Strategic Pathology of Sports and Youth Departments of Hamadan Province in the Field of Sports Based on the SWOT Model, Iran

Análise estratégia da Patologia dos Esportes no Departamentos Juvenil da Província de Hamadan, Iran, com base no Modelo SWOT

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Resumo

O objetivo deste estudo foi compreender a patologia estratégica dos departamentos de esportes e juventude da província de Hamadan, Irã, com base no modelo SWOT. O método de pesquisa é um levantamento. O método utilizado foi o inquérito e a amostra foi constituída por 135 pessoas. 12 especialistas em esportes confirmaram a validade do questionário (Alpha Cronbach $\alpha = 0,89$). A análise compara as médias e o teste de Friedman e para determinar a posição estratégica, matrizes de avaliação de fatores internos (IFE), avaliação de fatores externos (EFE) e matriz interna e externa (IE). A este respeito, conclui-se que; Os formuladores de políticas esportivas do Hamadan e aqueles envolvidos em esportes devem se concentrar mais em usar as oportunidades existentes, usando seus pontos fortes internos em duas áreas: esportes públicos e campeonatos.

Palavras-chave: Patologia Estratégica, Departamento de esportes da juventude, Provincia de Hamadan, Análise SWOT.

Abstract

This study's purpose was to understand the strategic pathology of sports and youth departments of Hamadan province, Iran, based on the SWOT model. The research method is a survey. The method used was a survey, and a sample was made up of 135 people. 12 sports experts confirmed questionnaire validity (Alpha Cronbach $\alpha = 0.89$). The analysis compares the averages and Friedman test and to determine the strategic position, internal factor evaluation matrices (IFE), external factor evaluation (EFE), and internal and external matrix (IE). In this regard, it is concluded that; Hamadan sports policymakers and those involved in sports should focus more on using the existing opportunities by using their internal strengths in two areas: public sports and championships.

Keywords: *Strategic Pathology, Sports and Youth Departments, Hamadan province, SWOT Analysis.*

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Introduction

The behavior of investors in the stock exchange, decision-making, allocation of monetary resources, pricing, and evaluation affect companies′ returns. Ambiguous situations and mistakes rooted in human psychology cause investors to make mistakes in shaping their expectations, resulting in displaying certain behaviors when investing in financial markets (Sinaei, 2009).

On the other hand, one of the essential criteria for decision-making in the stock exchange is the stock return. Stock return alone has informational content, and most actual and potential investors use it in financial analysis and forecasting. Moreover, the net and gross earnings per share, so-called the estimated earnings per share, show new information on the status of companies which analysts analyze, investors, and other users and based on which the decision is made to buy or sell a share (Jahan Khani & Saffarian, 2003).

Investors and financial analysts expect that companies fulfill the forecasts made, and these forecasts are consistent with reality. This is especially true of more reliable companies. Financial analysts and investors will be very unhappy with the deviation between forecasted and actual earnings. These forecasts can affect investors and lead to creating the halo effect phenomenon (Colling Wood, 2011).

According to the mentioned theories and materials, it is noteworthy to answer the question as to whether the halo effect phenomenon in the Iranian capital market is justified using management forecasts. In this regard, the reported accounting information, including earnings per share, return on assets, and equity is used. Currently, by examining the existing studies, it seems that comprehensive research on a model for measuring the halo effect phenomenon in the Iranian capital market with emphasis on management forecasts in Iran has not been conducted concerning the characteristics of our country′s economic environment, and there is no specific model for measuring the halo effect on capital markets.

Additionally, due to fundamental differences like business, largely bank-based financing of companies, more or less state-controlled economy, and chronic high inflation, other countries′ research models and criteria are not fully applicable. All of this indicates that the present study seeks a specific model for measuring the halo effect on capital markets in Iran. This research can help the accounting and finance literature in two ways. First, it theoretically discusses the relationships between variables and causes literature on the relationships between research variables. Second, from a practical point of view, discovering the relationships between the mentioned variables in the Iranian capital market can be helpful for stakeholders. The results of this study will have a direct application for researchers in the field of accounting and behavioral finance. The following research literature review, research background, hypotheses, model and variables, research method, analysis of findings, conclusion, and suggestions will be provided. According to the above theories and materials, the research hypothesis can be presented as follows:

Investors in the Iranian capital market use management forecasts in following the halo effect paradigm.

