542	0.000
Post-purchase intention	<---	Customer satisfaction	.942	.046	.943	0.000

*Source: Author*

Due to the smaller significance level than 0.05, it is determined these paths are significant.

**Table 4. Investigating variables' indirect effect**

			Indirect estimate	Indirect standard estimate	Significant level
Post-purchase intention	<---	Service quality	0.778	0.861	0.000
Post-purchase intention	<---	Perceived value	0.452	0.512	0.000
Post-purchase intention	<---	Innovation	0.780	0.779	0.000

*Source: Author*

## 5. ANALYSIS AND THE RESULTS OF THE RESEARCH HYPOTHESES

**Table 5. Summary of the results of hypotheses**

Describing hypothesis	Impact	Result
Process innovation has a positive and significant impact on the quality of service.	0.905	Confirmed
Process innovation has a positive and significant impact on perceived value.	-	Rejected
Services quality has a significant positive impact on the perceived value.	0.785	Confirmed
Services quality has a significant positive impact on customer satisfaction.	0.487	Confirmed
Perceived value has a positive and significant impact on customer satisfaction.	0.542	Confirmed
Customer satisfaction has a significant and positive impact on post-purchase intention of consumers.	0.943	Confirmed

<sup>1</sup>The numbers reported in this line is the factor loadings before deleting route

Service quality has a significant and positive impact on post-purchase intention of consumers.	0.861	Confirmed
The perceived value has a significant and positive impact on post-purchase intention of consumers.		Confirmed
Process innovation has a significant and positive impact on post-purchase intention of consumers.	0.512	Confirmed

*Source: Author*

## 6. CONCLUSION

According to investigate hypotheses and prove the existence of relationship and significant positive impact among the variables (excluding the impact of process innovation on perceived value) in this sector, some proposals are provided for improving the variables.

In order to increase the impact of innovation employed in the process of production on the quality of services provided by firms SME, it is recommended:

- More attention to be paid the updated production line equipment or management practices.
- Infrastructures for faster implementation with new business systems to be provided (such as: the implementation of change culture in corporate, careful study of IT and new technologies, etc.).
- The study of new processes aimed at creating new manufacturing processes to be highly paid attention.
- In order to enhance the impact of process innovation on the perceived value, it is proposed that in the operation related to the process innovation in SME, innovation should be leading to more desirability of product. So in order to achieve this goal, innovation and production line equipment to machines and automated systems and sometimes standardization of product path (production method) are factors that are functional and practical in reach the manufacturer to this purpose.
- In order to improve the impact of variable service quality on perceived value, considering the importance of positioning that the services are provided in it and how delivering services that in addition to the quality of service provided are important, it is proposed: SME studied to be modeled to learn faster and less costly performance to achieve the best position and how providing services from successful companies in their industry inside and outside the country. - In order to improve the impact of variable service quality on customer satisfaction, according to the multidimensional quality of services and fluctuating customer satisfaction due to the actions of competitors, interconnection with customers should be in the guidelines and doing this issue is proposed using questionnaire and interview.
- In order to improve the impact of perceived value on post-purchase intention, according to the importance of effect of the issues of cost and quality of the product on value perceived by the customer, if the company SME be able to supply their product with competitive price to market (how much reduced from the amount of profit of the company) and in parallel to it promote product quality by stabilizing product price, thus these companies can reduce costs in attracting new customer by attracting customers who want to buy again.
- Identify and promote the factors affecting in different fields of consumer behavior that help the product selection and repeat purchase.

Attention of organization to meet the needs and demands of customers leads to increase quality of services provided by the organization. So in order to influence the quality of services to repeat purchase of customers, it is proposed to surveyed companies:

- To be trained and implemented in companies as modern and management of system CRM (customer relationship management) in corporate.
- ISO different courses in the field of customer focus and courses of investigating customer complaints

- Improving staff information from full features of products and transfer it to customers can not only help to improve the quality of services but improve a corporate image among the clients and at the end leads to increase repurchase.

In order to improve the impact of perceived value on customer satisfaction, it is proposed to companies studied:

- Awareness and further study in relation to consumer behavior and behavioral decisions and preferences of consumers.
- Identify the factors that affect consumer behavior positively and leads to an emphasis of customers on a service provided.
- The more familiarity of organization with marketing strategies such as market segmentation, product differentiation and product positioning policies.

In order to improve the impact of process innovation on post-purchase intention of consumer, it is recommended:

- These companies should aware their customers to use different bachelors that produce their products under the standards of it. This issue can be through:

- ♣ Insert some details related to innovation used on product packaging.
- ♣ Advertising and media can be useful in this notification.

### **Suggestions for future research**

- **Detailed review of each of the study variables**
- **Check the model in other organizations**
- **Investigate the effect of role of other mediating variables such as employees' satisfaction**
- **Investigating the effect of independent variables on organizational productivity**

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# INVESTIGATING THE FACTORS AFFECTING THE PROCESS OF KNOWLEDGE MANAGEMENT AND INTELLECTUAL CAPITAL INDEX IN AL-GHADIR RESEARCH INSTITUTE

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## Abstract

*The main objective of this study was to investigate the role and effectiveness of the relationship between intellectual capital and knowledge management in the organization. The population of the research was staff of Al-Ghadir Research Institute. For the purpose of the study, researcher at the start of the study design three sub hypotheses and one main hypothesis. Intellectual capital to the three dimensions of human, structural and communication and knowledge management to five dimensions collecting knowledge, storage of knowledge; knowledge of constant refinement, use of knowledge and knowledge distribution. The main tool for data collection of the sample of 100 persons, intellectual capital and knowledge management questionnaires was used. Reliability of the questionnaire through Cronbach's alpha 0.89 and 0.91 obtained, which show an acceptable validity. Data analysis was performed using SPSS statistical software. All three sub-hypotheses and main hypothesis were confirmed. In other words, this case was concluded there is a significant relationship between the three dimensions of intellectual capital and knowledge management effectiveness.*

JEL classification: D83

**Keywords:** *knowledge management and intellectual capital, knowledge management effectiveness*

## 1. INTRODUCTION:

Concept of intellectual capital refers to that portion of the total capital or assets, knowledge-based company and company owner and its owner is considered in the absence of intellectual capital, other capital lost their effectiveness, and paves the way cultural and economic development, is rugged and difficult. Intellectual capital what macro-level management at the level of the management of organizations and firms, could be a new understanding of the economic system - social cause and to help system administrator's better guidance (Alavi, 2001). This study examines the role of intellectual capital in knowledge pays the effectiveness of management. According to the definitions and dimensions of knowledge management and intellectual capital that the emphasis is on communication and interaction among researchers concluded the relationship between intellectual capital and knowledge management effectiveness can continue to look for and the role of intellectual capital in knowledge management effectiveness tested. The growing importance of knowledge as a decisive factor in the success and competitiveness of organizations has caused that knowledge management is a critical task and try to go through them to create, maintain, Transmission and application of knowledge to improve their activities and performance to become a learning organization (Liebl, 2004). Most organizations are the basic steps needed to improve the success of knowledge management technology and equipment are removed, to have reached a stable situation that does not create added value for them (Siew, 2014). Changing this situation will require major changes and focusing on key aspects such as culture and other social areas such as intellectual capital (Davenport and Prusak, 2000). Providing a new source of intellectual capital is the organization through which you can compete and a term that is given to collective intangible assets which will enable to operate the organization (Brookings, 1996).

On the other hand, continuous learning and sharing within and between organizations is a key strategic need for the development and sustainable competitiveness in the future (Bontis, 2003). This fact seems to effectively and efficiently leveraging resources, knowledge, and a critical issue to gain competitive advantage and ensure sustainable development for communities such organizations (Donate, 2015). According to the above issues, it is realized that the relationship between intellectual capital and knowledge management effectiveness. The basic question of whether this research is the relationship between knowledge management and intellectual capital available? Is there a high level of intellectual capital components leads to effective knowledge management at Al-Ghadir research institute or the reverse is true?

### Hypotheses:

The main hypothesis: there is a significant relationship between intellectual capital and knowledge management effectiveness.

First sub- hypothesis: there is a significant relationship between the structural dimension of intellectual capital and knowledge management effectiveness.

The second sub- hypothesis: there is a significant relationship between relational dimension of intellectual capital and knowledge management effectiveness.

The third sub-hypothesis: there is a significant relationship between the human dimension of intellectual capital and knowledge management effectiveness.

## 2. RESEARCH METHODOLOGY

Goal: knowledge management applications because of the fundamental pillars for the survival of any organization, especially of Scientific and Industrial Research Organization of Iran and many factors of effective knowledge management that identify each of these factors to improve the retention and use of knowledge management is essential that intellectual capital is one of the main factors and the aim of this study was to identify the impact of knowledge management and intellectual capital to further promote the deployment of its effectiveness in the organization.

**The method of data collection:** it is a descriptive survey because this condition's population and to collect the required data field method used and the distribution of questionnaires.

In this study, a simple random sampling method is used. In other words, in this study randomly selected from among staff and the following formula is used to select the sample size. The sample is a subset of the population with studying the researcher can generalize results to the whole population (Skaran, 2002). In other words, a limited number of sections of the population express the main features of the community to say (Azar, Momeni, 2004). The study population was 152 patients. In this study, using SPSS software, the following tests are used to examine and analyze information.

- **Descriptive Statistics**
- **Pearson correlation coefficient**
- **Friedman test**

In this study, the population was staff of Hazrat Valiasr research institute where society to which is limited as is intended, therefore, to calculate the sample size required to study the following equation was used.

$$n = \frac{N \times Z^2 \alpha^2 / 2 \times P(1 - P)}{\epsilon^2 (N - 1) + Z^2 \alpha^2 \times P(1 - P)}$$

where in

P: estimate the proportion of variable quality, (P=0.5)

Z: the normal variable units, corresponding to 95%, ( $z_{\alpha/2} = 1.96$ )

The amount permitted wrong, ( $\epsilon=0.04$ )

N: population size limit

P value equal to 0.5 is considered. Because if it is P=0.5, n maximum possible value of their finds. This makes the sample is large enough (Azar, Momeni, 2001).

The sample size for this study is: 121

121 = 105 + 16

121n=

$$121 = 105 + 16$$

**Table 1. Number of questionnaires distributed in different areas**

<b>121</b>	The number of questionnaires distributed
<b>105</b>	The number of questionnaires collected

Source: Author

About 121 questionnaires were distributed among the sample of 105 questionnaires were collected and analyzed.

**Validity and reliability of the questionnaire:**

Consultants for the reliability of the questionnaire used Cronbach's alpha coefficient. Table 2 shows Cronbach alpha reliability coefficient method of knowledge management and intellectual capital

**Table 2. Number of questionnaires distributed in different areas**

Dimension	Alpha coefficient	Number of questions
Data collection	0.92	6
Storage and organization of knowledge	0.83	5
Distribution of knowledge	0.86	6
Constant refinement of knowledge	0.91	5
Use of knowledge	0.87	5
The entire questionnaire	0.89	27
The dimensions of intellectual capital	Alpha coefficient	Number of questions
Human dimension	0.89	4
Structural dimension	0.93	9
Relational dimension	0.84	3
The entire questionnaire	0.91	16

Source: Author

As can be seen, the reliability of the questionnaire of knowledge management and intellectual capital to 0.89 and 0.91 respectively and because it is above 0.7 indicates higher reliability is designed questionnaire. The concept of narrative answers to this question which gauges how much testicle targeted measures. Without the knowledge of the credit meter cannot be sure of the accuracy of the data (Sarmad, 2001).

There are several methods for determining validity in this study the content validity of the questionnaire was confirmed by a few individuals and is valid.

Data analysis:

In this research normality test Kolmogorov - Smirnov normality of the data review Spearman correlation coefficient and to test hypotheses, finally, Friedman test for ranking factors study variables will be used in order to analyze the data, SPSS software was used.

### 3. RESEARCH FINDINGS

#### Kolmogorov - Smirnov normality test for dimensions and research indicators

Normality test (Kolmogorov - Smirnov) for knowledge management variable and its indicators

H0: data follow a normal distribution

H1: the data do not follow a normal distribution

If the value of the error value is significantly greater than the null hypothesis we conclude and if the level is significantly smaller than the error to conclude an assumption.

