Adv. Math. Fin. App., 2023, **8**(2), P. 433-448

Advances in Mathematical Finance & Applications
www.amfa.iau-arak.ac.ir
Print ISSN: 2538-5569
Online ISSN: 2645-4610
Doi: 10.22034/AMFA.2022.1951311.1690

Research Paper

Investigating the Effect of Managers' Emotional and Spiritual Intelligence on the Concurrence of Stock Prices and Stock Returns

Mehdi Haj Ebrahimi[a], Hossein Shafiei[b*], Abbas Sheibani Tazarji[b]

[a]*Department of Accounting, Zahedan Branch, Islamic Azad University, Zahedan, Iran*
[b]*Department of Accounting, Sirjan Branch, Islamic Azad University, Sirjan, Iran*

ARTICLE INFO

Article history:
Received 2022-01-31
Accepted 2022-03-15

Keywords:
Stock price synchronization, Stock returns, Emotional intelligence, Spiritual intelligence

ABSTRACT

Spiritual and emotional intelligence play a crucial role in organizational behavior, significantly impacting the performance of companies, stock prices, and the expected return of investors. Managers possessing these skills demonstrate remarkable abilities in fostering employee commitment, strengthening self-control among employees, and addressing weaknesses in company control. The impact of their spirituality on company effectiveness is a central aspect of investigation in this study. Accordingly, this research aims to examine the influence of managers' spiritual and emotional intelligence on the concurrence of stock prices and stock returns. To measure the spiritual intelligence of managers, the King [27] questionnaire was employed, while emotional intelligence was assessed using the Bar-On [8] questionnaire. The hypotheses were tested using regression analysis with composite data, utilizing information from 60 companies listed on the Tehran Stock Exchange in 2019. The findings of this study support the research hypothesis by demonstrating that both emotional and spiritual intelligence of managers have a significant impact on the concurrence of companies' stock prices. Furthermore, the results indicate a relationship between managers' emotional and spiritual intelligence and companies' stock returns.

1 Introduction

Paying attention to emotions and their appropriate application in human relationships, understanding one's own relationships with others, managing them effectively, fostering empathy, and utilizing emotions and feelings in thinking and recognition are key aspects encompassed by the concept of emotional intelligence. Emotional intelligence has gained recognition and significance in management literature, as it attempts to explain and alter the role of emotions and feelings in human capabilities. Managers possessing emotional intelligence exhibit effective leadership, achieving goals with maximum productivity, employee satisfaction, and commitment, while emphasizing self-control based on self-awareness [1-6].

Today, interpersonal relationships within organizations have emerged as one of the most crucial issues and challenges that organizations face, with the potential to lead them to the brink of collapse. Emotional and social abilities play an undeniable role in enhancing relationships and nurturing individuals, which has not received the attention it deserves. Emotional intelligence refers to a cognitive ability that encompasses a

* Corresponding author.
E-mail address: *hossein.shafii@gmail.com*

person's emotional and social abilities, enabling skills such as communication and recognizing strengths and weaknesses, among others. The significance of emotional intelligence for a manager is such that it is claimed to impact other managerial abilities as well [7-10, 14]. Therefore, precision regarding the subject of intelligence becomes an interesting and noteworthy matter.

In parallel, spiritual intelligence is a concept that has been proposed and developed within the context of global attention and interest in religion and spirituality by psychologists. Spiritual intelligence integrates spirituality and intelligence into a new framework. The concept of spiritual intelligence was first introduced by Stevens in 1996 and further expanded by Emmons in 1999. Emmons views the emergence of spiritual intelligence as the application of mental capacities and resources within various contexts and practical situations. In other words, individuals utilize spiritual intelligence when they aim to employ their spiritual capacities and resources to make significant decisions and contemplate existential matters or solve daily problems [11, 17]. On the other hand, given that emotional intelligence is a multidimensional concept with multiple definitions, complete consensus has not been reached among these definitions. However, Mayer et al. [30] assert that paying attention to emotions and their appropriate application in human relationships entails mastering the transient desires, thoughts, and knowledge related to emotional intelligence. Bar-On [8] deems emotional intelligence as a crucial factor for individuals' development of the ability to succeed in life, which is connected to mental health. Similarly, Geoleman [19] characterizes emotional intelligence as another form of intelligence that involves recognizing one's feelings and utilizing them to make appropriate life decisions. Additionally, Martinez [29] defines emotional intelligence as an array of non-cognitive skills, abilities, and competencies that influence an individual's capacity to cope with environmental demands and pressures.

Research in this area consistently indicates that high emotional intelligence is associated with improved health, a more productive life, and better workplace performance [43]. Thus, it can be argued that when managers combine their IQ skills with emotional intelligence skills, they can significantly impact individual performance, the work environment, and increase the expected return of investors in terms of stock returns and stock price concurrence for the company. Recognizing the workplace as more than a rational environment and acknowledging the importance of emotional dynamics in improving performance and achieving favorable financial outcomes has prompted the application of managers' emotional intelligence skills [49]. Therefore, given the increasing complexity of financial markets in the present era, this study aims to answer the question of whether managers' intelligence skills influence the concurrence of stock prices and stock returns.

2 Theoretical Foundations and Research Hypothesis

Emotional intelligence as an individual trait can play a dual role in organizations. Higher emotionally intelligent people can use this skill to pave the way for organizational development, but on the other hand, they may use this ability to their advantage [18-25]. Cook et al. [10] believe that high emotional intelligence is essential for accountants because they deal with different people on a daily basis due to their job nature. So having this skill can help them control their stress and emotions and that of others. Prevent and resist his pressures without intense conflict with the CEO.

Over the past few decades, the concept of emotional and spiritual intelligence in the theoretical background and psychological research has been introduced as a structure that is associated with various human behaviors in different environments (Golparvar and Khaksar, [21]). The most appropriate area for studying the extent of spiritual intelligence and emotional intelligence intervention on people's performance is the work environment. Because, in addition to scientific abilities, a person uses his spiritual and emotional

abilities in his work environment (Druskat et al., [15]). Many people, despite their high abilities and intelligence, do not have brilliant success in the workplace, and most importantly, sometimes their presence in the complex disrupts, turns the atmosphere of understanding into stress, increases work stress, reduces employee motivation, and ultimately the overall performance of the organization [26-33]. It becomes. The need to pay attention to the application of spiritual and emotional intelligence is a response to the growing research that states that the work environment is not just a logical environment and paying attention to emotions in the workplace improves performance and results (Zeidner et al., [49]). Meaning intelligence combines the external aspects of intelligence with the internal aspects of spirituality and creates an extraordinary capacity in the individual, in such a way that he can use spirituality in a practical way.