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Theoretical foundations and background

Theoretical foundations

The halo effect phenomenon is one of the issues discussed in behavioral finance. This effect impresses the investor with a desirable feature of the stock, which leads to its extension to other features. Ultimately, such false attributions can potentially result in incorrect pricing in the stock market. For example, if investors observe a favorable prospect of growth stocks and attribute it to the risk-adjusted return prospect, this would cause the price of this type of stock to be above the intrinsic value (Hirshleifer et al., 2009).

The halo effect refers to a type of error in cognition and decision-making formed under the influence of the judge's previous mentality and can be far from the truth and fairness. Another definition: It is a cognitive error in which individuals use a particular feature of a human, object, or any other phenomenon as a basis for judging the whole (Rosenzweig, 2007).

The behavior of investors in the stock exchange, decision-making, allocation of monetary resources, pricing, and evaluation affect companies' returns. Ambiguous situations and mistakes rooted in human psychology cause investors to make mistakes in shaping their expectations, resulting in displaying certain behaviors when investing in financial markets (Sinaei, 2009).

On the other hand, one of the primary criteria for decision-making in the stock exchange is the stock return. Stock return alone has informational content, and most actual and potential investors use it in financial analysis and forecasting. Moreover, the net and gross earnings per share, so-called the estimated earnings per share, show new information on the status of companies which analysts analyze, investors, and other users and based on which the decision is made to buy or sell a share (Jahan Khani & Saffarian, 2003).

Investors and financial analysts expect that companies fulfill the forecasts made, and these forecasts are consistent with reality. This is especially true of more reliable companies. Financial analysts and investors will be very unhappy with the deviation between forecasted and actual earnings. These forecasts can affect investors and lead to creating the halo effect phenomenon (Colling Wood, 2011).

Investment is a complex process that involves the processing of several factors and different steps. Investors' decisions are based on these complex financial models. These models are based on two factors of risk and expected returns. However, decisions are not always made based on personal resources, and complex models and situational factors are not considered therein (Khajavi & Fattahi Naqechi, 2013).

Standard decision theory believes that people act logically and rationally. The modern portfolio theory proposed by Markowitz in 1952 states how sensible investment makes its decisions based on two parameters of risk and return. The use of these two parameters provides the ground for presenting the behavioral finance and the economic finance perspectives.

From the behavioral finance perspective, people in the capital market replace rational people. Behavioral finance replaces behavioral portfolio theory with mean-

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variance portfolio theory and proposes the behavioral asset pricing model for capital asset pricing model and other models that determine the expected return by risk. Behavioral finance also identifies rational markets in the discussions related to efficient markets and examines why many investors believe it is easy to hit the market. Besides, behavioral finance expands the financial scope beyond the asset pricing portfolio and market efficiency and continues this expansion while adhering to standard finance (Statman, 2014).

According to Dieter (2003), behavioral finance is based on psychology, which states that the human decision-making process results from several cognitive conceptions. The halo effect phenomenon is one of the issues discussed in behavioral finance. This effect causes the judge to be impressed by a desirable feature of the person or subject under study and extend this feature to other features. Such false attributions can potentially result in incorrect pricing in the stock market. For example, if investors observe a favorable prospect of growth stocks and attribute it to the risk-adjusted return prospect, this would cause the price of this type of stock to be above the intrinsic value (Hirshleifer et al., 2009).

Given the background, the existence of emotional and irrational reactions in the Iranian capital market, and also the lack of investors' following the classic financial patterns, this study attempts to provide a model to investigate the justification of the halo effect phenomenon in the Iranian capital market. In this regard, the reported accounting information, including earnings per share, return on assets, and return on equity, is used.

The behavior of investors in the stock exchange, decision-making, allocation of monetary resources, pricing, and evaluation affect companies' returns. Ambiguous situations and mistakes rooted in human psychology cause investors to make mistakes in shaping their expectations, resulting in displaying certain behaviors when investing in financial markets (Sinaei & Davoudi, 2009).

One of the essential criteria for decision-making in the stock exchange is the stock return. Stock return alone has informational content, and most actual and potential investors use it in financial analysis and forecasting (Qaemi& Tusi, 2006).

In an efficient market, the price of securities reflects a set of all available information. New information quickly affects the price of securities, and investors make decisions based on the information available and their expectations of return on security in the future. Therefore, the efficient market is sensitive to new information, so that information forms the core of the efficient market, based on which it is divided into three forms of weak, semi-strong, and strong. Forecast of the net and gross earnings per share, so-called the estimated earnings per share, is new information on the status of companies which analysts analyze, investors, and other users and based on which the decision is made to buy or sell a share (Jahan Khani & Saffarian, 2003).