**Table 3. Normality test (Kolmogorov - Smirnov) for knowledge management variable and its indicators**

Variable	The significance level	Error value	Confirmed Hypothesis	Conclusion
Data collection	0.01	0.05	H <sub>1</sub>	Not Normal
Storage and organization of knowledge	0.01	0.05	H <sub>1</sub>	Not Normal
Distribution of knowledge	0.014	0.05	H <sub>1</sub>	Not Normal
Constant refinement of knowledge	0.021	0.05	H <sub>1</sub>	Not Normal
Use of knowledge	0.038	0.05	H <sub>1</sub>	Not Normal

*Source: Author*

Because the value of all indicators smaller than the significance level 0.05 we therefore conclude error Knowledge management is variable and its indicators do not follow a normal distribution. Normality test Kolmogorov - Smirnov for social capital variables and indicators of research

**Table 4. Normality test (Kolmogorov - Smirnov) for social capital variables and indicators**

Variable	The significance level	Error value	Confirmed Hypothesis	Conclusion
Human dimension	0.01	0.05	H <sub>1</sub>	Not Normal
Structural dimension	0.02	0.05	H <sub>1</sub>	Not Normal
Relational dimension	0.002	0.05	H <sub>1</sub>	Not Normal

*Source: Author*

Because of the significant level of all indicators 0.05 is smaller than the error we therefore conclude knowledge management variable and its indicators do not follow a normal distribution.

Normal due to the absence of all aspects of the research is based on data obtained from questionnaires, to examine the relationship between the dimensions of the Spearman correlation coefficient.

#### 4. CORRELATION ANALYSIS TO TEST HYPOTHESES

##### Testing first sub hypotheses:

There is a significant relationship between the structural dimension of intellectual capital and knowledge management effectiveness.

Because of the significant level of 0.021 is smaller than the error so hypothesis is approved.

There is a significant relationship between the structure of intellectual capital and knowledge management effectiveness.

The correlation coefficient is 0.602, which showed obvious high correlation between structural and intellectual capital and knowledge management effectiveness.

##### Testing second sub hypothesis:

There is a significant relationship between relational dimension of the intellectual capital and knowledge management effectiveness.

Because of the significant level of 0.000 is smaller than the error so hypothesis is approved.

That is a significant relationship between intellectual capital and knowledge management effectiveness is communication.

The correlation coefficient is 0.522, which shows a very high correlation obvious and direct correlation between the effectiveness of intellectual capital and knowledge management.

##### Testing third sub hypothesis:

There is a significant relationship between human dimension of intellectual capital and knowledge management effectiveness.

Because of the significant level of 0.014 and is smaller than the error so hypothesis is confirmed that there is a significant relationship between human dimension of intellectual capital and knowledge management effectiveness.

The correlation coefficient is 0.672, which showed obvious high correlation between structural and intellectual capital and knowledge management effectiveness.

##### Testing main hypothesis:

There is a significant relationship between intellectual capital and knowledge management effectiveness.

Because the value is a significant level of 0.014 and smaller than the assumption is wrong, then one would conclude that there was a significant relationship between these two variables.

The correlation coefficient is 0.512, which showed obvious high correlation between structural and intellectual capital and knowledge management effectiveness.

**Table 5. Test hypotheses**

Hypothesis	Significance level	Error value	Result	Correlation value
First sub hypothesis	0.021	0.05	There is relationship	0.602
Second sub hypothesis	0.000	0.05	There is relationship	0.522
Third sub hypothesis	0.014	0.05	There is relationship	0.672
Main	0.014	0.05	There is relationship	0.512

*Source: Author*

Friedman ANOVA five factors to the current situation of knowledge management according to the table (7) significant values (sig) of less than 0.01 **and close to zero and a standard significance level ( $\alpha = 5\%$ )** less.

So H0 cannot be confirmed at 95%. So we can say that factors related to knowledge management have the same rank. Also according to the table (6) most rated store and organize knowledge and knowledge is the lowest rank of the distribution.

**Table 6. Mean rank in the Friedman test to evaluate factors associated with knowledge management**

Factors related to knowledge management	Average Rating
Data collection	3.57
Storing and organizing knowledge	4.16
Distribution of knowledge	2.30
Constant refinement of knowledge	2.54
Use of knowledge	2.44

*Source: Author*

**Table 7. Significant Friedman**

Statistical indicators	Calculated values
Number	105
$\chi^2$	256.240
Degrees of freedom	4
Significant	Less than 0.01

*Source: Author*

### Friedman's analysis of variance to the existing three intellectual capital

According to the table (9) significant values (sig) of less than 0.01 and is close to zero and the standard **significance level ( $\alpha = 5\%$ )** less. So H0 cannot be confirmed at 95%. So we can say that factors related to intellectual capital have the same rank. Also according to the table (8) has the highest and lowest ranking of the relational dimension is related to the structural dimension of social capital.

**Table 8. Average rating of Friedman test to evaluate factors associated with intellectual capital**

Factors related to social capital	Average Rating
Human dimension	3.72
Structural dimension	3.21
Relational dimension	3.95

*Source: Author*

**Table 9. Significant Friedman**

Statistical indicators	Calculated values
Number	220
$\chi^2$	28.20
Degrees of freedom	3
Significant	Less than 0.01

*Source: Author*

## 5. RESULTS DISCUSSION

Knowledge management in knowledge-based organizations with regard to new approaches in management theories such as customer satisfaction is of paramount importance. IC awareness of the people, structure, processes and culture of the company and whether the process according to customers' perceived value and relationship among the three elements of human, organizational and customer capital created is important (Leaf Adoinson, 1996). In this study, we investigated the relationship between intellectual capital and knowledge management effectiveness and the first sub hypothesis of relationship between the structural dimension of intellectual capital and knowledge management effectiveness is concerned that the result after

the significant intellectual capital structure taking into account the direct and significant connection 0.021 and correlation coefficient of 0.602 with the effectiveness of knowledge management. Therefore, we can conclude that the agencies to further develop and improve the capital structure of thought move, effectiveness of knowledge management will be facilitated and can be moved in order to improve it. The second sub hypothesis of the relationship between intellectual capital and knowledge management effectiveness is dedicated relational dimension and the result was that such communication after the significant intellectual capital and taking into account the direct and significant connection 0.000 and correlation coefficient 0.522 with the effectiveness of knowledge management. Thus it can be concluded that the organization's intellectual capital to further develop and improve communication after move, effectiveness of knowledge management will be facilitated. The second hypothesis of cognitive research into the relationship between intellectual capital and knowledge management effectiveness is dedicated the result was that the human dimension of intellectual capital at a significance level of 0.014 and taking into account direct and significant correlation 0.672 with the effectiveness of knowledge management.

Finally, using the Spearman correlation coefficient between knowledge management and intellectual capital in Al-Ghadir research institute was 0.512 and the correlation between these two variables is significant and the correlation coefficient shows essential role in establishing intellectual capital in Al-Ghadir research institute knowledge management in the organization as much stronger knowledge management and intellectual capital will be more successful. Direct relation on the premise means that increasing or decreasing the value of intellectual capital, reduce or increase the level of knowledge management components. The results of this study, the results Aldroon (2002) about the relationship between intellectual capital and knowledge transfer and Cugat (2004) in communication and interaction with the creation and application of knowledge, intellectual capital is approved. The results is consistent with studies Hunt (1999), Cohen (1999) and Hoffman (2005), based on the relationship between intellectual capital and knowledge management.

## 6. CONCLUSION

### **Development of knowledge management:**

Development of knowledge management and infrastructure needed to provide the conditions necessary for it. Structure, technology, culture, and communication strategy should be to promote and facilitate the management of all organizational knowledge, and if necessary be re-designed. It is necessary by management. Providing appropriate infrastructure and technology in the development of the structural dimension of knowledge management is very important and necessary. If knowledge is created, transmitted, but only in the minds of people remain organized, documented record is not, and there are no conditions for its use, cannot use it so I created knowledge and practically no effect on improving the competitive position of the organization will be, or will be very effective.

Among the other proposals for the development of knowledge management include:

- Collecting and acquisition of knowledge:
- In cooperation with universities and research institutes in order to identify opportunities for future
- Active participation of members in the professional and scientific associations and professional networks.
- Active participation in seminars and courses organization and its members educational and professional
- Competitor collaboration as a valuable source of knowledge
- Allocate funds to purchase the needed knowledge and information as well as recruitment of staff with the knowledge and new skills
- Providing the necessary infrastructure and technology, including information technology, groupware and databases to facilitate knowledge creation activities
- Improved caching of information and knowledge:

- Purchase of books and information sources to date and to provide for employees
- Evaluating and documenting their successes and failures recorded
- Documenting knowledge, skills and experience of managers and specialist staff
- Describes the detailed step by step and applied knowledge in the organization
- Providing the necessary structural and technology including information technology, groupware and databases
- Data to facilitate the registration and documentation of knowledge.
- Development of creating knowledge
- Meetings and meetings and brainstorming sessions to achieve new solutions and discuss professional issues
- Holding meetings to discuss methods and ways of working
- Welcoming ideas and new knowledge-based organizations and trying to build a culture of innovation in organizations
- Encourage and reward innovation and new ideas in organizations
- Providing an atmosphere of mutual trust and common goals of the organization
- Development of constant refinement of knowledge
- Holding meetings to transfer knowledge and expertise appropriate to each staff
- Meetings as well as providing a suitable environment in order to discuss the organization issues
- Providing appropriate space and culture in an organization full of mutual trust employees to comfort each other in learning new knowledge and transfer it to assist
- Periodic movements of employees in different jobs and organizational units
- Providing the necessary infrastructure and technology, including information technology and groupware to facilitate communication and knowledge transfer
- The importance and encourage behaviors that contribute to the transfer and dissemination of knowledge and learning environment and teaching indicates that govern the staff.

#### **Developing the knowledge and information:**

- Careful assessment and implementation of ideas contributed by staff
- Evaluation of existing knowledge in the industry and among competitors and trying to obtain and to use it
- Doing research, such as research and development and market research in order to apply new knowledge in the organization
- An attempt to capture value from the sale of existing knowledge in the organization
- Providing the necessary infrastructure and technology, including information technology, groupware and databases to facilitate the application of knowledge

#### **Development of intellectual capital:**

Management and intellectual capital as a necessary measure within the organization is very important. Once only with physical assets, and later the professional staff and the utilization of new technology and up to date as a criterion for the enterprise value was considered. But today we can say clearly that physical assets are amortized, professional employees leave organizations and technologies are the future of technology is considered inefficient and backward.



Thus, the art of managing and evaluating the intellectual capital, intangible assets and intellectual development of non-depreciable art and more rewarding, value-adding assets mullah physical capacity, capability and knowledge transfer into organizational knowledge and professional staff or assets under intellectual property organization and the development of indigenous technology or the development and updating capabilities using technology purchased within them.

**Strengthening human capital:**

- Design and creation of job satisfaction in the organization's measurement system
- Continuous measurement of job satisfaction and analyzing data
- Continuous measurement of the level of competence of employees and improve staff using programs
- Plans and objectives of balanced performance while having a systematic approach to it
- Providing training, advice and opportunities for organizations to help improve the future performance of their employees.
- The creation of useful courses and the opportunity to improve the performance of employees poorly.

