RESEARCH ARTICLE   **Open Access**

Identifying the Dimensions and Components of the Perceptual Cognitive Model of Investors with Regard to Information Environment of Iranian Capital Market

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Abstract
Nowadays, according to the increasing trend of environmental changes and developments, organizations and companies need different strategic entrepreneurship models to respond effectively to their environmental needs. Therefore, this article is trying to systematically examine the findings of the studies conducted in this regard by using the meta-combination method and analyzing them based on the formation process and the output achievement. For this purpose, by referring to the reliable documents and documents available on the sites and checking the information from English sources from 2000 to 2019 and Persian from 2001 to 2019, among the mass of primary articles, 88 articles related to the research topic were identified. In order to analyze the selected articles, constituent concepts, and influential components, the content analysis method was used, and to validate the extracted concepts, the Delphi panel method was used with the presence of 8 experts. At the end of the research findings in the form of 5 components (leadership, attitude, resources, opportunism, and innovative learning), 10 sub-components (individual characteristics, management characteristics, organizational, cultural, social, financial, non-financial, the path of discovery and creation, exploitation, education and creativity and innovation) and 49 concepts were identified and classified. Also, the rank and importance of experts' opinions about the components of strategic entrepreneurship are in the order of leadership characteristics, opportunism, innovative learning, attitude, and resources.
Keywords: *Strategic entrepreneurship, Hybridization, Eentrepreneurship, Strategic management*

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Introduction

The economic development of a country largely depends on its industrial and commercial activities. Most researchers argue that a country's economic growth is directly related to stock market developments (Smith, 2020: 63). The stock market is very important because of its role in facilitating trade between the surplus fund unit (investors) and the deficit fund unit (issuers of shares) (Hysa et al, 2022: 294). Stock markets, in the modern economy, play a vital role as an important source in providing the necessary capital to carry out industrial and commercial activities. Also, money plays an important role in everyone's life. To invest or save money is the most preferred way to overcome the problems and needs of the future. In this competitive age, investors have different ways to invest (Zhang, 2021: 108). Investment decisions are very important for investment. Everyone makes investment decisions based on their personality traits. Personality traits that affect people's behavior reveal their characteristics such as feelings and thoughts (Wang et al, 2021).

Investors look for quantitative and qualitative information as it affects stock returns. Individual investment decisions are influenced by economic and behavioral factors. Many researchers argue that individuals are informed decision makers and seek information on various corporate issues that are generally classified as neutral in accounting and support their investment decisions. Financial theory assumes that investors are rational and make profit-maximizing decisions (Rizvi, 2021: 526). The heart of traditional finance is the hypothesis of efficient markets, which assumes that all information is available to all investors at no cost. Therefore, stock prices always reflect their intrinsic value and make sense. However, reality shows that investors in markets do not necessarily rationalize their decisions and other factors may influence them when making investment decisions (Thaler, 2015). Therefore, this phenomenon encourages researchers to investigate the factors that may cause irrationality among investors. Irrationality creates many problems in the market and pushes the stock price away from its fair value (Umar et al, 2021: 96). This phenomenon of investors' behavior has been studied under the title of "behavioral finance" in the last few decades. This field of modern finance has made significant progress in the last two decades. In addition, behavioral finance studies the impact of psychological factors on stock markets. Evidence from recent studies of behavioral finance guides us to think differently from traditional financial assumptions (Donald, 2020: 80). In fact, by applying the psychological theory of human behavior in financial markets and using it as a tool to understand the decisions of investors, we will have a better position to understand the behavior of irrational investors. Therefore, psychology and anthropology can be used to explain the irrational behavior of investors (Ainia & Lutfi, 2019: 405). According to behavioral finance, individual investors do not always act in their own best interests. Many researchers have discussed investment behavior and tried to increase the understanding of people who manage investments in different ways (Harari, 2020: 117).

Considering the importance of explaining investors' decision-making methods in behavioral financial issues and understanding the cognitive perceptual model, as well as academic disagreements and uncertainties regarding the investor's knowledge and perception of information, it is necessary to conduct the present research.

This researcher tryng to perceptual cognitive components of the investors while reviewing the documents related to thematic researches. In this research, an attempt is made to answer this question by examining the models, tools, guidelines in research and studies and

theoretical discussions related to it: What are the dimensions and components of the cognitive cognitive pattern of investors with regard to the information environment?