Investors and financial analysts expect that companies fulfill the forecasts, and these forecasts are consistent with reality. This is especially true of more reliable companies. Financial analysts and investors will be very unhappy with the deviation between forecasted and actual earnings (Colling Wood, 2011). Discrepancies and deviations between forecasted earnings and actual earnings declared in financial statements regarding earnings management are further used. In the negative discrepancy,

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investors or profit-makers consider earnings management to be a fraud, whereas, in the positive discrepancy, they see earnings management as a measure without a problem and at the discretion of management (Fridson et al., 2002).

Research background

Foreign background

Utami et al. (2018) conducted a study entitled "The halo effect in the analytical method: Customer management perspective and information sector". Previous research revealed that a comprehensive perspective in strategic assessment causes the halo effect. This study focuses on the halo effect phenomenon in analytical methods, the impact of the customer profile, and the range of information provided for auditing in the planning of an audit. Researchers suggest that the customer's profile influences the auditor's judgment, and professional judgment in a holistic perspective will be different.

This study is motivated by the limited rationality of individuals and uses heuristic methods to evaluate customers. A holistic view of the individual is consistent when analyzing accurate diagnostic information about the individual. In an analytical process, understanding the customer's industry and business affects the account-level risk assessment. They propose two hypotheses. The first hypothesis is that material misunderstanding after providing customer profile is positively related to the risk of material misuse after receiving customer financial information. The second hypothesis is that an auditor who obtains information about a customer in a general information field will have less risk than an auditor who obtains information in a specific information field. Data from the laboratory experiment were collected using different levels of the auditor. This finding suggests that the halo effect is generated during the analytical steps and when auditors obtain comprehensive customer information. Auditors gain information about the customer in comprehensive dimensions.

Wang et al. (2017) conducted a study entitled "Investigating the psychological mechanisms of investors in the Chinese stock market" and examined the factors affecting individual investors' perception of risk and its effects on their behavior in the stock market. The results of this research demonstrated that out of the various types of information influencing investors' decisions, policies related to the stock market and improper management of companies listed in the stock exchange and also information from the organizational level (examined in the two dimensions of the quality of information disclosure by companies and distribution of earning returns among investors) affect investors' perception of risk. Further, findings displayed that the risk perceived by investors affects the willingness to reinvest and investor satisfaction (which is critical to market development) due to the impact on their performance.

Donnella and Schultz (2016) carried out a study entitled "The halo effect on business risk assessment: Can the auditor judge the accounting details in the risk assessment?" Many auditors use an audit method that requires strategic risk assessment of the customer business model to assess audit risks. This study examines whether auditors' holistic view in making a strategic risk assessment adapts the account-level risk assessment when it is consistent with changes in accounts with information about customer operations. Based on the halo effect phenomenon from the literature on performance appraisal, they assume that auditors who (1) do not carry out strategic

assessments and (2) develop favorable (unfavorable) strategic risk assessments more minor (more) adjust account-level risk assessments for unpredictable fluctuations. The data from two laboratory experiments using experienced auditors support both hypotheses. The findings indicate that the halo effect created during the strategic assessment affects the judgment by changing the auditor′s tolerance for erratic fluctuations.

Hunton (2015), based on the efficient market theory, investigated the behavioral finance of shareholders in the Chicago Stock Exchange concerning their decisions about the stocks of high-tech companies. According to the results of this study, shareholders′ decisions about this group of stocks are inconsistent with the existing theories in financial management. Despite the low profits of these companies, the demand for the purchase of this group of stocks has risen sharply due to shareholders′ high expectations of the bright future of these companies, and the weak financial variables of these companies have not prevented the purchase of their shares.

Hens and Vlcek (2011) demonstrated that the prospect theory often predicts the reverse disposition effect, in which investors tend to sell loss-making stocks faster than profitable stocks. As a result, if there is a reverse disposition effect, the risk increases in the profit area and decreases in the loss area. Moreover, the cross-sectional distribution of returns in the loss model is higher than the profit model. Thus, the investor′s behavior also affects the company′s beta. If investors are risk-oriented in the declining market conditions, betas will be higher than good market conditions.

Domestic background

Heydari et al. (2019) conducted a study entitled "Theory of planned behavior and managers' sustainability reporting model". This study aims to present a model based on attitudes and other psychological factors of managers in sustainability reporting according to the theory of planned behavior. Hence, this study was conducted on senior and middle managers of listed and unlisted joint-stock companies in Iran. The data were analyzed using the partial least squares path modeling. The results suggest that corporate sustainability reporting is influenced by managers' intention to report sustainability.