**Strengthening the capital structure:**

- Team work and techniques of education at all levels
- Creation of working groups with the performance standards
- Trust between individual, group and organizational
- Identify some of the key processes that are of high importance.
- Use of advanced and modern structures such as team structures and participatory
- Funding and more time in research and development
- Using the proposed system within the organization for the employees

**Strengthening the capital relation:**

- Customer orientation behavior appropriate training to staff
- Identify target markets and customer needs and use it to innovate.
- Use customer feedback to improve
- Use large-surface advertising
- Creating an atmosphere that market-oriented organization

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# PATHOLOGY OF HUMAN RESOURCE MANAGEMENT IN HOTEL INDUSTRY OF IRAN (CASE STUDY: TEHRAN'S 4 AND 5 STAR HOTELS)

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## Abstract

*A key issue faced by the global hotel industry is addressing barriers and problems of human resource management. In this regard, the present paper is aimed at investigation of problems and damages of human resources in Tehran's 4 and 5 star hotels and endeavors to identify and prioritize the problems of human resources in these Hotels. In this research project, a number of 160 questionnaires have been distributed among the samples and ultimately 120 filled inventories were collected back. Among these 120 questionnaires, 115 were usable and valid. Normality data distribution was checked via the K-S test and the confirmatory factor analysis method was used for confirmation of factors related to each variable. Average tests were used for identification of damages on human resources. In addition, the Freedman test has been used for prioritization of identified damages. During analyses it was turned out that most damages and issues are associated with pay for performance system and other counts respectively include recruitment, performance evaluation, employees' relationships and ultimately, training and development. This paper also tries to provide managers and associates of Iran's hotel industry with certain guidelines in order to help them with moving towards solvation of issues and increasing organizational efficiency while acute problems and reduced human resource management efficiency are prevented in Iran's hotel industry.*

JEL classification: O15

**Keywords:** hotel industry, pathology, human resource management, recruitment, training and development, performance evaluation, pay for performance, employees' relationships

## 1. INTRODUCTION

Activities related to traveling and tourism, have resulted in emergence of more than 230 million jobs which consists 7.8 percent of jobs in the world (World travel and tourism council, 2006). While the quantity of these jobs is undeniable, the quality of many of these occupations is a crucial issue for both policymakers and the academics.

Current studies show that the personnel are amongst the most important commercial or business resources throughout the world. Especially in domains such as hotel industry which is service based (Bauma et al. 2006). The IPD (institute of personnel and development) investigated the issue of losing the employees in 1997. It was concluded that amongst the 20 industries under investigation, the hotel industry was associated with the highest amount of losing the employees. This research has also estimated that the aforementioned occurrence has an annual expense of 4 million Ponds for organizations. In addition, this amount can adopt a 10% annual transfer by which 339000 individuals desert the hotel industry (HCIMA, 1998).

The hotel and tourism industries are continuously growing and evolving, however the working conditions especially in Iran have not been consistent with this development. As a result, in many countries, workers have been forced to tolerate poor working conditions. This issue holds especially for workers of hotels, entertainment and installation sections (Dansville, 2001). Human resources play a crucial role in successful tourism and hospitality services. In fact, individuals working in these industries are considered

as success indices of these businesses. The human resource management section of hotel industry of Iran is not in a favorable efficiency condition, employees in these sections are not using their full potentials and recruitment processes are also faced with several problems as well. Efficient and highly motivated human resources play a significant role in promotion of efficiency of every organization including hotels. Identification of current damages and elements effective on HRM (human resources management) may provide managers with help for optimization of efficiency of human resources.

In this paper, it has been tried to identify, analyze and prioritize the damages of HRM in aforementioned five domains in Iranian hotel industry in order to seek and find practical solutions for current damages. In this regard, damages and problems of HRM in 4 and 5 star hotels of Tehran will be subjected to analyses through using certain inventories.

## 2. REVIEW OF LITERATURE

### Domestic studies

In her M.A thesis titled as "analysis of problems of HRM in Hamadan province's tourism and traveling services offices based on OLC model", N. Rasooli (2012) has tried to tell whether HRM problems are related to concurrent lifecycle of the organization or not. Results have shown that the relationship is positive.

### Foreign studies

Cho et al. (2006) conducted a research titled as "measurement of effects of activities of HRM on performance of Hotels". These researchers have tried to investigate the relationship between a number of managerial activities and items of organizational performance, desertion of managers, desertion of non-management employees, and efficiency of the work force and asset return rates among certain hotels and restaurants of United States of America.

Alleyne et al. (2006) conducted a research titled as "HRM and performance in Barbados hotel industry". In this research, the authors have sought to verify the existence of a relationship between activities of HRM and performance in Barbados hotel industry. In addition, it has been investigated whether this relationship could be described or not.

With respect to investigations cited on Iran's scientific documents website, it can be seen that no previous researches in Iran have elaborated on damages of HRM in hotel industry.

### 1.HRM in tourism industry

Tourism has significant characteristics related to humans and in this regard, the role played by development and training of human resources aimed at increased efficiency and quality in every organization, tourist destination and country gains a great deal of importance (Bauma et al. 2008: 783). The following counts some of the aforementioned characteristics:

- Tourism is a multifold activity and its different sections demand a wide range of occupations with a variety of special organizational conditions.
- Tourism is dichotomous in the sense that in its environment, SMEs and small time commercial institutes coexist.
- The role of seasons is importance for the manner of organization of tourism operations. The patterns of operational demands, marketing, budgeting and most important than all, HRM may damage tourism related businesses.
- Coexistence of transferrable skills and domestic workforce markets which are economically limited by a low rate of performance has been realized in many countries.

In summary it can be said that while tourism related occupations are largely backed up by governments, the aforementioned structural elements are not free from problems and damages. In fact tourism industry

may show a weak performance as a result of poor workforce market conditions and a low level of perceived skills (Bauma et al. 2003).

One of the critical factors for successful tourism service providing is referred to as the staff of this industry. Manners of recruiting, managing, and training, evaluating and rewarding these staff are continuous processes of activities of HRM. The experience gained by a tourist is largely shaped under the light of his/her contact with staff of the tourism industry. For this reason, all employees and the entire staff elaborate on production of products consumed by the tourist. Knowledge and expertise of workforce is the center of this view and by this means, the employees are able to provide tourists with special services (Gay, 2004: 422).

Baume (2007) has introduced a set of beneficial HRM activities based on a study on tourism sections of certain countries including Iran. These activities are manifested on table 1.

**Table 1. Set of activities of HRM in tourism industry**

<b>Flexibility</b>	Organization of certain part of facilities for making consistence between demands and time of employees through making balances between life and work
<b>Collaboration</b>	Persuasion of employees towards collaboration in decision makings and training for having influences on working patterns
<b>Performance management</b>	Performance reviewing systems aimed at investigation of personal and team performance towards obtaining service standards and expected business goals
<b>Identification</b>	Giving credit to high quality work and glorification of high personal and tam performance
<b>Pay for performance</b>	Compensation of financial and non-financial services related to employees' performance which is followed by increased organizational profitability
<b>Communications</b>	Daily communications between employees, having access to management
<b>Learning and development</b>	In-service training opportunities and emphasis on continuity of learning
<b>Empowerment</b>	Supporting active employees in order to empower them for collaboration in work environment in ways mentioned before

*Source: Author*

## 2.1. REVIEWING THE DAMAGES OF HRM IN HOTEL INDUSTRY

In spite of high importance of work force in hotel and tourism industries, this context is still faced with several damages in different countries. The fact is that on the one hand, success of this industry depends upon capability and enthusiasm of work forces and their relation with guests; while on the other hand, the same employees in some countries are amongst the poorest workforces in certain countries (Baum et al. 1998).

## 2.2. PATHOLOGY OF HOTEL INDUSTRY'S RECRUITMENT SYSTEM

According to Lavang (1997) having the best human forces is a crucial element in hotel industry. This is because the performance of a hotel is closely related to the performance of its staff. Chang et al. have also stated that correct decisions about recruitment of forces results in optimal reduction of rates of desertion. The former requires proper selection of individuals who are consistent with the organization and its goals.

Practitioners of this industry are mostly non-expert, semi-expert, women and youth. As a result of making use of non-expert work forces, growth and development of this industry is less than other industries (komijani et al, 2007). Both non-skilled simple workers and those who have special skills can have a job in this industry (Jenkins, 1994). However, most of bosses seek their requirements in those who have special skills rather than those who have academic educations. Those who have studied for two years and also have some working experience are preferred over those who have studies for four or more years. Especially in small corporations in which bosses mostly seek working experience rather than competence (Zagonari, 2006). All these issues are intensified by the fact that even students of tourism field are not usually selected properly (Baum et al. 1997). Jobs in hotel industry are usually associated with thoughts including lower social statuses, non-regular and occasionally prolonged working hours, low income and

low social welfare and benefits while other industries have more interesting jobs to offer (Baum, 1997). As an example it can be referred to an American study issued by the international work organization of America (2002). This study shows that if the salary of a bank teller and salary of a hotel or restaurant related positions were equal, still people would have preferred to work in a bank. Many of the occupations and jobs related to the tourism industry are non-official and therefore are associated with low salaries and high occupational flows (Ghavidel, 2005). In addition to high occupational flow, job opportunities are also relatively temporary and this is mostly due to lack of job security in this industry. For this reason, people prefer other jobs with equal or even lower salaries (international organization of work, 2001).

### **2.2.1. Damages of training and development system of hotel industry**

For managers and employees, training must be considered as a daily and routine affair. However, as a result of several causes, some managers tend to ignore the issue of training. In addition, in some cases it has been observed that training is conducted by those who don't have the slightest clue about training employees. The former and latter add to the complexity of issue of lack of content of training courses which also lack any significant effects on employees' knowledge, attitude and behavior. As a result of several limitations, small corporations are unable to provide their employees with training. However, larger corporations tend to train their employees based on daily routines but they are still faced with problems in terms of training their expert and skilled forces. Their trained employees go to hotels that do not offer any training but pay higher wages. Therefore, the aforementioned employees can't benefit from permanent advantages of training (Anderson et al. 2002).

On the other hand, since employees lack the ability for implementation of their trainings in their work environment; they become alienated with training. In some cases, also certain conflicts and differences are developed between them and higher authorities (Abtahi, 2010).

Other problems of training in tourism and hotel industry are due to training expenses and supplication of equipment required for these trainings. Nowadays, in countries successful in the context of development of tourism, training and educational expenses are referred to as long-term investment (Anchei, 2005). This is mostly because results of training are realized in long-term. Usually firms are not much interested in long-term investment and since 2002 that the organization of tourism of Iran adopted a monitoring approach for training, the former industry has developed crises regarding long-term trainings. In fact, **private sector has fewer tendencies towards holding such courses. It would be naïve to think that success** in tourism industry can be yielded through mere implementation of short-term training (Noori, 2006).

### **2.2.2. Damages of performance evaluation system of hotel industry**

One reason that results in desertion is that employees don't know how their work is assessed or evaluated. Experienced bosses not only evaluate the performance of their employees, but also make their employees aware of the methods of doing so and therefore provide them with a clear picture of their performance status. Rewarding and payment systems and pay for performance, promotion and training systems will have a better performance when employees' works are evaluated. In fact, in this way employees feel no discrimination (Alvaani, 2009: 96).

Phillips (2007) believes that performance evaluation can be effective as an instrument for deciding about increasing employees' wage with the aim of promotion of their performance. Stiffener (1992) in his book points out that performance evaluation is the core index for increasing payments. On this basis, if the relationship between results of evaluation of performance and increase of wage is not considered for, several damages would be inflicted on the organization among which it can be referred to loss of motivation in hardworking employees and ultimately, overall organizational failure (Miandari, 2004: 22).

A factor effective on increased payment is the information that is obtained from the evaluation of performance of an individual. Nowadays, most managers believe that employees' bold performances must be tangibly rewarded by increasing payments and salaries. Is the payments paid to hardworking employees are equal to non-hardworking employees, the former will gradually lose their motivations and either become a non-hardworking employee or leave the organization (Maleki, 2007: 122).

### **2.2.3. Damages of pay for performance system of hotel industry**

Similar to organizations' right for expecting maximum efforts and efficiencies from their employees; employees themselves have the right to expect their organizations to compensate their services in a fair way. Designing and maintaining a pay for performance system is both a highly complicated and important task in every organization. Since currently the movement of economy is towards service based and information based economies, competition has become harsher for talented people. In other words, exploitation and maintenance of such people may be the core damage inflicted on the body of hotel and tourism industry.

Employment in the hotel and tourism industry is nonofficial; in fact, hotel managers tend to employ their work forces in nonofficial ways and therefore, wages paid in this industry are lower compared to other industries. Based on the following reasons wages paid in this industry are lower than other industries:

1. Many of hotel related occupations are simple
2. Most of employees of this industry are not permanent
3. Conditions are very poor for formation of communities and bargaining for increased wage
4. In non-developed countries which have a high amount of work forces, wages are lower. In addition, managers and bosses may claim that they should spend more money on their education and therefore are not able to pay them high wages.