Theoretical Foundations

Previous studies state that new information can cause price fluctuations in the capital market. This literature believes that the black box of the market is the information processing of investors, as it contains the main factors of the decisions they make. Behavioral finance emphasizes that opening that black box is an explanation for observed inefficiencies in financial markets that are not predicted by efficient markets theory. Oberlenner and Hocking (2004) found that the financial markets are less used in terms of the way of observing and interpreting information by market participants and emphasized the relevance of market participants' attitude regarding information processing. Jimenez (1996) argues that research on financial decision-making can be done using cognitive models. Loverich et al. (2008) show that processes such as perception and action are usually included in cognitive models. Perception is the cognitive process by which people gather information and create an image of their surrounding reality. However, this perception creates an incomplete awareness of reality; it can be seen from a beneficial stimulus that two people perceive different realities (Fahy and Narayanan, 1989). The review of thematic literature shows the emphasis of previous studies on the variety of factors that influence and interfere in the process of understanding, the process of understanding can be divided into two stages ((Taheri et al., 2023):

The first stage is "observation" in which a person distinguishes signals (relevant information) from noise information (irrelevant information). The second is the "feeling" in which one interprets those signals. In this way, financial decisions are forced and limited by non-financial factors. These include the fundamental factors of the market, personality characteristics of people, human interactions, etc., which moderate the way the environment affects decisions (Holden, 2010). Among the environmental factors that affect investors' decisions, information they play an essential role. Investors make decisions based on the information they receive from various sources about the uncertainty involved in each investment. Determining the variables that explain how investors notice some news but ignore other news and how they interpret what they notice; Analyzing the interaction of information features in each stage of investors' understanding and how effective information sources are to improve information processing is a very important step in determining decision-making information and how investors make decisions. Cognitive models of investors integrate three stages: noticing, feeling and acting. In fact, these models examine how the interaction of background variables and individual traits, demographics and other components affect the three cognitive dimensions of investors. Attention is a key element in a decision-making model because, as argues, those individuals who are unable to observe relevant changes find it difficult to achieve their goals. These difficulties arise because the person does not correct the way of using his knowledge correctly or because he did not recognize the need to further improve his knowledge. Carlson et al. (2009) studies the selective attention of investors. People's capacity to consider stimuli as signals or noise. When the stimuli are noticed and the investor differentiates between noise and signals, one senses the signals of interest. As mentioned before, all investors do not interpret relevant information in the same way due to their individual characteristics (Arbabi et al., 2019). Finally, action occurs as a result of information processing performed by the investor. Obviously, the way investors understand new

information is a central issue in the decisions they make. By examining and recognizing the factors affecting the investor's cognitive perception of information sources such as ambiguity, transparency, reliability, etc. (Mayoral and Valado, 2012), cognitive profiles, such as cognitive style, ambiguity tolerance, etc. (Arnold and et al., 2010), individual traits and other dimensions, in addition to explaining the dynamics of financial markets, academic foundations can be strengthened by defining strategies or behaviors to reduce the gap between real markets and efficient markets.

In recent years, with the growth of researches in various fields of science and society facing the explosion of information, thinkers have practically come to the conclusion that knowing and mastering all aspects of a field and being up-to-date in this field is not possible to a large extent. Therefore, conducting combined researches that present the extracts of the researches conducted in this particular subject in a systematic and scientific manner to the researchers has been expanding more and more (Ashrafijoo et al., 2022). One of the methods that has been introduced in the last few years for the purpose of examining, synthesizing and analyzing past researches is meta-study, which generally consists of four parts: meta-analysis (quantitative analysis of the content of primary studies), meta-combination (qualitative analysis of the content of primary studies), meta-theoretical (analysis of theories of primary studies) and meta-methodology (methodology analysis of primary studies) is formed. Meta-composite method represents a type of qualitative study that examines the information and findings extracted from other qualitative studies with a related and similar topic. As a result, the desired sample for meta-combination is formed from selected qualitative studies based on their relationship with the research question (Zimmer, 2010). In this research, meta-composite method was used to systematically review previous researches and then empirical data was analyzed and a comprehensive model will be presented to identify the dimensions and components of the perceptual cognitive pattern of investors in Iran.