On the other hand, the results show that managers' intention to report sustainability is affected by mental norm and perceived behavioral control, while the attitude toward managers' sustainability reporting behavior does not affect managers' intention to report. The results also indicate that managers' intention for reporting, mental norm, and perceived behavioral control of managers is also influenced by managers' behavioral, normative, and control beliefs about sustainability reporting. Finally, according to the results, out of the external variables of the theory of planned behavior, the level of education and gender do not affect any of the managers' beliefs. However, managers' level of religious beliefs affects the normative and control beliefs about sustainability reporting, and also, the board of directors′ independence is effective in managers' normative beliefs about sustainability reporting.

Lajevardi and Feiz (2019) conducted a study entitled "Investigating the effect of cognitive errors (halo effect, uncertainty, escalation of commitment and random error) on the type of investment: Evidence from Tehran Stock Exchange". The primary purpose of this study is to investigate the impact of cognitive errors on the type of investment in the

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Tehran Stock Exchange. The statistical research population included all investors in Tehran Stock Exchange. To select the sample using the systematic elimination method, a total of 384 participants were considered. Data analysis revealed a significant relationship between the research variables.

Rezaei and Elmi (2019) performed a study entitled "Behavioral finance models and behavioral biases in stock price forecasting". In this study, they maintained that the stock market is affected by news and information. If the commodity exchange is inefficient, the stock price reaction to the news and information will put the stock market under excessive pressure. Numerous models have already been proposed using various tools and techniques to predict the stock market behavior.

In this study, the stock price reaction in commodity exchange was modeled with a behavioral finance approach. Companies listed in Tehran Stock Exchange were the statistical population of this research. In order to predict stock prices, final price data at the end of December, March, June, and September and the stock price were examined as the sample. In this study, Bayes's law has been used to estimate the probability of model change. Through this law, the probability of the occurrence of an event can be calculated by betting on the occurrence or non-occurrence of another event. The model estimation results suggested that there is a possibility of being placed in high-volatility (excessive) and low-volatility regimes (under the influence of stock prices despite the shocks to the stock market) that exist in modeling. It was proved that the actual stock price is not different from the market price.

Moshtaqi and Yazdani (2016) conducted a study entitled "Investigating and identifying the effect of psychological factors with the approach of the perceptual error on the decision-making process of individual investors". The purpose of this study is to examine the impact of perceptual errors and their amount on investors' decisions. To achieve this goal, 300 investors of the Tehran Stock Exchange were randomly selected as the sample. The required data were obtained through the distribution and collection of questionnaires. The accuracy of the hypotheses was tested using factor analysis. According to the research findings, perceptual errors affect the decision-making process of investors. That is to say, the research hypotheses were confirmed, and it was found that there is a significant relationship between perceptual errors and investment decisions. The research results also indicate that the decision-making process of investors is affected by 19% representation error, 31% overconfidence error, and 29% mental error. Barzideh et al. (2016) conducted a study entitled "A model for stock pricing based on the prospect theory". In this study, two behavioral phenomena proposed in the prospect theory, namely "loss aversion" and "house-money effect", have been included in the consumption-based asset pricing model, and investor utility function has been defined as (1) consumption-driven utility and (2) utility due to financial investments.

Besides, the price equation has been defined in two economic environments based on the Lucas theory (1978). In the first economic environment, the process of price and dividend is equal, and this process is different in the second economic environment. After solving the equation, the price to dividend ratio was simulated in both economic environments and was compared with actual market data. Using analysis of variance test and multi-group mean clustering method, it was determined that the mean and standard deviation of the data obtained in the second economy are closer to the actual market data

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compared to the first economy. Consequently, the second economy gives a better estimate of the price to dividend ratio; that is, the mentioned behavioral phenomena exist in our market and affect the pricing of stocks by investors.

Methodology

Research method

This study is applied research in terms of orientation, in which the library method has been used to collect data in the research theoretical foundations and background. Additionally, the document mining method has been applied to collect the data needed for hypothesis testing. The required data have been collected annually from the audited financial statements of companies listed on the Tehran Stock Exchange and the existing databases in this field, such as Rahavard Novin software. The statistical research population consisted of the companies listed in Tehran Stock Exchange during the period 2006 to 2017, of which 115 accepted companies were selected after applying the following filters:

Their fiscal year should end on March 19 (end of Esfand);
During the research period, their stocks should not have trading disruption longer than six months;
Their information should be available;
They should not change the fiscal year.

The reason for applying the conditions of no change in the fiscal year and no trading disruption longer than six months during the period under study is that if a company's trading symbol has been closed for a long time and its stocks have not been traded and the fiscal year changes, the capability of comparing information between companies will be lost. On the other hand, a period of fewer than six months may lead to the elimination of a large number of member companies of the statistical sample. Therefore, 1380 firm-year observations were used for statistical analysis.