Hotel managers seek best performances in order to gain competitive advantage. It should be pointed out that wages and payments are not the only elements effective on obtaining higher organizational commitment. Based on this content, in order to reach and maintain success in hotels, managers must pay attention to the functions of public pay for performance system, desertion rates and pay for weak performances that affect organization's efficiency and income (William F. Harrah, 2010).

### **2.2.4. Damages of internal communications of hotel industry**

According to reviews and identified components, the process of communication and elements effective on internal communication in Tehran's 4 and 5 star hotels can be expressed. This model is based on a comprehensive communication networks and elaborates on the mutual relationship between managers and employees of different organizational levels with each other and the relation between managers and employees.

## **3. RESEARCH GOALS**

Main goal:

- Determination of most important damages of HRM in 4 and 5 star hotels of Tehran

Secondary goals:

- Determination of most important damages of recruitment systems in 4 and 5 star hotels of Tehran
- Determination of most important damages of training and development systems in 4 and 5 star hotels of Tehran
- Determination of most important damages of performance evaluation systems in 4 and 5 star hotels of Tehran
- Determination of most important damages of communicational systems in 4 and 5 star hotels of Tehran
- Determination of most important damages of maintenance systems in 4 and 5 star hotels of Tehran

Main and secondary research questions

1. What are the most important damages of HRM in 4 and 5 star hotels of Tehran?
2. What are the most important damages of recruitment systems in 4 and 5 star hotels of Tehran?
3. What are the most important damages of training and development systems in 4 and 5 star hotels of Tehran?
4. What are the most important damages of performance evaluation systems in 4 and 5 star hotels of Tehran?
5. What are the most important damages of communicational systems in 4 and 5 star hotels of Tehran?
6. What are the most important damages of maintenance systems in 4 and 5 star hotels of Tehran?
7. Which system has a higher priority as the core of damage?

#### 4. RESEARCH METHODS

The present research has an exploratory nature and is therefore considered as an applied study. Since it elaborates on investigation and identification of organizational damages in current conditions it would be considered as a descriptive research. In other words, the present article is a descriptive-applied study.

Population of this research is consisted of entire 4 and 5 start hotels of Tehran. Research sample includes managers, bosses and employees of Tehran's 4 and 5 start hotels. Based on this content, the author has defined the research population as management, supervision and **employee's** levels. The reason for selecting these working groups is that the aforementioned groups are consistent with required characteristics for research population and are also completely aware of current situations of their organizations especially the situation of HRM. These groups are well able to comprehend the main problems of their organization's HRM.

Library studies and computer based queries have been performed for collection of primary indexes and required data. Researcher made questionnaires have also been designed and implemented in order to gather data from the participants. In fact, the main instrument of this survey study is questionnaires. In this section, two questionnaires have been made use of for gathering required and related data from research participants. First of all, a questionnaire or inventory was developed for professors and scholars of the field and afterwards, the second questionnaire including 55 questions was distributed among hotels.

**Table 2. Statistical instruments used in research**

<b>Demographic description</b>	Abundance tables, bar graphs and etc.
<b>Evaluation of reliability of inventory</b>	Cronbach's alpha test
<b>Evaluation of validity of inventory</b>	Confirmatory factor analysis
<b>Evaluation of normality of data distributions</b>	K-S test
<b>Average comparisons</b>	T o t student test
<b>Prioritization of damages</b>	Freedman test

*Source: Author*

Demographic features:

52.2 percent of respondents were male and 47.8 were females. 37.4 percent of respondents had an experience of 1 to five years, 19.1 percent had an experience of 6-10 years, 13.0% has an experience between 11-15 years; 10.4% had an experience between 15 to 20 years, 9.6% had an experience of between 21-25 years and 10.4 percent of respondents had an experience of 26-35 years. 19.1% held M.A or higher degrees, 49.6 percent held B.A and 31.3% had lower levels of education. 57.4% of the respondents were employees, 26.1 percent were supervisors and 16.5 percent were managers.

Evaluation of reliability:



In this research, the Cronbach's alpha method has been used for evaluation of reliability of inventories. The aforementioned inventory was designed based on a 5 point Likert scale and therefore the most proper method is to evaluate the reliability coefficient.

#### Evaluation of validity

Content validity and construct validity notions are referred to for evaluation of validity of inventories used in this study. Content validity was approved by scholars and academics. Construct validity has also been approved through the application of confirmatory factor analysis method.

**Table 3. Cronbach's alpha coefficient for each variable**

Concept under investigation	Variable	Number of questions	Cronbach's alpha coefficient
HRM	Recruitment	8	0.841
	Training and development	11	0.817
	Performance evaluation	19	0.895
	Wages	9	0.824
	communications	8	0.830
<b>Total</b>		<b>55</b>	<b>0.943</b>

*Source: Author*

## 5. DATA ANALYSIS

In order to decide on the type of statistical methods for testing research hypotheses, first of all the normality or lack of normality of data distributions should be made clear. If data were normally distributed, parametric tests should be used and if they were non-normally distributed, then non-parametric tests should be used. In this phase, we act as follows:

H0: distributions are not normal

H1: distributions are normal

By making use of the results of the K-S test shown in figure 4; since the value of Sig. is smaller than 5%, therefore we may eliminate H0 and resultantly the H1 is accepted. The data are normally distributed and therefore, parametric tests would be used for testing hypotheses. The parametric test used in this study is the one sample t-test.

**Table 4. Results of K-S test**

Variables	Recruitment	Training and development	Performance evaluation	Pay for performance	Communications
Number of samples	115	115	115	115	115
Sig.	0.133	0.061	0.178	0.126	0.217

*Source: Author*

In this test, if data were normally distributed, parametric tests should be used and if they were non-normally distributed, then non-parametric tests should be used.

H0: distributions are not normal

H1: distributions are normal

**Table 5. Results of one sample t-test**

Criterion	T statistic	F.D	Sig.
Recruitment	-2.369	114	0.020
Pay for payment process	-10.272	114	0.000

Training and development	-1.046	114	0.298
Performance evaluation	-2.591	114	0.011
Communications	-0.848	114	0.398

*Source: Author*

- 1- According to the value of t statistic of -2.369, freedom degree of 114 and significance value of 0.020; the H1 hypothesis is not rejected and therefore the average smaller than 3 value assigned to the process of recruitment of human resources cannot be rejected.
- 2- According to the value of t statistic of -10.272, freedom degree of 114 and significance value of 0.000; the H1 hypothesis is not rejected and therefore the smaller than 3 average value assigned to the process of pay for performance cannot be rejected.
- 3- According to the value of t statistic of -1.046, freedom degree of 114 and significance value of 0.298; the H1 hypothesis is not rejected and therefore the larger than or equal to 3 average value assigned to the training and development cannot be rejected.
- 4- According to the value of t statistic of -2.591, freedom degree of 114 and significance value of 0.011; the H1 hypothesis is not rejected and therefore the smaller than 3 average value assigned to the process of evaluation of performance cannot be rejected.
- 5- According to the value of t statistic of -0.848, freedom degree of 114 and significance value of 0.398; the H1 hypothesis is not rejected and therefore the larger than or equal to 3 average value assigned to the communications variable cannot be rejected.

Which system has a higher priority as the core of damage?

In order to answer the upper question, the Freedman test has been made use of and its results are shown in table 6.

**Table 6. Freedman test results**

<b>Five-fold factors of HRM</b>	<b>Average rank</b>
Pay for performance	2.05
Recruitment	2.98
Performance evaluation	3.15
Communications	3.37
Training and development	3.45

*Source: Author*

The average rank of each variable is associated with its prioritization. As the average value become smaller, the importance of the variable decreases as well. With an average value of 2.05 pay for performance system is the first priority while the process of training and development is the least priority with a calculated average rank of 3.45

<b>N</b>	115
<b>Chi-square</b>	58.945
<b>DF.</b>	4
<b>SIG.</b>	0.000

*Source: Author*

According to results yielded from confirmatory factor analysis method, the damages inflicted on the recruitment system in hotel and tourism industry are as follows:

- 1- Recruitments is not conducted based on rules and principles
- 2- Hotels lack suitable planning for recruitment of human resources
- 3- Iran's hotel industry lacks a suitable recruitment system

Since paying low wages has been identified as the main factor of desertion of employees of hotel industry, it can be concluded that suitable rewarding and payment systems play the main roles in maintenance of efficient work forces. Lack of these systems cause many expenses for the organization which are due to loss of efficiency, loss of certain skills for providing services for customers, requiring to plan for new recruitments and loss of new occupational opportunities.

According to results yielded from confirmatory factor analysis method, the damages inflicted on the pay for performance system in hotel and tourism industry are as follows:

- 1- There is no correspondence between wages and performance of employees
- 2- Payment related principles and regulations are not clear in hotels
- 3- Wages are not paid fairly
- 4- Hotels lack occupational categorization systems

Based on results of Freedman test, training and promoting employees has a better condition compared to other factors and is not considered as a main damage.

According to results yielded from confirmatory factor analysis method, the damages inflicted on the training and development system in hotel and tourism industry are as follows:

- 1- Employees' knowledge and expertise are not continuously improved
- 2- There are no criterions defined for selection of employees who need to take part in training courses
- 3- Hotel industry lacks up to date rules and regulations regarding routes of occupational promotion

According to results yielded from confirmatory factor analysis method, the damages inflicted on the performance evaluation system in hotel and tourism industry are as follows:

- 1- Evaluators make unfair evaluations in hotels and they mostly have no precise statements regarding this issue
- 2- Performance evaluation is not specifically used for determination of training requirements in hotel industry
- 3- Managers do not make good examples with their actions

According to results yielded from confirmatory factor analysis method, the damages inflicted on the pay for performance system in hotel and tourism industry are as follows:

- 1- Rules are not completely obeyed
- 2- Regulations for working in hotels are not proper
- 3- Rules governing the relations between employers and employees are not clear
- 4- Hotels lack proper work hygiene and safety related rules and regulations

## **5.1. RECOMMENDATIONS**

Recommendations for recruitment system:

- 1- Providing a human resource planning model in which entire aspects related to planning for human resources are considered for.
- 2- There needs to be an occupational categorization system implemented in organizations and afterwards, efforts should be made for evaluation of occupations in order to be able to differentiate between different tasks and responsibilities in organization.

### **5.1.1. Recommendations for training and development system**

- 1- Hotel managers and experts are recommended to not consider the mere numerousness of their working forces as a guaranty for a good performance. Rather employees' knowledge and their familiarity with the job are what can guarantee a good and suitable performance. Training plays the most important role in this regard since human resources are the representatives of the organization in face of customers. In fact, this issue is bolder for service based industries. Hotel managers and experts should hold various training courses and also create diversity in methods of education and training in their organizations in order to train expert, skilled and efficient work forces. Ultimately, the organization's overall profitability is increased.
- 2- In the context of training employees, it is recommended to develop a regular training plan so that the employees are made familiar with the plan and feel an obligation for taking part in the program
- 3- In order to train managers and supervisors and increase their efficiencies, it is recommended to provide them with training with content in management principles, organizational behavior, computers and etc.
- 4- In order to increase the quality of aforementioned training courses, it is recommended to take help from experienced trainers and instructors for both managers and employees.
- 5- Managements of human resources are recommended to make use of the results and guidelines of the research titled as "reforming and reengineering the structure of training and optimization of human resources". In addition, the syllabus of contents of training courses should be designed in consistence with requirements and needs of the hotel industry.
- 6- Another recommendation for elimination of barriers and problems of training employees is to implement training in every organizational level simultaneously. If this was not possible, training should start from higher levels and move towards lower organizational levels. Otherwise, training process will definitely face problems based on previously mentioned causes. In order to create motivation for taking part in training courses it should be tried to make the work environment ready for implementation of scientific learnt materials. In addition, required privileges should be granted with respect to responsibilities in order to feel the influences of training.