Yang and Maou [45] states that spiritual intelligence is the human capacity to search and ask the ultimate questions about the meaning of life and at the same time experience the integrated connection between each of us and the world in which we live (Zarei Matin et al., [48]). Because today's organizational world is a highly competitive and challenging world, this environmental turmoil has led managers to choose to improve employee performance as their competitive strategy in today's world. Therefore, the basis of any movement towards growth and development and improvement of the performance process of employees in organizations is to accurately identify the current situation, identify strengths and weaknesses, and then design well-thought-out plans to improve performance [34-41]. The idea of the effect of managers 'spiritual intelligence on employees' performance reveals a new aspect of the organization's activities that never looks at people as tools and always treats them with respect and love, and through it, the moral, scientific, and social capabilities of employees towards success. Vaughan [44] spiritual intelligence is related to the inner life of the mind and soul and its relationship to the world and includes the capacity for a deep understanding of existential questions and insights into multiple levels of consciousness. Self-awareness encompasses creative evolution as a context or life force. Spiritual intelligence manifests itself in the form of consciousness. And in the form of consciousness is always growing matter, life, body, mind, soul, and spirit. Therefore, spiritual intelligence is something more than one's mental ability and connects one to the other person and to the soul. In addition, spiritual intelligence goes beyond conventional psychological development, so self-awareness includes awareness of the relationship with the transcendent being, other people, the earth, and all beings (Ghobari Bonab et al., [22]).

Thus, the manner and quality of individuals' investment decisions is largely influenced by feelings and emotions and does not follow a logical structure. New science has proven that the foundation of many important decisions, the most active and useful organizations, the most satisfying and successful lives, is emotional and spiritual intelligence. Emotional intelligence is a set of non-cognitive skills, talents, and abilities that increase a person's ability to successfully cope with environmental pressures and requirements. Emotional intelligence is a new achievement in psychology that has recently entered the field of management and accounting and includes understanding and identifying feelings and emotions in individuals and using this perception to make appropriate decisions in investments, which in turn increases the synchronization of stock prices and The stock returns in the company become financial statements for investors and users [42-49]. According to classical theories (utility and competition), an investor is completely rational and will make rational decisions. But research shows that most investors rely on emotion, even the most skilled in their decisions. Therefore, the behavior of investors in the stock market and how to make decisions, allocate monetary resources, pricing and evaluate the return of the company is affected. The ambiguous state of cognitive errors rooted in human psychology causes investors to make mistakes in shaping their expectations, resulting in special behaviors when investing in the financial market. Even when investors have the general information, they may interpret this information in different ways, and this may affect stock returns. In Miller theory, heterogeneous beliefs among investors create uncertainty and increase risk, and demand higher returns [41]. Today, the idea of purely rational behavior of investors who are always looking to maximize their desirability is not enough to justify the behavior and reaction of

the market. There is even evidence that many financial patterns of behavior that are deeply rooted in individuals can hardly be overcome through education. One of the reasons for the growing interest in behavioral finance is to better understand the behavior of investors. The financial school or view of the behavior that results from the combination of psychology and finance states that psychology plays a role in financial decision making. Economic theories are mainly based on the fact that people behave sensibly and the information contained in the investment process is used. This assumption is the basis of the market efficiency theory. According to the efficient market hypothesis, there is complete information in the stock market and investors can make rational decisions based on this information. The homogeneous expectations of investors is a hypothesis proposed by Martinez [29] in his modern portfolio theory.

He argues that all investors have the same expectations and make the same choices based on a set of conditions. Lajevardi and Kokabi [28] believe that despite different differences and arguments, the capital asset pricing model is considered as a leading model in the structural approach to homogenize investors' expectations. People often share common information, but they disagree about the meaning of this information, not only in valuing risky assets but also in evaluating economic policies and so on. The divergence of ideas is often defined as a kind of investor heterogeneity in financial economics [11-15]. Investor heterogeneity can result from tax priorities, risk tolerance, the need for liquidity and private information [7-8], financial constraints, and uncontrolled income [32-35]. Similarly, Mushinada and Veluri [31] showed that the divergence of investor ideas in determining the price of assets is essential. Therefore, investor heterogeneity is of particular importance because it is directly related to price behavior and trading volume in the market. Traders can change their trading strategies in the event of a change in investor heterogeneity. Therefore, based on these arguments, the research hypotheses are formulated as follows:

- Hypothesis 1: Managers' emotional intelligence affects stock price concurrency.
- Hypothesis 2: The spiritual intelligence of managers affects the concurrence of stock prices.
- Hypothesis 3: Managers' emotional intelligence affects stock returns.
- Hypothesis 4: Managers' spiritual intelligence affects stock returns.

3 Empirical Background of the Research

Tooranloo et al. [40] examined the analysis of causal relationships and the factors influencing individual investors' decisions to buy stocks using a sample of 35 investment experts. The results showed that 4 indicators and 20 sub-indices affect the decision of individual investors to buy shares in the stock market. Dong and Wu [13] in a study entitled Investor Attention as a Risk Pricing Factor for Chinese Investors for Their Stocks. They found that investor attention could systematically affect stock returns, making it an important factor in stock pricing. Mushinada and Veluri [31] conducted a study on investor rationality and behavioral bias in the Indian stock market. They concluded that investors should act after analyzing each investment to be aware of past behavioral mistakes and to refrain from doing so.