Literature Review

Behavioral and cognitive finance of investors has always been one of the most controversial topics in books and writings related to accounting, and in this section, some researches conducted in this field are mentioned:

-Khoddamipour & Azadi Sheshdeh (2022) in an article with title: "Dissecting stock price momentum using financial statement analysis of companies listed on the Tehran Stock Exchange" conclued that test method for the research hypothesis is the panel (panel) data method with fixed effects, which was performed using 10 EViews software. The results of this study show that the collected data are significant at 95% confidence level (P-Value = 0.000) and the adjusted R2 value is 0.89 and shows that about 89% when performance expectations A company reflected in past prices that is consistent with fundamental analysis, the momentum effect is stronger than when the pure momentum strategy is used.

-Heidarian Yazdeli & Hejazi (2022) in an article with title: "Trading option, subsidiary selling option and performance of Performance of investment funds and investment companies with DID approach" argued that issuance of subordinated stock options and the issuance of stock options increase the performance of mutual funds and investment companies and also increase the performance of mutual funds and investment companies at times when companies The bonds issued by the subordinate stock are higher than when the companies issued the bonds.

-Alim (2022) in an article with title:"Chain Reaction of Behavioral Bias and Risky Investment Decision in Indonesian Nascent Investors" concluded that illusion of control exhibited a substantial significant effect of as much as 86.4% toward overconfidence, followed by a considerable increase in decision making. The results of our study also pointed to the unique chain effects of biases affecting the decision-making process of nascent investors in the emerging market. This finding implied they possessed a unique bias mechanism in constructing their decision.

-Alizadeh & Fallah (2021) in an article with title:" The assessment of extreme value theory and Copula - Garch models in prediction of value at risk and the expected short fall in portfolio Investment Company in Tehran stock exchange. "Argued that mean error criterion has been used to compare the different models of VAR estimation, and for the purpose of testing statistical results backtesting methods have been employed. Based on mean error criterion, the proposed model of the study at hand has demonstrated the most accuracy The GEV model derived from the EVT has been ranked second The output of the Dow ranking method, however, has been very similar to one another According to Dow ranking method, the GEV model has had the lowest loss function at 5% level of significance, and at 1% level of significance, the HS model has demonstrated the least loss function. ES calculations have also been carried out for the four models with ARIMA-GARCH-COPULA model showing the least loss.

-Nategh Golestan & Zeinabi (2021) in an article with title:"The Impact of Personality Characteristics on Risk Perception of stock exchange Investors; Analyzing the Risk Intermediation Role" Concluded that only the characteristics of extroversion and personality openness of individuals through their willingness to risk affect their risk perception and the characteristics of neuroticism, conscientiousness and adaptation of

individuals through willingness. Their risk does not affect their perception of risk.

-Osoolian et al (2021) in an article with title: "Intuitive Thinking, Behavioral Biases and Performance of Professional Investors in Tehran Stock Exchange" concled that faith in intuition has a positive and significant effect on anchoring bias and conjunction fallacy. While cognitive ability has a negative and significant effect on the conjunction fallacy. The results also show that faith in intuition has a negative and significant effect on return. The results of regression analysis also show that gender reinforces the negative effect of cognitive ability and the positive effect of faith in intuition on the conjunction fallacy.

-Nadeem et al (2020) in an article with title:" How Investors Attitudes Shape Stock Market Participation in the Presence of Financial Self-Efficacy" concluded that financial knowledge and financial self-efficacy positively moderated the relationship between money attitudes and stock market participation. This research is one of the early attempts at studying the money attitudes of investors and introduces financial self-efficacy as a moderating construct between money attitudes and stock market participation. The sample size for this study was 250 respondents which can be increased in future research, and the same relationships can be tested by using a larger sample. Moreover, this study has used money attitudes as predictors of stock market participation. Still, many other variables, like personal value, can also be taken to investigate their influence on stock market participation

-Teng & He (2020) in an article with title: "Air quality levels, environmental awareness and investor trading behavior: Evidence from stock market in China" concluded that enhanced environmental awareness significantly impacts the link between air pollution and trading behavior. The effect of enhanced environmental awareness on trading behavior is more remarkable when low air pollution than it is when particularly high pollution. This

is because when air pollution is not severe enough to exert physiological effects, enhanced environmental awareness plays a main role in shaping trading activities. On the other hand, when air pollution is particularly high, physiological effects induced by polluted air exerts strong influence on trading behavior; the further impact of psychological effects directly induced by environmental awareness is limited.

-Jafari et al (2020) in an article with title:"Investigation of the role of psychological and performance factors on willingness to invest in stock market with mediating role of investor satisfaction and perceived risk of investors" concluded that perceived risk and investor satisfaction were used. They have a mediating role in the relationship between psychological and performance factors on the willingness to invest in the stock market.