### **5.1.2. Recommendations for performance evaluation system**

- 1- Expert and personal characteristics of the evaluator play a crucially significant role in infliction of HRM damages from the perspective of performance evaluation
- 2- Whether the evaluator is a single individual or a group, whether it comes from the inside of organization or outside and whether he/she is the direct supervisor of the employee under training are highly important
- 3- Errors of performance evaluation include discrimination, orientation, prioritization error and others. These errors take place intentionally and unintentionally and inflict adverse damages on performance evaluation system.
- 4- Performance evaluation technics have also a great influence on development of an efficient performance evaluation system. Managers and individuals, who tend to evaluate performances, should make use of up to date and new technics. They should identify these methods and be familiar with them in order to be able to use each at its time.
- 5- Managers should pay attention to the point that in order to optimize the system of pay for performance; they should put efforts on amplification of the quality of performance evaluation system. This is because it is only under the light of a suitable evaluation that fairness is adhered to.
- 6- Attention must be paid to the role of performance evaluation in identification of training requirements. Training impacts organization's level and the training itself is directly dependent

upon results of evaluation of performance of employees. More attention should be paid to evaluation.

- 7- Recruitment fairness is a very crucial aspect and in order to adhere to it, the role of performance evaluation must be prioritized. This is because results of performance evaluation are highly effective on survival of employees and also recruitment of new employees.
- 8- Managers should pay attention to the role of motivation of evaluation system. It should be considered that if the performance evaluation system is remained intact, employees' motivations would be damaged.
- 9- In order to make the evaluation process more fruitful, it is recommended to make the employees aware of their role and role expectations. In addition evaluations must be followed by logical regarding or punishment systems.

#### **5.1.3. Recommendations for pay for performance system**

- 1- In order to implement a suitable and proper wage system, it is recommended to design this system with respect to qualitative and quantitative changes in lives of employees. In addition the situations of the labor market should be considered for.
- 2- Hotel managers are recommended to reward employees based on their expertise and differentiate wages based on occupational level of employees. They should make their employees feel that their valuable efforts are not neglected and that hardworking and capable employees who have more shares in advancement of the organization are rewarded in best ways possible.

#### **5.1.4. Recommendations for communication system**

- 1- In order to promote organizations, it is recommended to make proper and clear rules and regulations for promotion of employees.
- 2- Hotel managers and experts are recommended to pay attention to employees' suggestions and persuade them towards working in groups in order to make them motivated for providing better services for tourists. In addition, employees should be involved in decision making processes. Sessions should be held with employees in order to overcome their flaws. This leads to improvement of humane relations in hotels and ultimately, leads to a better and more successful service providing for customers and tourists.
- 3- Existence of human resource information system is a crucial element in hotels of Tehran. In fact, current human resources inventory can be determined based on the information obtained from human resource information system. By inventory of human resources, it is referred to number, type and type of expertise of employees which are truly effective and influential on providing tourists with better and more successful services. Existence of a system that includes the entire information regarding expertise and skills of employees will help managers towards better decision making regarding proper and in time exploitation of human resources in the hotel. Ultimately, this would be beneficial for profitability.

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# FACTORS AFFECTING LOAN BORROWING AND THEIR IMPACT ON THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES (SMES) IN FARS PROVINCE (IRAN)

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## Abstract

*This study investigates factors affecting loan borrowing cost and their impact on the performance of small and medium enterprises. According to Morgan table, 278 SMEs were selected as sample in Fars. Data were collected through 278 questionnaires distributed among managers and some employees of small and medium-sized companies in Fars. To test the hypotheses, correlation coefficient, Pearson coefficient and SPSS software were applied. Research results showed that interest rate charge has a negative and significant effect on the performance of small and medium enterprises. Membership fee/contingency fee has a negative and significant effect on the performance of small and medium enterprises. Loan processing costs affect the performance of small and medium enterprises negatively and significantly. Cost of borrowing affects the performance of small and medium enterprises negatively and significantly. Generally, there is a negative relationship between dimensions of loan borrowing costs and the performance of small and medium enterprises.*

JEL classification: G21

**Keywords:** Performance, Small and Medium-sized Enterprises (SMEs), Loan Borrowing Costs, Interest Rate, Processing Cost

## 1. INTRODUCTION

Today, small and medium enterprises (SMEs) have an undeniable role in the progress and prosperity of countries. Therefore, they have been considered important by politicians and officials. One of the basic requirements to establish and maintain small and medium enterprises is financing issue required. Therefore, investigating different methods of financing in small and medium enterprises can help entrepreneurs ensure the survival of their own companies. Studies indicate that small and medium enterprises use different ways to finance their requirements in different stages of their life. Sources such as internal resources, debt, borrowing and etc. are used by small and medium enterprises in different stages of life cycle (Sadrinia, et al. 2009).

Financing decision as one of the determinants of financial stability in corporates is affected by economic fluctuations. This category which debt or stock-based financing method can be recommended in economic prosperity and recession, is of interest to many corporate executives (Rezagharebagh & Mohammadi, 2015). Many commentators consider financing gap for small and medium enterprises. This means that if financial resources are available, a large number of small and medium enterprises (SMEs) can use financial resources effectively and optimally and achieve productivity; however, these enterprises cannot provide financial resources required from formal financial system. Problems which have been experienced by small and medium enterprises in connection with financing can be caused by several sources. Domestic financial market is probable not to provide financial services and products sufficiently or they can be not fully represented. Lack of appropriate mechanisms to finance can be due to various sources such as lack of

legal flexibility or gaps existing in legal frameworks (Tumwine, et al. 2015). Based on what was said, it seems that factors affecting loan borrowing cost can be effective on the performance of small and medium enterprises from different aspects requiring further research.

Creation and support of small and medium enterprises is one of the main priorities of economic development programs in many developed and newly developed countries. Economic small and medium enterprises have important role in creating jobs and providing an appropriate platform to innovate and increase exports, small enterprises are more flexible and more creativity and entrepreneurship are observed in them. They can comply with environmental rapid changes more easily and react more quickly to economic and political factors. According to the bank-based production financing system in Iran, banking development especially small and medium enterprises can play effective role in financing the businesses by accurate identifying needs of this sector and offering a plethora of services (beyond merely providing banking facilities). This is despite the fact that commercial banks normally consider providing banking services to small and medium-sized businesses as risky and challenging matter. According to the importance of small and medium enterprises in different countries, some measures have been applied to facilitate the financing process in these enterprises. Therefore, significance of this study is derived from answer to this question that whether factors affecting loan borrowing are effective on the performance of small and medium-sized businesses or not.

## 2. REVIEW OF THE RELATED LITERATURE

### Theoretical foundations

In a competitive market, providers of financial resources have powerful incentives to ease restrictions and obstacles. In most OECD member **countries, banks have developed small and medium enterprises'** financing in the form of credit line; therefore, effectiveness techniques have been created to monitor the performance of these enterprises. However, the gap existing in the markets of different countries depends on the business environment and hence the reliability level in interaction between lenders and borrowers to finance the requirements of small and medium enterprises. Certainly, there are numerous mechanisms to finance industrial enterprises in general and SMEs in particular; however, one of the best ways to finance SMEs is to help development of clusters including small and medium enterprises and provide financial and credit facilities to enterprises based in these clusters. This method of financial support results in increasing long-term competitiveness in small and medium enterprises in addition to enhancing effectiveness and efficiency of facilities granted (Ghasemi & Elimimoghadam, 2009). Accordingly, it can be stated that financing small and medium enterprises through loans can have a great impact on the performance of these enterprises.

According to the research conducted by Prevost, et al. (2008), loan borrowing cost is determined by the interest rate dependent on the capital costs. A large part of micro financial institutions capital is from commercial bank resources and costs are determined by market interest rate, which are always high. In fact, when these financial costs are combined with the costs spent on borrowing such loans and deposits paid to get these loans, it creates a costly borrowing for small and medium businesses. On the other hand, due to strict terms and conditions of commercial banks, many small and medium enterprises are not able to receive loans. Hence, factors affecting loan receiving costs in small and medium enterprises are as follows: interest rate charge, membership fee/contingency fee, loan processing costs, and cost of borrowing (Tumwine, et al. 2015). Each of these factors can increase costs of loan received in small and medium enterprises.

### Experimental foundations

In a research conducted on investigating the role of granting facilities to small and medium enterprises in job creation, Shahtahmasbi, et al. (2012) examined the role of loans granted to small and medium enterprises in employment. This research was carried out using analytic-descriptive method among 161 industrial small and medium enterprises which have received facilities more than a hundred million IRR in order to create employment in a period from 2005 to 2009. Results indicated a relationship between loan



received and rate of employment created, with coefficient of 0.372. Finally, it should be said that the amount of loan and the purpose of recipient do not cause a significant difference in mean of job creation.

Mirghafari, et al. (2013) examined the appropriate strategies to finance knowledge-based small industries. The method used in this research is survey-descriptive, and data were collected using various methods, including library studies, articles and theses. Research results indicated that different methods can be used to invest and finance small and medium enterprises; each of them has advantages and disadvantages. Entrepreneurs should pay attention to these advantage and disadvantages and then select the best choice in corporate life cycle.

Rezagharebagh & Mohammadi (2015) **investigated the effect of finance patterns on company's financial performance** in economic fluctuations (case study of automobile manufactures and their Equipment). This research conducted on this subject with a sample of automobile and equipment manufactures accepted in stock market. Therefore, 27 stock companies were studied in a volatile period (2012-2008). To evaluate the results obtained from testing hypotheses in each company and years of recession, enterprises were classified on the basis of two debt and stock-based criteria. The results indicate that due to lower financial costs than industry mean, stock-based enterprises under investigation have had better financial performance in terms of maintaining liquidity.

Aspelund, et al. (2005) investigated the effect of primary resources and technology on the survival of new technology-driven companies in Norway and Sweden and reported a positive relationship between primary resources and the capability **of company's survival in the early years of activity**. They concluded that heterogeneity between functional experience **of company's** founder team and technology fundamentality reduces the probability of failure in new technology-driven companies.

Palacin-Sanchez, et al. (2012) have examined capital structure of industrial SMEs in Spanish regions and its determinants that differ in different regions. They reviewed the relationship between debt as an external financing way and enterprise factors such as size, age, profitability, asset structure and growth and concluded that there is a negative relationship between age and level of debt and between profitability and level of debt, and this relationship is positive between size and level of debt and between growth and level of debt. Also, it is stated that according to the hierarchical theory, longer life of enterprise leads to its more capacity for production resources, and external financing will be less required.

Tumwine, et al. (2015) investigated loan costs and performance of small-sized businesses. This research aimed to provide a model for loan cost, due to qualitative factors relating to small businesses, to improve performance. In this study, questionnaire covering research variables was used. A total number of 359 questionnaires were distributed among 359 SMEs, including 131 retail firms, 125 service firms, 48 agricultural firms and other 55 businesses. The results indicated that interest rate and loan processing costs are associated with **firms'** performance.

## 2. RESEARCH HYPOTHESES

Regarding the reason of discussing hypotheses in this research, it can be said that factors affecting loan receiving cost can affect performance positively when business returns are positive. It means that cost spent to get a loan which leads to production, provides the possibility to improve performance. However, such costs may have negative impact on performance while the business environment is inappropriate and loan received through spending such costs does not spend on manufacturing issues. Accordingly, factors affecting loan receiving costs can be positive or negative due to economic conditions and business environment. Research hypotheses were discussed to explain this relationship in SMEs in Iran. Therefore, research hypotheses are as follows:

1. Interest rate charge affects performance of SMEs.
2. Membership/contingency fee affects performance of SMEs.
3. Loan processing costs affect performance of SMEs.

## 4. Cost of borrowing affects performance of SMEs.

**Statistical population and sample**

Research population includes SMEs in Fars province derived from websites providing information about business clusters in Iran. Research samples are enterprises which are active in the investigation period; these samples are determined based on Morgan table. Morgan table is one of the most widely used methods for calculating sample size. According to websites providing information about business clusters in Iran, there are about 1000 SMEs in Fars province. Sample size includes 278 enterprises based on Morgan table. Random sampling was applied in this study.