This may help investors minimize the negative effects of narcissism and overconfidence on their expected tools. Dhaoui [12] examined the relationship between trading volume and stock market skepticism from 1987 to 2014 in the United States. The results of the study showed that in periods of optimism, investors act cautiously and cleverly, and in periods of pessimism and normalcy, investors are less careful. Hoffmann et al. [24] examined the effect of investors' perceptions on risk-taking behavior and actual trading volume. The results of their research showed that the perception of investors and its change acts as an effective factor on risk-taking behavior and trading volume. Regarding the internal background, because the internal studies have not directly examined the effect of managers' spiritual and emotional intelligence on the

concurrence of stock prices and stock returns; Therefore, the most relevant research in this field is referred to. Nasr et al. [33] in a study investigated the effect of accruals on the heterogeneity of investors' beliefs and the effect of their interaction on stock returns during the years 2009 to 2016 using a sample of 151 companies. The results of his findings show that the amount of accruals has a significant positive effect on the level of heterogeneity of investors 'beliefs and the heterogeneity of investors' beliefs has an effect on stock returns. The results also show that the heterogeneity of investors' beliefs affects the relationship between accruals and stock returns. Balouei et al. [6] the different effect of company size on the relationship between normal return, unconventional return, and heterogeneous investor belief in companies listed on the Tehran Stock Exchange using a sample of 110 companies from 2006 to 2016 and their results showed Conventional and unconventional stock returns affect the heterogeneous belief of the investor and the effect of these two variables on the heterogeneous belief is greater in large companies than in small companies; Thus, the components of stock returns can flatly affect the investor's belief and challenge investment decisions. Bavandi Sani et al. [5] in their research examined the effect of spiritual intelligence on job performance of bank employees with the role of mediator of individual innovation in a sample of 182 employees of Mehr Eghtesad Bank in Khorasan Razavi province.

The results showed that spiritual intelligence and individual innovation have a positive effect on employees' job performance and individual innovation has an intermediary role in this regard. Salehi et al. [39] in a study examined the effect of managers' spiritual and emotional intelligence on the financial performance of companies listed on the Tehran Stock Exchange using 215 observations in 2014. Findings of the study with respect to the significant value obtained for the variables of spiritual intelligence and emotional intelligence (more than 5%) show that there is no significant relationship between these two skills of managers and the financial performance of companies. Abbasian-Naghneh et al. [2] examined the role of investors' beliefs on price orientation and trading volume in the capital market. Findings showed that investors' optimistic and pessimistic beliefs have a positive and negative effect on market trading trends, respectively. Also, the results of this study show that investors' optimistic and pessimistic beliefs do not have a significant effect on market price trends. Azadi et al. [3] examined the pricing test of capital assets, assuming the existence of heterogeneous information, examined the applications of investor heterogeneous beliefs on equilibrium pricing of assets and the selection of the optimal portfolio in the Tehran Stock Exchange from 2008 to 2012. The research results show a positive correlation between relative prices and monthly returns. The results also show that the conditional pricing strategy works better than the buy and hold strategy.

4 Research Methodology

The present study is applied in terms of purpose and descriptive-correlational in nature and method. To test the research hypotheses, data were collected by the library method on a daily basis. The statistical model used in this study is a multivariate regression model. In this research, seemingly unrelated regression (SUR) is used to test the research hypotheses. The reason for using this method is that the volume of transactions in the capital market can affect the stock price trend. Therefore, in this study, before performing the seemingly unrelated regression (SUR), it is necessary to examine the condition related to the dependence of the components of the perturbation equations. If there is a correlation between the components of the disorder, it is possible to use this regression. The statistical population of this research is the companies listed on the Tehran Stock Exchange in 2019, which was selected using the elimination method and the following criteria.

1- The financial unit of the company is located in the city of Tehran;

2- The financial year of the company should end on March 20, 2017;

3- They are not part of intermediation companies, holding companies.

In order to conduct interviews with the managers of the studied companies, he visited the head office or

factory of 138 companies within six weeks. References leading to interviews with 73 companies were rejected, of which 13 were rejected due to insufficient or inaccurate data, bringing the number of correct observations to 60 companies. Regarding the adequacy of the sample size in the regression model method, it should be said that to obtain valid and generalizable results, according to Chin et al. [8], the sample size should be estimated at a ratio of at least 10 items per parameter. Baseri and Hakaki [7] also proposed five items per parameter; Therefore, the minimum number of required observations is 30, so the available observations (60 cases) are statistically sufficient. The proposed methodology can be illustrated as Fig. 1.