Research variables and model

In order to find an answer to the first research question as to "whether investors in the Iranian capital market use management forecasts in following the halo effect paradigm", the model provided by Lajevardi and Feiz (2019) and Wang et al. (2017) is used as the following:

Research regression equation

$$RETURN_{i,t+1} = \beta_0 + \beta_1 DEC\_REPS_{i,t} + \beta_2 (REPS > EEPS_{i,t}) + \beta_3 DEC\_REPS * (REPS > EEPS_{i,t}) + \epsilon_{i,t} \tag{1}$$

In which:

Dependent variable

$RETURN_i$: The stock return of company i in month $t + 1$ which will be calculated using the following equation:

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$$r_{is} = \frac{(1 + x + y)P_{is} - P_{is-1} - yP_{ni} + DPS}{P_{is-1} + yP_{ni}}$$ (2)

In which:

= Stock price of company i at the end of year t

= Nominal value of the stock of company i at the end of year t

= Percentage of capital increase from the reserves of company i at the end of year t

= Percentage of capital increase from the claims and cash contribution of company i at the end of year t

= Cash earnings per share of company i at the end of year t

Independent variables

DEC_REPSi,t-1: Decrease in realized earnings per share of company i in year t compared to year t-1, which in case of being reduced, it is equal to the net figure decreased; otherwise, it is equal to zero.

REPS>EEPS: An artificial variable which is equal to 1 if realized earnings per share is greater than the forecasted earnings per share of company i in year t; otherwise, it is equal to zero.

In order to confirm the halo effect phenomenon, β_1 should be less than zero and significant and β_3 should be higher than zero and significant.

Control variables

DEC_EPSi,t-1: Decrease in earnings per share of company i in year t compared to year t-1, which in case of being reduced, it is equal to the net figure decreased; otherwise, it is equal to zero.

DEC_ROAi,t-1: Decrease in the return on assets of company i in year t compared to year t-1, which is equal to net income to assets ratio in year t minus net income to assets ratio in year t-1.

DEC_ROEi,t-1: Decrease in the return on equity of company i in year t compared to year t-1, which is equal to net income to equity ratio in year t minus net income to equity ratio in year t-1.

EPSi,t > INDEPSj,t: An artificial variable which is equal to 1 if the earnings per share of company i in year t is greater than the average earnings per share of companies of industry j in year t; otherwise, it is equal to zero.

ROAi,t > INDROA: An artificial variable which is equal to 1 if the return on assets of company i in year t is greater than the average return on assets of companies of industry j in year t; otherwise, it is equal to zero.

ROE i,t > INDROE j,t: An artificial variable which is equal to 1 if the return on equity of company i in year t is greater than the average return on equity of companies of industry j in year t; otherwise, it is equal to zero.

Results

In this research, a multivariate linear regression model has been employed to test the hypothesis. The statistical method used in this study is the panel data method. In the following, the panel data method and related tests are initially described. Then, the tests

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related to the significance of the whole model and the significance of the independent variables are explained. Finally, after describing the tests related to the classical regression assumptions, the decision-making about the rejection or acceptance of the research hypothesis is discussed. It should be noted that in this research, EViews 9 software has been applied to analyze the data.

Descriptive Statistics

A summary of the characteristics of descriptive statistics related to the variables used in this research has been presented in Table (1). Reported statistics comprise major indices and criteria, including mean and median, and dispersion indices, including variance, standard deviation, and Jarque-Bera test, for the variables used in this study.

Table 1 - Descriptive Statistics

	RETURN	DEC_EPS	DEC_ROA	DEC_ROE
Median	-0.642873	-286.6982	-0.037681	-0.266665
Mean	-0.934433	-7.295833	-0.004729	-0.017151
Maximum	6.231022	0.000000	0.000000	0.000000
Minimum	-6.907755	-21017.42	-1.053024	-72.07007
Standard deviation	2.066421	871.8697	0.081124	2.179158
Skewness	0.474384	-12.15058	-5.348613	-27.07696
Kurtosis	3.558741	246.9240	47.52490	862.5156
Number of observations	1380	1380	1380	1380

Note: source: the authors.

Kolmogorov-Smirnov test (normality of dependent variable)

Normality test

One of the most critical regression hypotheses is the normality of the model residuals. To estimate the final research model, information related to the independent and dependent variables has been used, and then the final regression of the model has been estimated. It is necessary first to estimate the model and then estimate the dependent variable's values for different values of the independent variable. The difference between the estimated values and the actual values is the model residual. However, before estimating the model, the distribution of residuals can be ascertained by testing the distribution of the dependent variable.