**3. METHOD OF RESEARCH AND DATA COLLECTION TOOLS**

Data were collected using library studies and referring to electronic information and documents. The research strategy is correlational. Use of questionnaire is considered as field method. To analyze statistical data and investigate research questions, according to the type of data and variables, SPSS software, descriptive statistics and inferential tests were applied.

This research questionnaire was developed by guidance of supervisor, advisor, other experts and getting help from various articles with major modeling of research conducted by Tumwine, et al. (2015), Li, et al. (2006) and Granville et al. (2014). Lickert scale was used to evaluate factors affecting loan borrowing costs and their impact on the performance of SMEs. The questionnaire consisted of demographic information such as age, gender, level of education and work experience with multiple-choice answers for each. The questionnaire is divided into two parts as follows:

**Questionnaire of factors affecting loan costs:** This part is divided into four dimensions; dimensions are independent variables which their effect on dependent variables are examined when testing hypotheses. These variables include interest rate charge, membership fee/contingency fee, loan processing costs, and cost of borrowing. Each dimension is divided into 3 items. Each item is a question of corresponding dimension which is answered on the basis of 5-point Likert scale. This part has been developed by modeling research conducted by Tumwine, et al. (2015).

**Questionnaire of firm financial performance:** In this part, 6 items have been considered for financial performance of firms which are answered based on 5-point Likert scale. High score indicates better financial performance. These 6 items include market share, return on investment, market share growth, growth in return on investment, profit margin and general status of the competition. This questionnaire has been modeled according to a research carried out by Li, et al. (2006), referring to achievement degree of **company's** market share and sales and overall competitive position as components of corporate financial performance, and a research carried out by Granville et al. (2014), designing and investigating 6 items to evaluate corporate financial performance.

**Table 1. Cronbach's alpha coefficient**

Questionnaire	Question numbers	Cronbach's alpha coefficient
Interest rate charge	3	0.809
Membership fee/ contingency fee	2	0.818
Loan processing costs	3	0.799
Cost of borrowing	3	0.845
Performance	6	0.925
Total Questionnaires	17	0.913

*Source: Author*

Validity of measurements applied in this research has been approved by experts, professors and internal and external valid articles. Questionnaire reliability was obtained using Cronbach's alpha coefficient. The

results are shown in table 1. Cronbach's alpha coefficient value more than 0.7 indicates questionnaire reliability.

### Hypotheses analysis and testing

To analyze first part of the questionnaire including demographic features of employees and managers of small and medium-sized enterprises in Fars Province, descriptive statistics were used. In this part, data were described and analyzed based on the target discussed previously. First, variables values based on data and what derived from questionnaires were gathered into SPSS software after necessary amendments. Then, research variables were described and hypotheses were tested according to the results obtained from SPSS. To test the hypotheses, Pearson correlation test was applied. Table 2 shows the descriptive statistics of research variables.

**Table 2. Descriptive statistics of variables**

Variable	Items	Respondents' number	Mean	Standard deviation	Variance	Skewness
	Interest rate charge	278	2.981	0.524	0.274	-0.117
	Membership fee/ contingency fee	278	2.635	0.611	0.373	0.127
	Loan processing costs	278	2.741	0.582	0.338	0.098
	Cost of borrowing	278	2.352	0.408	0.166	0.234
<b>Financial performance</b>		278	2.79	0.496	0.241	-0.241

*Source: Author*

To select the appropriate test to analyze the hypotheses, the statistical distribution of the variable which is tested should be ensured. In other words, the normality of statistical distribution of variables should be examined. To evaluate the statistical distribution of variables, tests known as Goodness of fit tests were applied which Kolmogorov-Smirnov test is one of them. According to the test results, each variable with significance level more than %5, hypothesis of its normality will be accepted; however, if it is less than %5, null hypothesis namely, the claim of variable distribution normality will not be accepted. The results of Kolmogorov-Smirnov test have been shown in the table. The significance level more than 0.05 in **statistic's probability in variables indicates normality of variables and** use of parametric test for hypothesis testing. Table 3 shows the results of data distribution normality test.

**Table 3. Data distribution normality test (Kolmogorov-Smirnov test)**

Statistics	Number	K-S statistic	Significance level
Variables			
Financial performance	278	0.912	0.376
Interest rate charge	278	1.03	0.104
Membership / contingency fee	278	0.875	0.362
Loan processing costs	278	0.952	0.231
Cost of borrowing	278	0.852	0.265

*Source: Author*

**First hypothesis:** In table 4, results obtained from regression test show that there is an effective relationship between interest rate charge and performance of small and medium enterprises. Therefore, the first hypothesis is approved.

**Table 4. Relationship between interest rate charge and enterprises performance**

Hypothesis	Pearson Correlation Coefficient	Significance level	Confidence level	Test result
First	-0.269	0.000	%99	accepted

Source: Author

As shown in Table 4, since  $sig = 0.000$ , and this amount is less than  $\alpha = \%1$ , this hypothesis is approved and it is said that interest rate charge has a significant effect on the performance of small and medium enterprises. Since Person correlation coefficient obtained (-0.269) is negative, with %99 confidence level, it can be said that interest rate charge affects negatively small and medium enterprises.

**Second hypothesis:** In table 5, results obtained from regression test show that there is an effective relationship between membership fee/ contingency fee and performance of small and medium enterprises. Therefore, the second hypothesis is approved.

Hypothesis	Pearson Correlation Coefficient	Significance level	Confidence level	Test result

**Table 5. Relationship between membership fee/ contingency fee and enterprises performance**

Hypothesis	Pearson Correlation Coefficient	Significance level	Confidence level	Test result

Source: Author

As shown in Table 5, since  $sig = 0.000$ , and this amount is less than  $\alpha = \%1$ , this hypothesis is approved and it is said that membership fee/ contingency fee has a significant effect on the performance of small and medium enterprises. Since Person correlation coefficient obtained (-0.241) is negative, with %99 confidence level, it can be said that membership fee/ contingency fee affects negatively small and medium enterprises.

**Third hypothesis:** In table 6, results obtained from regression test show that there is an effective relationship between loan processing costs and performance of small and medium enterprises. Therefore, the third hypothesis is approved.

Second	-0.241	0.000	%99	accepted
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**Table 6. Relationship between loan processing costs and enterprises performance**

Hypothesis	Pearson Correlation Coefficient	Significance level	Confidence level	Test result

Source: Author

As shown in Table 6, since  $sig = 0.000$ , and this amount is less than  $\alpha = \%1$ , this hypothesis is approved and it is said that loan processing costs variable has a significant effect on the performance of small and medium enterprises. Since Person correlation coefficient obtained (-0.451) is negative, with %99 confidence level, it can be said that loan processing costs variable affects negatively small and medium enterprises.

**Fourth hypothesis:** In table 7, results obtained from regression test show that there is an effective relationship between cost of borrowing and performance of small and medium enterprises. Therefore, the fourth hypothesis is approved. As shown in Table 7, since  $sig = 0.000$ , and this amount is less than  $\alpha = \%1$ , this hypothesis is approved and it is said that cost of borrowing has a significant effect on the performance of small and medium enterprises. Since Person correlation coefficient obtained (-0.317) is negative, with %99 confidence level, it can be said that cost of borrowing affects negatively small and medium enterprises.

<b>Third</b>	-0.451	0.000	%99	accepted
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**Table 7. Relationship between cost of borrowing and enterprises performance**

Hypothesis	Pearson Correlation Coefficient	Significance level	Confidence level	Test result
Fourth	-0.317	0.000	%99	accepted

Source: Author

#### 4. CONCLUSION

According to the research results, it can be said that interest rate charge has a negative and significant effect on performance of small and medium enterprises. Therefore, with an increase in interest rate charge, performance of small and medium enterprises will be reduced and changes of these two variables are opposite to each other. Membership fee/ contingency fee variable has a negative and significant effect on performance of small and medium enterprises. Therefore, with an increase in membership fee/ contingency fee, performance of small and medium enterprises will be reduced and changes of these two variables are opposite to each other. Loan processing costs variable has a negative and significant effect on performance of small and medium enterprises. Therefore, with an increase in Loan processing costs, performance of small and medium enterprises will be reduced and changes of these two variables are opposite to each other. Cost of borrowing has a negative and significant effect on performance of small and medium enterprises. Therefore, with an increase in cost of borrowing, performance of small and medium enterprises will be reduced and changes of these two variables are opposite to each other. Hence, research four hypotheses are accepted. Therefore, it can be said that any increase in loan borrowing costs can adversely affect the performance of small and medium business enterprises and lead to reduction of **firms' productivity**.

Due to the negative relationship between interest rate charge, membership fee/contingency fee, loan processing costs and costs of borrowing and performance of small and **medium enterprises, companies'** managers are recommended to reduce loan borrowing costs and their own facilities as much as possible. Also, according to the negative effectiveness of loan borrowing costs on performance of small and medium enterprises, authorities and development banks are suggested to improve productivity and performance of these enterprises through reducing loan borrowing costs and facilitating the processes of receiving facilities for small business enterprises, because these enterprises have a significant impact on economic growth and prosperity in countries. Also, according to the research results, macro-economic decision-makers are recommended to facilitate the process of getting loans in small and medium enterprises and thereby provide more employment in addition to improving the performance of these firms which are important in economy. In this study, four factors affecting loan borrowing in small and medium enterprises were investigated. Therefore, it is suggested other factors affecting loan borrowing in small and medium enterprises were examined in further research. It is recommended to investigate factors **affecting loan borrowing costs and their effect on firms' performance in small and medium enterprises in** other provinces of the country with a larger sample size.

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# STUDY ON FACTORS AFFECTING LONG-TERM SAVINGS BEHAVIOR FROM POINT OF VIEW OF CUSTOMERS WHO USE STATE-OWNED BANKS AT DISTRICT 5 OF TEHRAN

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## Abstract

*Aim and scope: Savings are to accumulate capital before the material crystallization of capital as a means of production, and this important economic factor is one of the conditions required for achieving economic growth and development. Because capital is one of the important factors of production, and the experience in the economic progress of the world shows that there has been a growing trend of capital accumulation along with economic growth. Aim of this research is to examine factors affecting long-term savings behavior from point of view of customers who use state-owned banks at district 5 of Tehran. This research is an applied study categorized among casual research. Statistical population consists of customers who use state-owned banks at district 5 of Tehran, so that questionnaire with 22 questions was used to measure existing status. Further, research by Matthias et al. (2015) has been used to design the questionnaire of this research and used to collect data after confirmed validity and reliability. In this research, structural equations have been used to examine the relationship between components of model. LISREL software has been used to analyze hypotheses. With regard to data analysis, results indicated that subjective norms affect perceived concern and perceived importance of long-term savings. The quality of relationships affects perceived concern and the perceived importance of long-term savings. Self-control, perceived concern and the perceived significance of long-term savings affect long-term savings. The level of long-term savings in people with different incomes has a significant difference.*

JEL classification: G32

**Keywords:** savings behavior, state-owned banks, capital accumulation

## 1. INTRODUCTION

The engine of economic growth in each country is investment, and each country needs to save money to finance its investment. Savings are a capital accumulation factor that enables long-term and sustained economic growth. Savings will lead to the provision of resources for investment. The production of wealth in new economic systems is the only way to grow societies, eliminate poverty and achieve prosperity. Putting aside a part of production in order to save and convert it into productive capital to maintain or increase the welfare of society is considered essential for any country (Kaghazian et al. 2010, p. 74). Planning for spending money and saving it is one of the concerns of most people. Nowadays, it is one of the most important things for anyone to save some money for future expenses along with daily spending. Especially during the financial crisis, the amount saved for long-term benefits affects the budget planning of a current and future family. Therefore, the decision to save is very important because of the effects on family and family members (Ruefenacht et al. 2015, pp. 923-924). Saving plays a very important role in the formation of capital and economic growth and development of each country. Therefore, it is necessary to evaluate the effect of liquidity growth on savings and its relation to saving as well as the analysis of its fluctuations over a specified period. Savings as a major factor in macroeconomic of countries are influenced by several parameters and policies. Developing countries, especially in recent decades, where many problems with the transfer of foreign capital to these countries have faced, have to examine saving behavior and factors affecting saving rate. This will not be possible except by a careful exploration of the concept of savings and effective factors and barriers to saving (Samadi et al., 2014, 2). The rate of savings



suggests that the current generation will set aside its revenue for its future or for future generations; this unearned income can be used in various forms of investing (physical capital, human capital, research and development) and long-term living standards. An examination of what factors can develop the behavior of saving is an important step towards directing funds to savings and investing (Houshmandi, 2008, 178). Despite its importance, so far little research has been conducted on the key processes of decision for saving money.