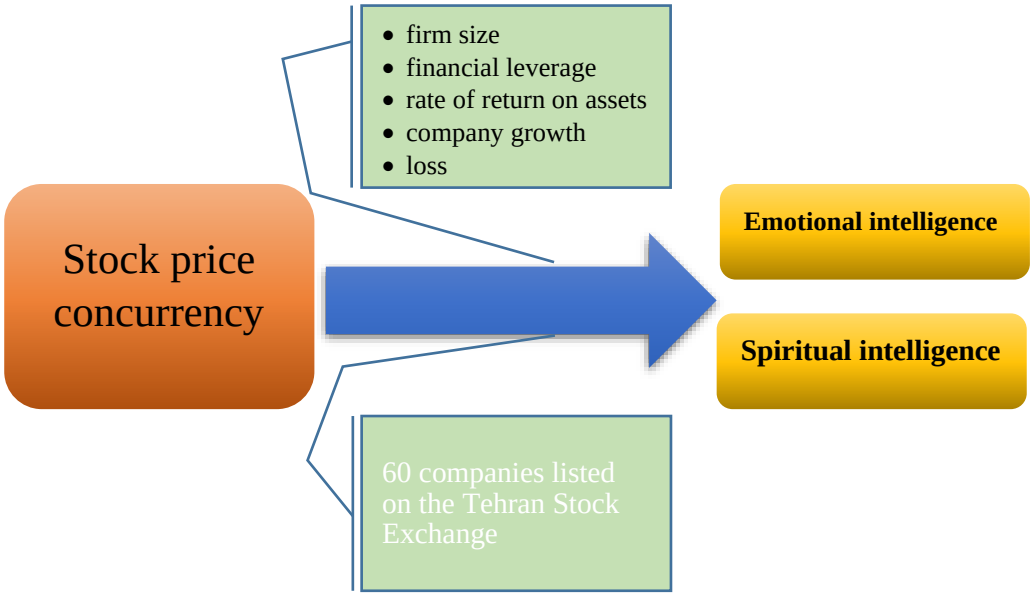

Fig. 1: The Proposed Methodology

4.1 Research Variables

Independent variables: The independent variables are emotional intelligence and spiritual intelligence. The independent variables of this research are the score that the subject gets in King [27] and Bar-On [8] emotional intelligence test. In this study, King Spiritual Intelligence Questionnaire with a Likert scale with 5 items was used, which has 24 items (Bar-On [8]). High scores indicate high spiritual intelligence. The Bar-On Emotional Intelligence Questionnaire (90 questions) was also used. Bar-On divides emotional intelligence into 15 variables [8]. To determine these variables, research questionnaires were designed and sent to the e-mail of company managers. It is worth mentioning that in this study, Cronbach's alpha coefficient for the spiritual intelligence questionnaire was 0.82 and for emotional intelligence, a questionnaire was 0.84. In Bar-An research, the reliability coefficient was obtained 0.85 after one month and 0.75 after 4 months [8]. According to the results of Ansari and Mahmoudi research, Cronbach's alpha coefficient for Bar-An questionnaire was 0.86 (Salehi et al., [39]). Based on the results of King's research for the Spiritual Intelligence Questionnaire, the total reliability coefficient of the test was 0.95 and the reliability coefficient of the subscales of existential critical thinking, personal meaning production, transcendent awareness and level of consciousness development, respectively, 0.88, 0.87, 0.89 And 0.94 is mentioned (King [27]).

Dependent variable: The only dependent variable is stock price concurrency. The research dependent

variable, according to Jin et al. [26], the market regression model is used as follows from Equation (3). The adjusted coefficient of determination of the regression equation (R^2) is considered as a criterion for concurrency (Fallahzadeh Abarghaei et al., [18]).

$$R_{it_d} = \alpha_{0i} + \beta_{1i}R_{mt_d} + \beta_{1i}R_{mt_{d-1}} + \gamma_{1i}R_{jt_d} + \gamma_{2i}R_{jt_{d-1}} + \varepsilon_{it_d} \quad (3)$$

Where

R_{it_d}	Daily return of the company in year t
R_{mt_d}	Daily market returns in year t
$R_{mt_{d-1}}$	Market returns the day before in year t
R_{jt_d}	Daily industry returns in year t
$R_{jt_{d-1}}$	Daily industry returns one day earlier in year t
R_{it_d}	Daily return of the company in year t

Daily market and industry returns were calculated as described in Equations (4) and (5), respectively.

$$R_{m,t} = \frac{I_{m2t} - I_{m1t}}{I_{m1t}} \quad (4)$$

$$R_{j,t} = \frac{I_{j2t} - I_{j1t}}{I_{j1t}} \quad (5)$$

And also,

I_{m1t}	Market index at the beginning of the day t
I_{m2t}	Market index at the end of the day
I_{mt}	Daily market returns
I_{j1t}	Industry index at the beginning of the day t
I_{j2t}	Industry index at the end of the day
I_{jt}	Daily industry returns

Which is obtained from the market model in relation (3), indicates the coefficient of determination obtained from the changes in the daily market return and the daily return of the industry and its effect on the daily return of the company. The market pattern determination coefficient is the result of changes in the market return factor and its effect on the company's stock return [26]. The concurrency variable of stock price of company i in fiscal year t is obtained by a near-normal distribution through Equation 6.

$$synch = \log\left(\frac{{R_{i,t}}^2}{1 - R_{it}^2}\right) \quad (6)$$

Stock returns: The second dependent variable of the research is stock return, which according to the research of Osoolian et al. [34] is calculated through the monthly return of the company based on price changes at the end of each month, taking into account capital increase and dividend.

Control variables: The control variables of the present study according to Zanjirdar [47] include firm size, financial leverage, rate of return on assets, company growth, and loss. Company size: In this study, company size is measured through the natural logarithm of the market value of company assets. The market value of a company's assets is obtained by multiplying the number of shares by the stock price at the end of the year (Song [41]). Company size is directly related to stock price concurrency because the stock returns of large companies are in line with the market (Roll [37]). In addition, Fernandes and Ferreira [17] argue that public announcements of larger firms may act as macroeconomic indicators for small firms that increase stock price concurrency. Financial leverage: Financial leverage is calculated by dividing total liabilities by total assets. Previous studies such as He et al. [23] and Miryekemami et al. [32] have shown that financial

leverage plays an important role in equity stock price synchronization. They stated that higher financial leverage tends to shift risk from liquidity to debt, which puts more risk on the company and leads to an increase in stock price concurrency.
Ratio of market value to book value of equity: This ratio is measured by dividing the market value of the sum of the company's equity at the end of the period (by multiplying the stock price at the end of the period by the number of shares issued and held by shareholders) on the book value of the company. Damoori et al., [11]). Accordingly, a higher ratio of market value to book value of equity means less risk for the company and consequently lower expected rates of return for investors; Therefore, this ratio can affect stock price concurrence by affecting the expected return. Company age: indicates the years that have passed since the company was listed on the Tehran Stock Exchange. The rationale for selecting this variable is based on the fact that companies improve their reporting procedures and the quality of information disclosure over time (Rahimi and Nezampour [36]); Therefore, the age of the company can affect the concurrence of stock prices. Beta: is equivalent to the ratio of covariance of the company's stock return with the return of the market portfolio to the variance of the market portfolio (Ahmadi et al., [4]). Beta is a measure of the risk of investing in company stock. Disclosure of accounting information by reducing information asymmetry and affecting the investment risk in the company's shares can affect the concurrence of stock prices (Farooq and Aktarozaman [16]).

4.2 Research Regression Model

In order to measure the spiritual and emotional intelligence of managers on the simultaneity of stock prices and stock returns in the present study, the following regression relationship has been used.
Relation (7): The effect of managers' spiritual and emotional intelligence on stock price concurrency

$$Synch_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i \quad (7)$$

Relationship (8): The effect of managers' spiritual and emotional intelligence on stock returns

$$R_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i \quad (8)$$

Where the variables and parameters are defined as follows:

$Synch_{i,t}$	Concurrence of stock price i in year t
$HSI_{i,t}$	Spiritual intelligence of company managers i in year t
$HEI_{i,t}$	Emotional intelligence of company managers i in year t
$R_{i,t}$	Company's share return in year t
$SIZE_{i,t}$	Company size i in year t
$LEV_{i,t}$	Company financial leverage i in year t
$MB_{i,t}$	Market value to the book of equity of company i in year t
$BETA_{i,t}$	Beta of company i shares per year
$AGE_{i,t}$	Company age i in years

5 Descriptive Research Findings

The results of implementing the proposed methodology are stated as follows.