The assumption of the normality of the dependent variable has been tested using the Kolmogorov-Smirnov test. Kolmogorov-Smirnov test, which is called by this name in honor of two Russian statisticians named A. N. Kolmogorov and N. V. Smirnov, is a simple nonparametric method for determining the homogeneity of experimental information with selected statistical distributions and is abbreviated as KS.

The null hypothesis and the alternative hypothesis in this test are written as follows:

H0: The data for the dependent variable follows the normal distribution.

H1: The data for the dependent variable do not follow the normal distribution.

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Table 2 - Kolmogorov-Smirnov test

	Stock returns	
	Before normalization	After normalization
Test statistic	2.417	1.084
Significance	0.000	0.169

Note: source: the authors.

The significance level values for dependent variables are more significant than 0.05 for the years of the research period. The null hypothesis is rejected when the significance level is less than 5%. Therefore, the dependent variables have a normal distribution in different years.

Homogeneity of variances

Breusch-Pagan test

In the following, the homogeneity of residual variance of the models has been investigated using Breusch-Pagan test. The results of Breusch-Pagan test are presented in Table (3).

Table 3 - The results of Breusch-Pagan test for the homogeneity of residual variance of the models

Regression model characteristic	Breusch-Pagan test statistic	Probability value or significance level	Homogeneity of variance
Hypothesis regression model	0.9242	0.4283	No
Hypothesis regression model-1	0.2691	0.8477	No

Note: source: the authors.

As can be observed in the table above, the Breusch-Pagan test results suggest that the studied models of the research hypothesis have a significance level of higher than 5%. Hence, the null hypothesis indicating the homogeneity of variance is rejected. This shows the absence of any autocorrelation between variables and confirms the existence of one of the primary conditions of regression. Therefore, overall, the generalized least squares (GLS) method should be used in all three models to solve the mentioned problems.

Durbin-Watson test (values between 1.5 and 2.5 indicate no autocorrelation)

Collinearity tests in which the values close to 1 in Table (4) indicate the absence of strong collinearity between the independent variables.

Correlation test:

Table 4 - Correlation test between variables

	RETURN_2	DEC_EPS	DEC_ROA	DEC_ROE
RETURN_2	1.000000			
DEC_EPS	-0.012073	1.000000		
DEC_ROA	-0.009515	0.573674	1.000000	
DEC_ROE	-0.004391	0.027513	0.052627	1.000000

Note: source: the authors.

The table above shows the correlation values between the independent variables. Pearson correlation coefficient varies between -1 and 1, and r=1 represents the complete

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direct relationship between the two variables. A direct or positive relationship means that if one of the variables increases (decreases), the other also increases (decreases). R=-1 indicates the existence of a complete inverse relationship between two variables. An inverse or negative relationship suggests that if one variable increases, the other variable decreases, and vice versa. When the correlation coefficient is zero, it indicates no linear relationship between the two variables.

Collinearity means that there is a linear relationship between explanatory or independent variables. One way to identify the existence or absence of collinearity is to examine the correlation relationship between the independent variables. If the correlation between the independent variables is not strong, the collinearity problem does not occur. In this study, the collinear relationship between independent variables has been investigated using Pearson correlation coefficient. As shown in Table (2), there is a positive correlation between the research variables, but it does not exist at the significance level, and this correlation between the two variables is almost weak. Therefore, concerning the absence of a collinearity problem between these two variables, simultaneous entry of these variables in a model is possible. About other variables, due to the lack of strong correlation, it can be stated that there is no collinearity problem between them, and their simultaneous entry in the model will not cause a collinearity problem.

Stationary test of variables

The stationary of the research variables means that the mean and variance of the variables remain constant over time, and the covariance of the variables is constant across different years. Thus, to ensure the stationary of variables and lack of regression fallacy, the Levin-Lin-Chu test was used, the results of which are provided in the table below. The results demonstrate that all variables are stationary at the 1% error level.

Table 5 - Stationary of variables

Variables	Levin-Lin-Chu statistic	Prob	Stationarity at the level (I0)
Return on assets	-2.73826	0.0000	stationary
Decrease in earnings per share	-39.5638	0.0000	stationary
Decrease in return on assets	-30.1124	0.0000	stationary
Decrease in return on equity	-62.4463	0.0000	stationary

Note: source: the authors.

Hypothesis testing

H0: Investors in the Iranian capital market do not use management forecasts in following the halo effect paradigm.