Microeconomic research on saving has taken the decision to save as a temporary optimization problem and concluded that those who are economically engaged determine the desired savings level in each period.

In some studies, the factors influencing individual decision about saving are examined. However, the psychological trend in this field still lacks the necessary empirical research (Roffenat et al., 2015, 923-924). According to the theories, rising savings indicate a shift in consumer time preferences. In this way, they show that they are less interested in consuming in the present time than future (Kaghazian et al. 2010, p. 75). From a theoretical point of view, the pace of savings is a serious obstacle to economic growth. First, if in a closed economy, consumption is equal to production, capital stock decreases. Secondly, if depreciation is not enough and is not saved, capital falls. Third, if population growth is exorbitant, more savings will be required to maintain or increase the proportion of capital to the worker. On the other hand, savings are the most important roots of productivity. In addition, savings that are allocated to consumptions with low returns or without returns or negative returns are likely to endanger economic growth and general welfare as a society with a high level of savings involved (Nader Zadeh, 2012, p. 17). One of the issues that arises in our society is the reluctance of most people to save and, above all, the failure to convert savings into capital (Sadr Nabavi et al., 2010, 1). Savings as a major factor in macroeconomics are influenced by numerous parameters and policies. Developing countries, especially in recent decades, where many problems with the transfer of foreign capital to these countries have faced, have to examine saving behavior and factors affecting saving rate. This will not be possible except by a careful exploration of the concept of savings and effective factors and barriers to saving (Piraei et al. 2013, p. 64). This study intends to find factors affecting long-term saving behavior from point of view of consumers. In general, the main issue that reveals the necessity of this research is to answer the question as to whether subjective norms and quality of relationships can affect people's attitude toward long-term savings, i.e., the perceived concern and importance of individuals toward saving?

## 2. LITREATURE REVIEW

Hosseini & Saberi(2014) in a study entitled "study on effective factors in absorbing borrowing savings in branches of Bank Keshavarzi-Yasuj city" examined effective factors in absorbing borrowing savings in branches of Bank Keshavarzi-Yasuj city. For this, 200 consumers among 400 consumers of Bank Keshavarzi have been selected as sample size. Results from this research indicated that there is a significant relationship between increased customer satisfaction and increased borrowing savings. This correlation has been positive; thus it can say that borrowing savings will increase by increased customer satisfaction. Further, results from this research indicated that there is a positive significant relationship between customer satisfaction and saving of Bank Keshavarzi-Yasuj city. Further, results indicated that those who have borrowing account benefit from more satisfaction. In following, results from this research indicated that there is more positive significant relationship between score of the determined awards for those who have borrowing saving in Bank Keshavarzi than those who have not. Finally, results indicated that spiritual reciprocation of borrowing is not effective in borrowing saving in Bank Keshavarzi-Yasuj city. Rezaei pour et al. (2012) in their research entitled "study on long-term saving behavior to changes in bank interest rate" examined effect of Bank interest rate volatility on the volume of long-term bank deposits in Iran. Analysis of the used data has been made of Self-regression pattern of Johansen and Juselius and Vector Error Correction Model during 35 years. Results from model estimation have indicated that there has been a significant long-term balanced relationship between interest rate and volume of financial resources of bank; effect of increased interest rate on volume of financial resources of

banks is positive, but long-term effect of interest rate on volume of financial resources in short-term model has been confirmed.

Ruefenacht et al. (2015) in their study entitled " *Drivers of Long-Term Savings* from point of view of consumers" have examined role of person's attitude in line with long-term saving and put emphasis on extended relationship of social context regarding structuring theory. This research has been conducted in Germany among 993 persons. Findings of this research indicate that there is a positive relationship between subjective norms and person's concern about decision upon long-term saving and person's perceived importance of long-term saving. Further, there is a positive relationship between quality of relationships and person's concern about decision for long-term saving and person's perceived importance of long-term saving. There is a negative relationship between perceived concern and perceived importance of individuals with long-term saving. Hayhoe et al. (2012) in a study entitled "how mistrust and anxiety affect saving behavior " examined mistrust and anxiety, demographic factors and financial management behavior among low-income and average-income families on saving behavior. Data of this research has been collected among a sample consisted of 749 persons. In this study, least squares method and logistic regression have been used. Results from this research indicated that there is a significant relationship between financial management behavior and higher levels of mistrust and lower levels of anxiety. Further, results from regression indicated that it is suggested to train financial management behaviors for those who have lower levels of anxiety and prone to saving regularly.

### 3. RESEARCH METHOD

Given that the present research has examined effective factors in long-term saving behavior, this research can be a casual study. Further, the present research is an applied study. Statistical population consists of customers who use state-owned banks at district 5 of Tehran. In this research, since structural equation technique is used to analyze data, Sample Size Calculation formula has been used in structural equations to determine sample size

$$5q \leq n \leq 15q$$

q is the number of observed variables (questionnaire items) and n is the sample size.

### 4. RESEARCH HYPOTHESIS TESTING

Structural equation technique via LISREL software has been used to test hypotheses. Each variable in structural equation modeling can be considered as an endogenous variable and an exogenous variable. An endogenous variable refers to a variable which is influenced by other existing variables in the model. In contrast, exogenous variable refers to a variable which does not receive any effect of other existing variables in the model, but it affects. Numbers and/or coefficients are divided into two categories in structural equation charts. The first category refers to measurement equations which are the relationships between *Hidden variables (oval)* and *obvious variables (rectangle)*. These equations are called factor loadings. The second category refers to structural equations which are the relationships between hidden and hidden variables and used to test hypotheses. These coefficients are called path coefficients. With regard to the model presented in this research, variables have been categorized in table below.

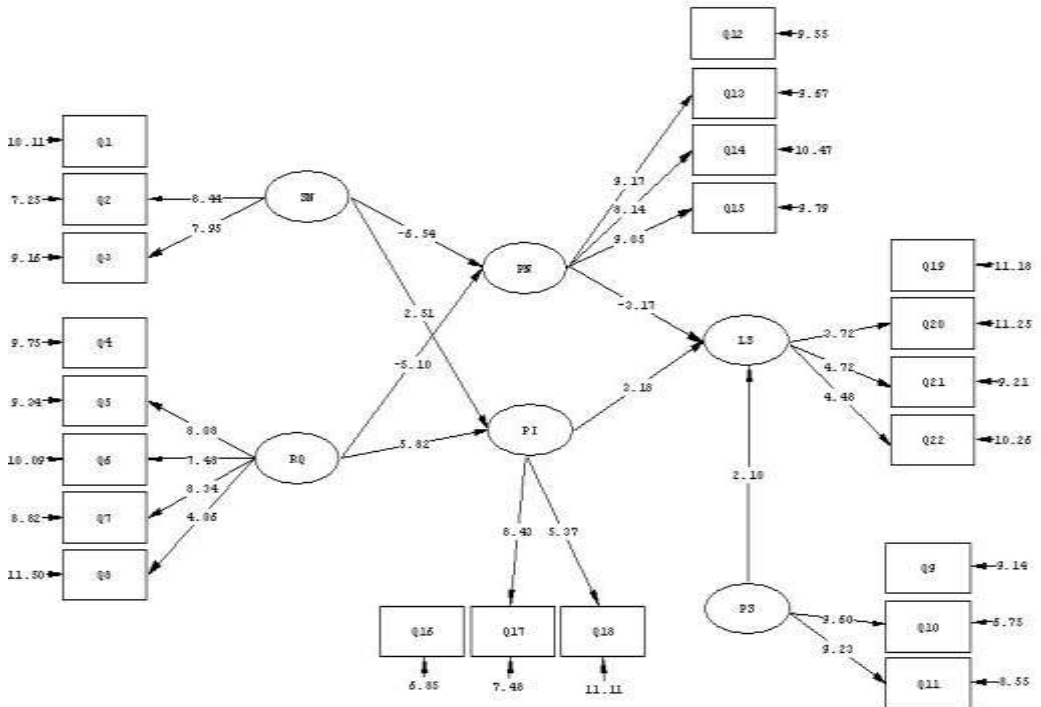
**Table 1. Introducing Latent and observed variables**

Observed indices relating to exogenous latent variable	Exogenous Latent variables (independent variable)
Q1	Subjective norms
Q2	
Q3	
Q4	Relation quality
Q5	
Q6	

Observed indices relating to exogenous latent variable	Exogenous Latent variables (independent variable)
Q7	Perceived self-control
Q8	
Q9	
Q10	
Q11	
Observed indices relating to endogenous latent variable	Endogenous latent variables(dependent variable)
Q12	Perceived concern
Q13	
Q14	
Q15	
Q16	Perceived importance of long-term saving
Q17	
Q18	
Q19	Long-term saving
Q20	
Q21	
Q22	

Source: Author

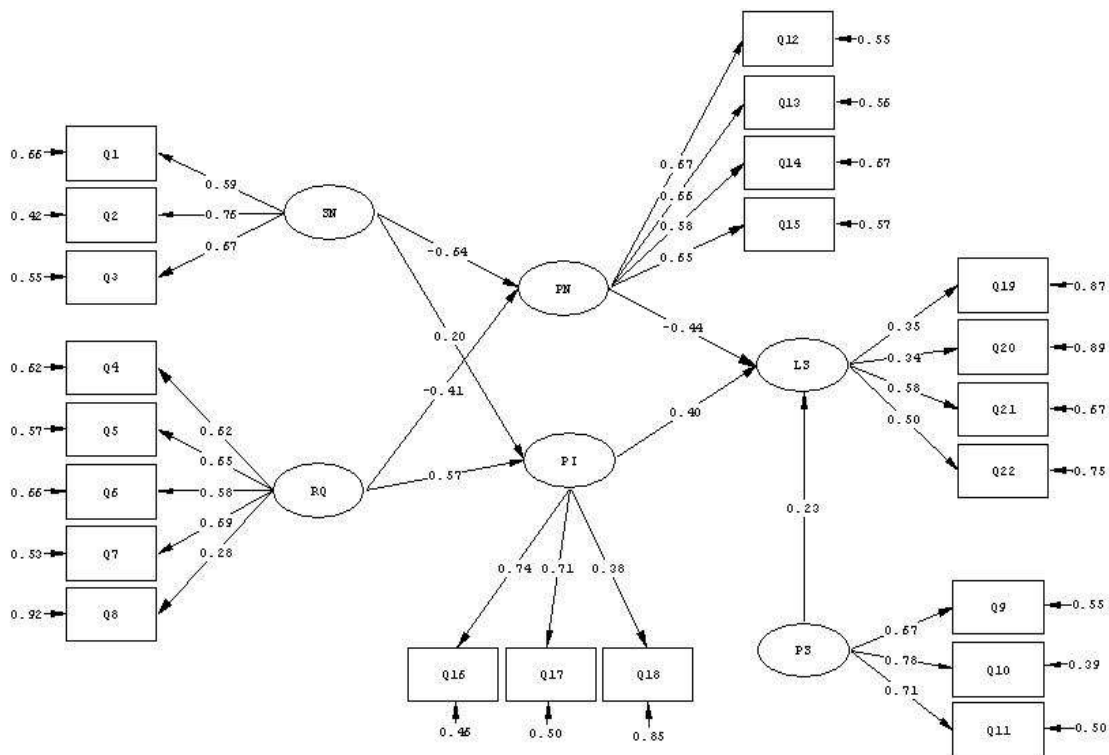
Structural equation refers to a suitable technique which is grounded on the hypotheses on casual relationships between variables. Chart 1 displays t coefficients for measurement model and structural model.