5.1 Descriptive Statistics of Research Variables

Table 1 shows the descriptive statistics of research variables. The average concurrency of the stock price is -1.327. In other words, the negative value of the average value of the stock price concurrency score indicates that company managers are more inclined not to use specific information, which indicates the relative amount of company-specific information in the company's stock price. The more this particular information is reflected in the stock price, the lower the price concurrency. Also, the average financial leverage is 0.64, which means that 64% of the assets of the studied companies are financed from debt. The average rate of return on assets is 10.3%. Also, the sales growth rate of the studied companies was 10.4% on average.

Table 1: Descriptive Statistics Related to Research Variables

Variable	Mean	Median	Min	Max	Standard Deviation
Concurrent stock prices	-1/327	-1/213	-4/193	0/806	0/151
Stock returns	0/526	0/210	-0/658	8/598	0/004
Lever ratio	0/643	0/612	0/338	0/851	0/160
size of the company	12/915	12/713	10/328	14/973	0/668
Market value to the office	1/978	1/655	0/550	5/237	0/564
Stock beta	0/589	0/510	-0/600	2/290	0/044

5.2 Inferential Statistics

5.2.1 Stationary Test (Unit Root) of Variables

The presence of anonymous variables in the model causes the t and F tests to be invalid and the critical quantities provided by the t and F distributions are not the correct values to perform the test; Therefore, before estimating a regression model, it must be ensured that all independent and dependent variables are valid.

Table 2: Levin, Lin and Chou's Stationary Test

Variable	Symbol	Statistic	Significance
Spiritual intelligence of managers	HSI	-16/300	0/004
Managers' emotional intelligence	HEI	-15/24	0/001
Concurrent stock prices	SYNCH	-18/82	0/000
Stock returns	R	-28/11	0/000
Lever ratio	LEV	-34/39	0/008
size of the company	SIZE	-35/69	0/000
Market value to the office	MB	-25/17	0/000
Stock beta	BETA	-36/49	0/000

According to Table 2, because the probability values of all variables were less than 0.05, all independent variables were dependent on the duration of the study. Stationary means that the mean and variance of the research variables have been constant over time and the covariance of the variables has been constant between different years; Therefore, there will be no problem of false regression.

5.2.2 Model Diagnostic Tests

Before testing research hypotheses using a multiple research regression model, it is necessary to perform diagnostic tests to select the appropriate method for estimating the model using collective data or combined

data. The F-Leamar test or the Chavez test chooses between the model or collective estimation methods and composite data (panel). After proper diagnosis of the model with combined data, the Hausman test was used to choose between fixed and random effects methods. The results of these two tests are shown in Table 3. The results of F-Leamar test for the model show that the combined data method (panel) and the results of Hausman test for the models show that the model with fixed effects will be suitable for fitting this model.

Table 3: Results of Diagnostic Tests

Hypothesis model	$Synch_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$				
Chow test	F Statistics	Significant level	Hausman test	Test Statistics (χ^2)	Significant level
	6/865	0/000		13/75	0/048
$R_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$					
Chow test	F Statistics	Significant level	Hausman test	Test Statistics (χ^2)	Significant level
	7/721	0/000		12/63	0/039

5.2.3 Analysis of Variance

In this study, the Pagan method was used to detect variance homogeneity. According to Table 4, the significance of test statistics for both models shows that the null test assumption (based on homogeneity of variances) is rejected. For this reason, the generalized least squares model should be used instead of the standard least-squares model. This changes the method of calculating the standard error of the coefficients and, consequently, corrects Student Statistics and the relevant significance levels for the existing variance homogeneity.

Table 4: Results of Bruce-Pagan Variance Homogeneity Test

Model	$Synch_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$		
Bruch-Pagan test statistics	Statistic test	Significant level	Result
	9/3546	0/000	Variance inequality
$R_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$			
Bruch-Pagan test statistics	Statistic test	Significant level	Result
	10/3681	0/000	Variance inequality

5.3 Hypothesis Test Results

Before estimating the model, it is necessary to examine the assumptions of the regression model including the normality of the model residuals, the homogeneity of variance of the perturbation components, the lack of alignment between the explanatory variables and the lack of autocorrelation between the error components of the model. In order to investigate the normality of the distribution of disturbance components of the model, Jark-Bra test was used. Since the significance level of this test for research models is more than 0.05, so the null hypothesis that the distribution of disturbance components in the studied models is normal is confirmed. The white correction method was used to eliminate the possible problem of variance inequality. In addition, to ensure that there is no multiple alignment problem between

the variables, the alignment test was examined using the variance inflation factor (VIF). Given that the values of this statistic for explanatory variables are less than 10, it can be found that the problem of Multiple alignments is not a serious threat to the model. Finally, the Durbin-Watson statistic was used to test the correlation between the error components of the model, the results of which are presented in Table 5. The results of testing the research hypotheses are shown in Table 5.

Table 5: Test Results of the First and Second Hypotheses of the Research

$Synch_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$					
Symbol	Variable name	Coefficient	Standard Error	statistic t	Significant level
α	Fixed value	0/528	0/351	1/505	0/132
HSI	Spiritual intelligence of managers	0/411	0/078	5/258	0/000
HEI	Managers' emotional intelligence	0/050	0/008	5/765	0/000
SIZE	Company size	0/062	0/019	3/145	0/000
LEV	Financial Leverage	0/088	0/019	4/558	0/000
MB	P/B	0/571	0/212	2/690	0/007
BETA	Stock Beta	0/197	0/039	5/027	0/000
AGE	Company age	0/024	0/080	0/300	0/763
YFE	$Year\ fixed\ effect$				
IFE	$Industry\ fixed\ effect$				
Adjusted coefficient of determination: 0.318			Durbin Watson Statistics:1.774		
F statistic: 22.451			F significant value: 0/0000		

Considering the values of F statistics in this table, it indicates the overall significance of the regression models fitted at the 5% error level. Durbin-Watson statistic values also indicate that there is no problem of autocorrelation among waste statements. As can be seen in this table, the estimation coefficient and t-statistic related to the emotional intelligence variable of managers in the research model is positive and significant at the error level of 0.05, which indicates a significant positive relationship between managers' emotional intelligence and corporate stock prices. Accordingly, the first hypothesis of the research is accepted at the error level of 0.05. also; According to the estimation coefficient and t-statistic related to the variable of managers' spiritual intelligence in the research model is positive and at the error level is 0.05, which indicates a significant positive relationship between managers' spiritual intelligence and the concurrence of companies' stock prices. Accordingly, the second research hypothesis is accepted at the error level of 0.05 and other research variables other than the age of the company indicate a significant relationship with the synchronization of stock prices.