H0: $\beta i = 0$

H1: Investors in the Iranian capital market use management forecasts following the halo effect paradigm.

H1: $\beta i \neq 0$

In order to determine whether or not the use of the panel data method will be efficient in estimating the desired model, the Chow test or F-Limer test has been used. In

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order to determine which method (fixed effects or random effects) is more suitable for estimation (determination of differences between cross-sectional units being fixed or random), the Hausman test has been applied.

Table 6 - Results of Chow and Hausman tests

Test	Statistic	Statistic value	Degree of freedom	P-value
Chow	F	1.694792	114.1262	0.0000
Hausman	χ^2	5.889182	3	0.1171

Note: source: the authors.

According to the results of the Chow test and its P-value (0.0000), the test hypothesis is rejected at the 95% confidence level and indicates that the panel data method can be used. Moreover, considering the results of the Hausman test and P-value, which is more than 0.05, it is necessary to estimate the model using the random effects method.

Table 7 - Combined model of research hypothesis

Dependent variable: stock returns Number of observations: 1380 firm-year				
	Coefficient	Standard deviation	t-statistic	P-value
Decrease in earnings per share	0.038853	0.080029	0.485485	0.6274
Earnings per share equal to earnings forecast	-4.134505	5.003205	-0.825781	0.4091
Decrease in earnings per share with an artificial variable	2.374105	6.607405	0.359218	0.7195
Fixed component	0.146902	0.028398	5.172966	0.0000
Adjusted coefficient of determination of the model				0.53062
Durbin-Watson statistic				1.933591
F statistic				1.660441
Overall regression significance level				(0.0000)

Note: source: the authors.

As shown in Table (7), the P-value related to Probe (F-statistic), which indicates the significance of the overall regression, is 0.000000, suggesting that the model is significant at the 99% confidence level. Besides, the Durbin-Watson test of the above relationship is between 1.5 and 2.5, which is appropriate and indicates that the assumption of lack of autocorrelation is acceptable. The results of hypothesis testing show that investors in the Iranian capital market do not use management forecasts in following the halo effect paradigm. The adjusted coefficient of determination suggests that about 3.5% of the changes are explained by the independent variables mentioned in the Table above.

Conclusion and Suggestions

In interpreting the research hypothesis, it can be said from a scientific point of view that the principles presented by people show that the same economic phenomena may have a different and irrational understanding. People's understanding of phenomena is subjective and judgmental. As a result, the reaction and response of each of them may be different from the other, but at any time may affect the reaction and perception of the other. Given the assumption that investors act rationally and under the modern finance theory, stock market price deviation will often be equal to its intrinsic value, which reflects all the essential factors of the stock such as financial status, profitability, performance, environmental factors, economic cycle, legal environment, competition, growth prospect,

industrial factors and so on. In modern finance theory, the effect of psychological factors is not taken into account, and many people can reach a fair estimate of the intrinsic value and fair value of stocks. On the other hand, uninformed investors are not subject to judgmental bias, and informed investors form stock prices, and they are subject to two biases of overconfidence and self-attribution. Overconfidence makes them exaggerate that the accuracy of private marks on stock value and self-attribution causes the public marks to be inconsistent with their private marks. As a result, overconfidence in private information and under-reaction to public information cause them to wallow in behavioral harm. Overconfidence and slow reaction can cause analysts not to adjust their revenue estimates when unique and exceptional cases occur. Thus, investors in the Iranian capital market do not use management forecasts in following the halo effect paradigm.

According to the research findings, the following suggestions can be made:

Considering that investors in the Iranian capital market do not use management forecasts in following the halo effect paradigm and since market realities have shown that managers' forecasts about the company's situation in Iran have been highly volatile and in some cases unreliable, investors and other stakeholders are recommended to be aware of behavioral biases in the financial markets, to avoid their detrimental effects on their desired company and to act more rationally in their decisions. Stock exchange analysts can categorize and review the reports on the activities of the board of directors. The Exchange Organization needs to make the necessary changes in the disclosure of management forecasts in various items in the report onboard activities for stock exchange and over-the-counter companies.

Students and researchers in the field of behavioral finance are recommended to examine the halo effect phenomenon by considering the moderating variables such as managerial overconfidence, inflation uncertainty, over-investment, portfolio return fluctuations of high-frequency trading companies, and environmental uncertainty. Researchers are suggested to study, in future research, the halo effect phenomenon in the Iranian capital market while emphasizing the role of accounting information and taking into account the conditions of environmental uncertainty in the stock market. It is also recommended to examine the subject of the present study during the economic crisis in OTC companies. Finally, future researchers are suggested to investigate the halo effect phenomenon in the Iranian capital market while emphasizing the role of accounting information and considering the overconfidence of the company's management.