Chi-Square=535.37, df=199, P-value=0.00000, RMSEA=0.078

FIG 1. T-value for measurement and structural model

This model is used to examine significance of relationship between latent variables presented in the model; if the calculated t coefficient had not been in insignificant range (-1.96, +1.96) at error level (0.05%), it can conclude that there is a significant relationship between two latent variables. on the other hand, chart 2 displays standard coefficients for measurement model and structural model. The path drawn from exogenous variables towards endogenous variables is introduced and named with gamma path coefficient and the path between all endogenous variables is introduced and named with beta path coefficient; in this regards, 7 paths have been drawn in model below which 5 paths are gamma type and 2 paths are beta type.



Chi-Square=535.37, df=199, P-value=0.00000, RMSEA=0.078

**FIG 2-standard coefficients for structural and measurement model**

First hypothesis testing

Researcher claim: subjective norms affect perceived concern.

Hypothesis

H0: Subjective norms have no effect on perceived concern.

H1: Subjective norms have effect on perceived concern.

**Table 2. Results relating to the first hypothesis**

Hypothesis path	
Subjective norms → Perceived concern	
-6.54	t-value
-0.64	Gamma standard coefficient

Hypothesis path	
Negative and significant effect	Result

*Source: Author*

Since t-value equals to -6.54 and this value is not in insignificant range (-1.96, 1.96), it can conclude that subjective norms have a significant effect on perceived concern. On the other hand, the presented path between independent variable of subjective norms and dependent variable of perceived concern have been gamma type with value (-0.64). It is specified that subjective norms have had a negative effect on perceived concern, and this hypothesis is confirmed.

#### Second hypothesis testing

Researcher claim: subjective norms affect perceived importance of long-term saving.

#### Hypothesis

H0: Subjective norms have no effect on perceived importance of long-term saving.

H1: Subjective norms have effect on perceived importance of long-term saving.

**Table 3. Results relating to the second hypothesis**

Hypothesis path	
Subjective norms → perceived importance of long-term saving	
<b>2/51</b>	t-value
<b>0/20</b>	Gamma standard coefficient
Positive and significant effect	Result

*Source: Author*

Since t-value equals to 2.51 and this value is not in insignificant range (-1.96, 1.96), it can conclude that subjective norms have a significant effect on perceived importance of long-term saving. On the other hand, the presented path between independent variable of subjective norms and dependent variable of perceived importance of long-term saving have been gamma type with value (0.20). It is specified that subjective norms have had a negative effect on perceived importance of long-term saving, and this hypothesis is confirmed.

#### Third hypothesis testing

Researcher claim: quality of relationships affects perceived concern.

#### Hypothesis

H0: quality of relationships has no effect on perceived concern.

H1: quality of relationships has effect on perceived concern.

**Table 4. Results relating to the third hypothesis**

Hypothesis path	
Quality of relationships → perceived concern	
<b>-5/10</b>	t-value
<b>-0/41</b>	Gamma standard coefficient
Negative and significant effect	Result

*Source: Author*

Since t-value equals to -5.10 and this value is not in insignificant range (-1.96, 1.96), it can conclude that quality of relationships have a significant effect on perceived concern. On the other hand, the presented path between independent variable of quality of relationships and dependent variable of perceived concern have been gamma type with value (-0.41). It is specified that quality of relationships have had a negative effect on perceived concern, and this hypothesis is confirmed.

Fourth hypothesis testing

Researcher claim: quality of relationships affects perceived importance of long-term saving.

Hypothesis

H0: quality of relationships has no effect on perceived importance of long-term saving.

H1: quality of relationships has effect on perceived importance of long-term saving

**Table 5. Results relating to the fourth hypothesis**

Hypothesis path	
Quality of relationships →perceived importance of long-term saving	
<b>5/82</b>	t-value
<b>0/57</b>	Gamma standard coefficient
Positive and significant effect	Result

Source: Author

Since t-value equals to 5.82 and this value is not in insignificant range (-1.96, 1.96), it can conclude that quality of relationships have effect on perceived importance of long-term saving. On the other hand, the presented path between independent variable of quality of relationships and dependent variable of perceived importance of long-term saving have been gamma type with value (0.57). It is specified that quality of relationships have effect on perceived importance of long-term saving, and this hypothesis is confirmed.

Fifth hypothesis testing

Researcher claim: self-control affects long-term saving.

Hypothesis

H0: self-control has no effect on long-term saving.

H1: self-control has effect on long-term saving.

**Table 6. Results relating to the fifth hypothesis**

Hypothesis path	
Self-control →long-term saving	
<b>2/10</b>	t-value
<b>0/23</b>	Gamma standard coefficient
Positive and significant effect	Result

Source: Author

Since t-value equals to 2.10 and this value is not in insignificant range (-1.96, 1.96), it can conclude that self-control has effect on long-term saving. On the other hand, the presented path between independent variable of self-control and dependent variable of long-term saving has been gamma type with value (0.23). It is specified that self-control has effect on long-term saving, and this hypothesis is confirmed.

Sixth hypothesis testing

Researcher claim: perceived concern affect long-term saving.

Hypothesis

H0: perceived concern have no effect on long-term saving.

H1: perceived concern have effect on long-term saving.

**Table 7. results relating to the Sixth hypothesis**

Hypothesis path	
Perceived concern →long-term saving	
<b>-3/17</b>	t-value

Hypothesis path	
<b>-0/44</b>	beta standard coefficient
Negative and significant effect	Result

Source: Author

Since t-value equals to -3.17 and this value is not in insignificant range (-1.96, 1.96), it can conclude that perceived concern has a significant effect on long-term saving. On the other hand, the presented path between dependent variable of perceived concern and independent variable of long-term saving have been gamma type with value (-0.44). It is specified that perceived concern has had a negative effect on long-term saving, and this hypothesis is confirmed.

Seventh hypothesis testing

Researcher claim: perceived importance of long-term saving affects long-term saving.

Hypothesis

H0: perceived importance of long-term saving have no effect on long-term saving.

H1: perceived importance of long-term saving have effect on long-term saving.

**Table 8. Results relating to the Seventh hypothesis**

Hypothesis path	
Perceived importance of long-term saving → long-term saving	
<b>3/18</b>	t-value
<b>0/40</b>	beta standard coefficient
Positive and significant effect	Result

Source: Author

Since t-value equals to 3.18 and this value is not in insignificant range (-1.96, 1.96), it can conclude that perceived importance of long-term saving has a significant effect on long-term saving. On the other hand, the presented path between dependent variable of perceived importance of long-term saving and dependent variable of long-term saving have been beta type with value (0.40). It is specified that perceived importance of long-term saving has had a positive effect on long-term saving, and this hypothesis is confirmed.

Eighth hypothesis testing

Researcher claim: there is a significant difference between long-term saving level in individuals and different income.

Hypothesis

H0: there is not a significant difference between long-term saving level in individuals and different income.

H1: there is a significant difference between long-term saving level in individuals and different income.

**Table 9. Results relating to the Eighth hypothesis**

Sig	F	Mean of squares	Freedom of degree	Sum of squares	
0/000	69/795	12/589	2	25/177	Inter-group
		0/180	269	48/518	Intra-group
			271	73/695	Sum

Source: Author

As results of table 9 indicate, sig has equaled to 0.000 which is less than error level (0.05), indicating that it can state that there is a significant difference between long-term saving level in individuals and different income at confidence level (95%).

Results from Test-Tukey indicated that long-term saving level in the individuals who have income over 20 million IRR is more than the individuals who have income less than 10 million IRR and income between 10 to 20 million IRR. Thus, it is specified that this hypothesis has been significant and confirmed.

**Table 10. Test-Tukey**

Income	Income(comparison)	Sig	Down bound	Up bound
Less than 10 million IRR	10-20 million IRR	0/384	-0/3017	0/0848
	Over 20 million IRR	0/000	-0/9820	-0/5585
10-20 million IRR	Less than 10 million IRR	0/384	-0/0848	0/3017
	Over 20 million IRR	0/000	-0/8017	-0/5219
Over 20 million IRR	Less than 10 million IRR	0/000	0/5585	0/9820
	10-20 million IRR	0/000	0/5219	0/8017

*Source: Author*

## 5. CONCLUSION

Results from hypotheses indicate that subjective norms have a negative effect on perceived concern and a positive effect on perceived importance of long-term saving, and these hypotheses are confirmed. Findings of these hypotheses are consistent with the result of research by Ruefenacht et al. 2015; they indicated that there is a positive significant relationship between subjective norms and person's concern about decision for long-term saving and person's perceived importance of long-term saving. According to definition of subjective norm, it refers to person's reaction to perceived social pressures to make or not make special behavior; in other words, norm implies a function of beliefs which induce person to make or not make a behavior. Thus, when people around a person recommend him to have a long-term saving account and talk to him about advantages of this account, it can reduce their concern and make the motive to have the saving account, for which it can conclude that subjective norms can reduce perceived concern about long-term saving account and increase importance of this account to people. Further, it is specified that quality of relationships has a negative effect on perceived concern and has a positive effect on perceived importance of long-term saving, and these hypotheses are confirmed. Findings of these hypotheses are consistent with result of research by Ruefenacht et al. (2015); they indicated that there is a positive relationship between quality of relationships with person's concern about decision for long-term saving and person's perceived importance of long-term saving. In today's business market, a significant attention has been paid to concept of relationships between service providers and customers. What is of great importance is to make high-quality relationships with customers so as to improve their perceived subjective quality of the service, which this makes loyalty in customers, affects multiple factors such as perceived subjective quality and customer loyalty and causes acquisition of competitive advantage for organizations especially in service sector. Thus, quality of relationships can increase customers' trust and confidence level and cause customers' more trust on provided services, for which when quality of customers' relationship with the institute in which they have saving account improves, their concern to have long-term saving account reduces and their perceived importance increases so that their behavior and intention to have long-term saving account increases. It is specified that self-control has a positive effect on long-term saving and this hypothesis is confirmed. Self-control is a skill which has to be learnt ensured with personal and social success; if we want to define self-control in general, it can say that self-control implies the ability to avoid behaviors, emotions, tendencies and habits which cause problems, e.g. willingness to purchase and lacking saving account; in other words, when the people engage in purchasing excessively, their self-control to purchase and save reduces without impression on saving than purchasing, for which people have to try to be self-control and put aside the behaviors which raise problems for them and indicate that they can be self-control by controlling themselves against temptations. It is specified that the perceived concern has a negative effect on long-term saving and this hypothesis is confirmed. Findings of these hypotheses are consistent with result of research by Ruefenacht et al. (2015); they indicated that perceived concern has a negative relationship. Concern and mistrust can cause the person to be afraid of doing affairs such that his behavioral intention leads to failure; in other words, when the people are concerned about having long-term saving account, e.g. they are concerned of gaining more benefit by saving, this can affect having saving account, for which the institutes should try to increase customers'



trust and confidence by different ways so as to reduce their concern and have long-term saving account. It is specified that perceived importance of long-term saving has a positive effect on long-term saving and this hypothesis is confirmed. Findings of these hypotheses are consistent with research by Ruefenacht et al. (2015); they indicated that people's perceived importance has a negative relationship with long-term saving. With regard to results of this hypothesis, it can conclude that saving account by people increases by increasing the perceived importance and usefulness of this issue that what benefits saving account has for people, because people try to increase the benefits and services along with use of services, for which saving accounts increase by having saving account when the importance of such accounts is perceived. Results indicated that long-term saving level is greater among the people with income over 20 million IRR than people who have income less than 10 million IRR and between 10-20 million IRR. Thus, it is specified that this hypothesis is significant and confirmed. With regard to results of this hypothesis, it can conclude that having saving account for people depends on their income; in other words, people with high income due to having a high income can do any work or purchase that they want without being troubled. For this, saving account has meaningless to them and people with low income regarding the inflation have remained with nothing to save some, under which this group of people cannot have saving account. In the meantime, people with average income as they want to increase their income or intend to achieve the programs and goals planned for them by increasing their liquidity, they try to handle their expenses with the income which they have and save some of their saving for future.

### **Suggestions**

- researchers can examine effect of saving on long-term saving behavior
- examination on effect of quality of services on long-term saving behavior
- examination on effect of social responsibility and subjective image of institute on people's long-term saving behavior

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