Considering the values of F statistics in this table, it indicates the overall significance of the regression models fitted at the 5% error level. Durbin-Watson statistic values also indicate that there is no problem of autocorrelation among waste statements. As can be seen in this table, the estimated coefficient and t-statistic related to the emotional intelligence variable of managers in the research model is positive and significant at the error level of 0.05, which indicates a significant positive relationship between managers 'emotional intelligence and companies' stock returns.

Accordingly, the third hypothesis of the research is accepted at the error level of 0.05. also; According to the estimation coefficient and t-statistic related to the variable of managers' spiritual intelligence in the research model is positive and at the error level is 0.05, which indicates a significant positive relationship between managers' spiritual intelligence and companies' stock returns. Accordingly, the fourth hypothesis

of the research is accepted at the error level of 0.05 and other research variables other than the age of the company indicate that there is a significant relationship with the concurrence of stock prices.

Table 6: Results of the Third and Fourth Hypotheses of the Research

$R_{i,t} = \alpha_0 + \beta_1 HSI_{i,t} + \beta_2 HEI_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 MB_{i,t} + \beta_5 BETA_{i,t} + \beta_6 AGE_{i,t} + Year\ fixed\ effect + Industry\ fixed\ effects + \varepsilon_i$					
Symbol	Variable name	Coefficient	Standard Error	statistic t	Significant level
α	Fixed value	15/689	3/675	4/265	0/000
HSI	Fixed value	0/960	0/484	1/981	0/0487
HEI	Spiritual intelligence of managers	0/013	0/007	2/482	0/0134
SIZE	Managers' emotional intelligence	0/961	0/409	2/348	0/0196
LEV	Company size	0/490	0/134	3/631	0/0003
MB	Financial Leverage	1/726	0/624	2/765	0/0061
BETA	P/B	0/193	0/0858	2/258	0/0248
AGE	Stock Beta	0/0143	0/0482	0/298	0/7659
YFE	Company age				
IFE	$Year\ fixed\ effect$				
Adjusted coefficient of determination: 0/345			Durbin Watson Statistics:1/976		
F statistic: 23/536			F significant value: 0/0000		

6 Conclusions and Research Suggestions

This study examined whether management intelligence skills affect the concurrence of stock prices and stock returns of companies under their management. Managing an organization is one of the most important challenges in the current and future world of the organization, and this is because it is possible to orient the direction of the organization through the thinking and actions of managers. One of the core competencies that make an organization successful is the intelligence of managers. Managers need to cultivate their intelligence at all levels so that they can perform their duties in a balanced and comprehensive manner. One of the intelligence that enables managers to make strategic decisions in the complex and important environment of the current business world is the spiritual intelligence of managers. This type of intelligence is an emerging phenomenon that has attracted many experts in management and the organization, as well as managers at different levels. Many of them have considered spiritual intelligence as a sustainable resource for organizations that can help them in times of turmoil and resolve the contradiction in order and disorder in the organization and recognize the value of employees in the organization and create a foundation. Be trusted between employees. The concept of managers' spiritual intelligence has significant scientific advantages in terms of the formation of fundamental changes and their effects on the workplace. Therefore, organizations that provide opportunities for their managers to cultivate spiritual and emotional intelligence are more successful than other organizations.

In this regard, based on the first and second hypotheses of the study, which emphasize the effect of managers' intelligence skills (spiritual intelligence and emotional intelligence) on the concurrency of stock prices, the results obtained from the acceptance of the hypothesis can be based on a significance level of less than 0.05. Argued that the intelligence skills of managers include a type of adaptation and problem-

solving behavior that includes the highest levels of development in various areas of cognitive, moral, emotional, spiritual interpersonal and the person to coordinate with the phenomena around him and hands Finding helps internal and external integration and gives the person an overview of events and experiences, and the more this knowledge and experience is related to the work environment, the better the organizational performance. Therefore, the higher the IQ skills of company managers, the higher the stock price concurrence. This means that the higher the information and governance environment of a company, the higher the stock price of that company. This means that investors always monitor prices and react positively with positive returns and negatively with negative returns. When stocks return positively, fundamental analysts cite them as an economic condition. According to Tischler et al. [43], information is not rapidly disseminated in the market. As good news gradually spreads in the markets, investors begin to react to it. Therefore, this behavior increases the synchronization of stock prices. The obtained results can be in line with the research of [49] and [13]. For example, Dong and Wu [13] believe that investor justifications as a risk pricing factor have a significant impact on stock pricing.

In this regard, Mushinada and Veluri [31] stated that investors should show rational behavior that this reaction of investor behavior can affect stock prices. According to the results obtained from the third and fourth hypotheses of the research, the intelligence skills of managers (spiritual and emotional intelligence) affect the stock returns of companies. Make better decisions for companies. Managers with a high level of spiritual and emotional intelligence, set guidelines for the organization's policies, which leads to regular rules and monitoring of people's behavior, and consequently the more spiritual and emotional intelligence managers have through improvement. Company performance can make good decisions to make optimal investments, which will increase the stock returns of companies in the long run. In this regard, Hoffmann et al. [24] believe that the perception of investors and its change acts as a factor affecting the risk-taking of individuals and trading volume and affects the stock returns of companies.