References

Anderson, M. C., Banker, R., & Janakiraman, S. (2013). Are selling, general and administrative costs "Sticky"? *Journal of Accounting Research*, 41(1): 47- 63.

Ball, R & Shiva kumar, L. (2005). Earnings Quality In Uk Private Firms: Comparative Loss Recognition Timeliness. *Journal of Accounting and Economics*, 39 (1): 83-128.

Barzideh. Farrokh, Kaffash Panjeshahi. Mohammad, Shariatpanahi. Seyed Majid, Taghavifard. Mohammad Taghi (2016). Stock Pricing Model Based on Prospect Theory. *Journal of Financial Research*, 8 (1): 59-76.

Beaver, W.H (1989). *Financial Reporting: An Accounting Revolution*. Englewood Cliffs, N.J. Prentice Hall.

PUC-SP

Biddle, G. C., Hilary, G. and Verdi, R. S. (2009). ″How does financial reporting quality improve investment efficiency? *Journal of Accounting and Economics*, 48: 112-131.

Bushman, R.M., Smith, A.J. (2003). Financial Accounting Information and corporate governance. *Journal of Accounting Economics*, 31: 237-333.

Collingwood, H. (2001). The Earnings Game: Everyone Plays, Nobody Wins. *Harvard Business Review*, 79(6), 65-74

Easley, D., OHara, M., (2004). Information and the cost of capital. *Journal of Finance* (August).

Fridson, M. and Alvarez, F. (2002). *Financial Statement Analysis – A Practitioner's Guide*. 3rd Ed. University Edition, New York: John Wiley & Sons.

Hens, T., Vlcek, M., (2011). Does prospect theory explain the disposition effect? *Journal of Behavioral Finance*, 12: 141–157.

Hirshleifer, D., Kewei H. & Siew Hong Teoh (2009). Accruals, cash flows, and aggregate stock returns. *Journal of Financial Economics*, 91: 389-406.

Hunton, J. E. (2005). Toward an Understanding of the Risky Choice Behavior of Professional Financial Analysts. *Journal of Psychology and Financial Markets*, 2(4): 182–189.

Jahan Khani, A. Saffarian, A (2005). stock market response to the announcement of profit per share in tehran stock exchange. *Financial Research Journal*, 16: 81 - 81(in Persian).

Khajavi, Sh. Fattahi Naghchi, H (2013). Neuro finance, Perspective of Behavioral Finance. *Journal of Investment Knowledge*, 2 (7): 34 – 21 (in Persian).

Lajevardi, M. Faez, A (2018). Investigation the effect of cognitive errors on the type of investment: evidence on Tehran stock exchange. *Second International Conference on Management and Development Culture*, Tehran, Mobin institution (in Persian).

Moshtaghi. Yousef, Yazdani. Naser (2017). Studying the influence of psychological factors with orientation perceptual errors on Decision making process of individual investors. *Journal of Financial Research*, 18 (4): 735-752.

O'Donnell Ed & Joseph J. Schultz Jr (2016). The Halo Effect in Business Risk Audits: Can Strategic Risk Assessment Bias Auditor Judgment about Accounting Details? *The Accounting Review*, 80 (3): 921-939.

Saghafi. Ali, Farhadi. Rohollah, Taghavi Fard. Mohammad Tafhi (2015). Beta Risk: Evidence from Landscape Theory. *Journal of Experimental Studies in Financial Accounting*, 12 (45): 38-9 (in Persian).

Sher anaghiz S, Hasas yeganeh Y, sadidi M, narrei B. (2017). Sentimental decision-making of investors, Corporate governance and Investment efficiency. *Quarterly Financial Accounting Journal*, 8 (32) :1-37 (in Persian).

Shiffrin, H., (2007). *Behavioral Corporate Finance: Decision that Create Value*. McGraw Hill Press.

Statman, M. (2014). *Behavioral finance: Finance With Normal People. Borsa Istanbul Review*, 14: 65-73.

Utami Intiyas, Wijaya Kusuma, Gudono & Supriyadi (2018). Halo Effect in Analytical Procedure: The Impact of Client Profile an Information Scope. *Global Journal of Business Research*, 8(32): 9-26.

Wang, L. X., Shi, K., Xia Fan, H., (2017). Psychological Mechanisms of Investors in Chinese Stock Markets. *Journal of Economic Psychology*, 27: 762-780.

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