References

[1] Abedi Jafari, H., Moradi, M., *The study of emotional intelligence and its relation with entrepreneur leadership*, Management Science, 2005, **7**, P. 38-52. Doi: 10.22034xcd.1258

[2] Abbasian-Naghneh, S., Tehrani, R., Tamimi, M., *The Effect of JCPOA on the Network Behavior Analysis of Tehran Stock Exchange Indexes, Advances in Mathematical Finance and Applications*, 2021, **6**(3), P. 465-477. Doi: 10.22034/amfa.2019.1873319.1258

[3] Azadi, M., Izadikhah, M., Ramezani, F., Hussain, F.K., *A mixed ideal and anti-ideal DEA model: an application to evaluate cloud service providers*, IMA Journal of Management Mathematics, 2020, **31**(2), P. 233-256, Doi: 10.1093/imaman/dpz012

[4] Ahmadi, M.R., Ahmadi Angali, K., Deris, A., *Evaluation of disclosure of financial information on the cost of capital based on CAPM model*, Quarterly Financial Accounting Journal, 2012, **4**(13), P. 66-85. URL: http://qfaj.ir/article-1-699-fa.html

[5] Bavandi Sani, S.M., Malekzadeh, G., and Pouya, A., *Investigating the effect of spiritual intelligence on job performance of bank employees with the mediating role of innovation (Case study: Mehr Eghtesad Bank, Khorasan Razavi Province)*, Bi-Quarterly Journal of Social Sciences, 2018, **15(**2), P.173-212. Doi: 10.22067/JSS.V15I2.66575

[6] Balouei, E., Anvary Rostamy, A., Sadeghi Sharif, S., Saeedi, A. *The Impacts of Financial Structure on Financial Performance of Banks listed in Tehran Stock Exchange: An Empirical Application. Advances in Mathematical Finance and Applications*, 2018, **3**(3). P.11-26. Doi: 10.22034/amfa.2018.544946

[7] Baseri, S., Hakaki, A., *Analysis of Financial Leverage, Operating Leverage and Capital Venture Effect on Tobin's Q Ratio of Investment and Holding Companies Listed in Tehran Stock Exchange*, Advances in Mathematical Finance and Applications, 2018, **3**(1), P.91-96. Doi: 10.22034/amfa.2018.539137

[8] Bar-On, R., *Emotional Intelligence and Self-Actualization Emotional Intelligence in Everyday Life: A Scientific Inquiry*, 1st Edition, Philadelphia: Psychology Press., 2001

[9] Chin, W. W., Marcolin, B. L., Newsted, P. R., *A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study*, Information systems research, 2003, **14**(2), P. 189-217, Doi: 10.1287/isre.14.2.189.16018

[10] Cook, G. L., Bay, D., Visser, B., Myburgh, J.E., and Njoroge, J., *Emotional intelligence: The role of accounting education and work experience*, Issues in Accounting Education, 2011, **26**(2), P. 267-286. Doi: 10.2308/iace-10001

[11] Damoori, D., Saeeda, S., Fallahzadeh, A., The Investigating Overreaction of Investors to Patterns of Past Financial Performance Measures in the Tehran Stock Exchange. *Accounting and Auditing Review*, 2009, **16**(1). Dor: 20.1001.1.26458020.1388.16.1.4.9

[12] Dhaoui, A., *Empirical Linkages between Trading Volume and Stock Markets Shocks: When Sentiments Drive Investors Behavior*. Journal of Economic and Social Studies, 2015, **5**(2), P.105-126. Doi: 10.14706/JECOSS15527

[13] Dong, D., Wu, K., *Investor attention is a risk pricing factor? Evidence from Chinese investors for self-selected stocks*. China Finance Review International, 2019, **10**(1), P. 95-112. Doi: 10.1108/CFRI-11-2017-0218

[14] Dostar, M., *The model presentation of influence manager's emotional intelligence on staff's organizational commitment with attention to leadership styles role*, PhD thesis of management, Modares university., 2006

[15] Druskat, V. U., Mount, G., Sala, F., *Linking Emotional Intelligence and Performance at Work: Current Research Evidence with Individuals and Groups*, 3rd Edition, United States, Philadelphia: Psychology Press, 2013.

[16] Farooq, O., Aktaruzzaman, K., *Does stock price synchronicity effect information content of reported earnings? Evidence from the MENA*, Financial Markets & Institutions, 2016, **6**(3), P. 41-47, Doi: 10.22495/rcgv6i3c1art5

[17] Fernandes, N., Ferreira, M. A., *Insider trading laws and stock price informativeness*, Review of Financial Studies, 2009, **22**(5), P. 1845-1887, Doi: 10.1016/j.ememar.2020.100690

[18] Fallahzadeh Abarghouhei, A., Taftiyan, A., Heirany, F. *Relationship between Information Disclosure with the Stock Price Synchronicity and Crash Risk of Falling Stock Prices within Simultaneous Equations System*, *Journal of Accounting Knowledge*, 2019, **10**(1), P. 169-194. Doi: 10.22103/jak.2019.11485.2580

[19] Goleman, D., *A Conversation with Daniel Goleman*, Educational Leadership, 1996, **56**(1), P. 6-11

[20] Goleman, D., *Emotional intelligence*, translated by Parsa, N., Tehran: Roshd, 2001.

[21] Golparvar, M., Khaksar, F., *The Relationship between Emotional Intelligence and Job Performances in a Set of Industrial Factories in Isfahan. Clinical Psychology and Personality*, 2010, **8**(1), P. 19-34.

[22] Ghobari Bonab, B., Salimi, M., Soliani, L., and Nouri Moghadam, S., *Spiritual intelligence*. Andishe-Novin-E-Dini. 2007, **3** (10), P. 125-147 Dor: 20.1001.1.20089481.1386.3.10.5.6

[23] He, W., Li, D., Shen, J., Zhang, B., *Large foreign ownership and stock price informativeness around the world*, Journal of International Moneyand Finance, 2013, **36**, P. 211-230. Doi: 10.1016/j.jimonfin.2013.04.002

[24] Hoffmann, A. O., Post, T., Pennings, J. M., *How investor perceptions drive actual trading and risk-taking behavior*, Journal of Behavioral Finance, 2015, **16**(1), P. 94-103. Doi: 10.1080/15427560.2015.1000332

[25] Izadikhah, M. *Improving the Banks Shareholder Long Term Values by Using Data Envelopment Analysis Model.* Advances in Mathematical Finance and Applications, 2018, **3**(2), P.27-41. Doi: 10.22034/amfa.2018.540829

[26] Jin, Y., Yan, M., Xi, Y., *Stock price synchronicity and stock price crash risk: Basedon the mediating effect of*

herding behavior of QFII. China Finance Review International, 2016, **31**(2), P.1011-1041, Doi: 10.1108/CFRI-05-2015-0047

[27] King, D.B., *Rethinking Claims of Spiritual Intelligence: A Definition, Model, and Measure*, M. A. Thesis in Psychological, Trent University, Peterborough, Ontario, Canada. 2008.

[28] Lajevardi S J, Kokabi S., *Studying the Role of Emotional Intelligence in the Quality of Decision Making of Managers Case: Institute of International Energy Studies*, Strategic studies in the oil and energy industry, 2016, **8**(29), P. 79-97, URL: http://iieshrm.ir/article-1-64-fa.html

[29] Martinez, M. N., *The Smart that Count*, HR Magazine, 1997, **42**(11), P. 72-78.

[30] Mayer, J. D., Caruso, D. R., Salovey, P., *Emotional Intelligence Meets Traditional Standards for an Intelligence*, Intelligence, 1999, **27**(4), P. 267-298. Doi: 10.1016/S0160-2896(99)00016-1

[31] Mushinada, V.N.C and Veluri, V.S.S., *Elucidating investor's rationality and behavioural biases in Indian stock market*, Review of Behavioral Finance, 2019, **11**(2), P. 201-219. Doi: 10.1108/RBF-04-2018-0034

[32] Miryekemami, S., Sadeh, E., Sabegh, Z. *Using Genetic Algorithm in Solving Stochastic Programming for Multi-Objective Portfolio Selection in Tehran Stock Exchange. Advances in Mathematical Finance and Applications*, 2017, **2**(4), P. 107-120. Doi: 10.22034/amfa.2017.536271

[33] Nasr, N., Farhadi Sartangi, M., Madahi, Z. *A Fuzzy Random Walk Technique to Forecasting Volatility of Iran Stock Exchange Index. Advances in Mathematical Finance and Applications*, 2019, **4**(1), P.15-30. Doi: 10.22034/amfa.2019.583911.1172

[34] Osoolian, M., Sadeghi Sharif, S., Khalili, M. *Accruals, Cash Flow, and Operating Profitability in the Cross Section of Stock Returns; Evidence from Tehran Stock Exchange (TSE). Accounting and Auditing Review*, 2018, **24**(4), P. 463-482. Doi: 10.22059/acctgrev.2018.240522.1007683

[35] Poordavoodi, A., Moazami Goudarzi, M.R., Haj Seyyed Javadi, H., Rahmani, A.M., Izadikhah, M., *Toward a More Accurate Web Service Selection Using Modified Interval DEA Models with Undesirable Outputs*, Computer Modeling in Engineering & Sciences, 2020, **123**(2), P. 525-570, Doi: 10.32604/cmes.2020.08854

[36] Rahimi, I., Nezampour, I., *Investigating the Relationship between Accounting Disclosure, Stock Price Synchronization and Risk of Stock Fall in Companies Listed on the Tehran Stock Exchange*, New Research in Humanities, 2016, **3**(14), P. 141-117.

[37] Roll, R., *The stochastic dependence of security price changes and transaction volumes: implications for the mixture-of-distributions hypothesis*. The Journal of Finance, 1988, **43**(3), P. 541-566, Doi: 10.2307/1912726

[38] Roostaee, R., Izadikhah, M., Hosseinzadeh Lotfi, F., *An interactive procedure to solve multi-objective decision-making problem: an improvment to STEM method*, Journal of Applied Mathematics, 2012, **324712**, P.1-18, Doi: 10.1155/2012/324712

[39] Salehi, M., Yazdani, M., Mirzaee, M. *The Effect of Spiritual and Emotional Intelligence of Managers on Corporate Financial Performance. Journal of Health Accounting*, 2017, **6**(1), P. 68-87.

Doi: 10.30476/jha.2017.39333

[40] Sayyadi Tooranloo, H., Azizi, P., Sayyahpoor, A., *Analyzing causal relationships of effective factors on the decision making of individual investors to purchase shares*, International Journal of Ethics and Systems, 2019, **36**(1), P. 12-41. Doi: 10.1108/IJOES-03-2019-0053

[41] Song, L., *Accounting disclosure, stock price synchronicity and stock crash risk: An emerging-market perspective*. International Journal of Accounting & Information Management, 2015, **23**(4), P. 349-363. Doi: 10.1108/IJAIM-02-2015-0007

[42] Tavana, M., Izadikhah, M., Farzipoor Saen, R., Zare, R., *An integrated data envelopment analysis and life cycle assessment method for performance measurement in green construction management*. Environ Sci Pollut Res, *2021,* **28**, P. 664–682. Doi: 10.1007/s11356-020-10353-7

[43] Tischler, L., Biberman, J., McKeage, R., *Linking Emotional Intelligence, Spirituality and Workplace Performance: Definitions, Models and Ideas for Research*, Journal of Managerial Psychology, 2002, **17**(3), P. 203-218. Doi: 10.1108/02683940210423114

[44] Vaughan, F., *What is Spiritual Intelligence?* Journal of Humanistic Psychology, 2002, **42**(2), P.16–33. Doi: 10.1177/0022167802422003.

[45] Yang, K-P., Maou, X-Y., *A study of nurses spiritual intelligence: A cross-sectional questionnaire survey*, International Journal of nursing studies, 2007, **44** (6), P. 999-1010. Doi: 10.1016/j.ijnurstu.2006.03.004

[46] Zare, R., Izadikhah, M., *Multi-criteria decision making methods for comparing three models of aluminum ingot production through life cycle assessment*, Applied Ecology and Environmental Research, 2017, **15**(3), P. 1697-1715, Doi: 10.15666/aeer/1503_16971715

[47] Zanjirdar, M., *Overview of Portfolio Optimization Models,* Advances in Mathematical Finance and Applications, 2020, **5**(4), P. 419-435. Doi: 10.22034/amfa.2020.674941

[48] Zarei Matin, H., Kheirandish, M., and Jahani, H., *Conceptualization of Spiritual Intelligence in Organization (Case Study in Labbafi Nejad Hospital of Tehran). Public Management Researches*, 2011, **4**(12), P. 71-94. Doi: 10.22111/jmr.2011.640

[49] Zeidner, M., Matthews, G., Roberts, R.D., *What We Know About Emotional Intelligence*, 1st Edition, London: A Bradford Book, MIT Press, 2009.