-Noruzi et al. (2018) in an article with title:"The Moderating Role of Institutional Ownership in Relationship between Stock Mispricing and Investment" concluded that firstly, there is a positive, significant and strong relationship between the stock mispricing and investment; secondly, the percentage of institutional ownership has a reciprocal and significant effect on the relationship between mispricing - investment.

-Mehrani and Madanchi Zaj (2018) in an article with title:"The Test of the Effect of Investor Trading Behavior and Investors` Sentiment on Excess Return in Tehran Stock Exchange" concluded that the trading behavior of investors has effects on the value of assets (excess return) and investors` sentiment affects the value of assets.

-Ghayour Baghbani & Behboodi (2017) in an article with title:"Factors Affecting the Behavior of Investors Regarding Phenomenographical Approach" concluded that fators such as value system, locus of control, uncertainty acceptance, habit to investment and time horizon are the main components of

cultural category which besides personality, cognitive and emotional biases form investor's decision making that lead to herding behavior. Despite the past researches confirmed the effect of time, data analysis showed that khorasan razavi investor's behavioral model is not affected by the time factor.

The most important innovations of this article are:

-Explanation of the components of the strategic entrepreneurship model;

-Ranking and importance of experts' opinions about strategic entrepreneurship components;

-Perceptual Cognitive Model of Investors with Regard to Information Environment of Iranian Capital Market

Method

This article is applied in terms of its purpose and qualitative in terms of the method of data collection, which was conducted with the library research method, of the type of secondary and meta-composite studies and based on the study of information sources in the field of cognitive factors of investors. In this research, data analysis has been done in 3 stages. In the first stage, with a complete review of the research literature, a list of articles related to this field and even articles that have addressed this issue was prepared; In the second stage, the abstracts of these articles were extracted and the articles were categorized, and in the third stage, by extracting the key elements, the final composition was done and analysis and summary was done. The metacomposite method is used in sciences whose studies are mostly based on qualitative analysis. Metacombination has been used as a suitable method to obtain a comprehensive combination of investors' cognitive factors. To use this research method, the seven-step method of Sandelowski and Barroso (2007) was used (Figure (1)).
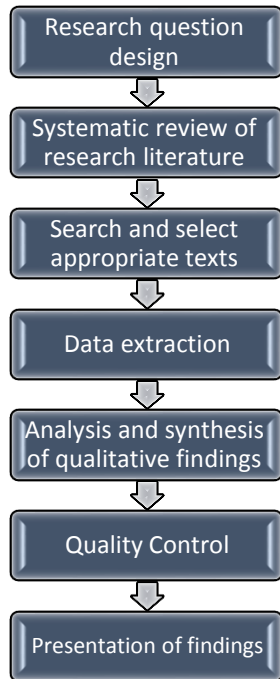
Fig 1. *The Successive steps of the metacombination method (Sendlovski and Barroso, 2007)*

Research Question

The main question of the current research is what are the cognitive components of investors in Iran? Also, in this research, based on the study of previous studies, an in-depth analysis of these factors in the international and national environment has been done and a classification of them has been presented.

Research Literature Review

At this stage, using the key words of the research, a systematic search was conducted for the published materials in various and reliable scientific journals as well as public sources and websites of reliable foreign and domestic organizations with the aim of quality were selected for information extraction.

determining valid and relevant documents in the appropriate time frame. . In order to carry out the research, after designing the research question, a systematic search based on the cognitive keywords of investors from Science Direct, Emerald Insight, Mag Iran, Iran Doc, Normagz, Civilica and SID databases between 2000 and 2022 and It was done from 1380 to 1400. Therefore, the tool for collecting information in the first part is databases and computer networks. Also, related articles are collected on internet sites with phishing tools.

Research Question Design

In the search process, various components such as title, abstract, content, article details (author's name, year) were considered, and articles that did not fit the research question and purpose were removed. The criteria for acceptance and rejection of studies included research language, study period, study conditions, study population, and study type. The internal criteria, indicating the necessary features for selecting articles:

1) Research registration in reliable databases;

2) The use of cognitive perception of investors in the relevant research;

3) Presenting information in the article and having the necessary quality for extraction. Practical analysis and synthesis in research. As shown in figure (2-3), the number of articles found initially for metacombining was more than 112, of which, after examining the title of the indexed articles according to the subject, question, and purpose of the research, about 65 articles were examined more closely, and finally according to the mentioned criteria, 41 more important articles with high
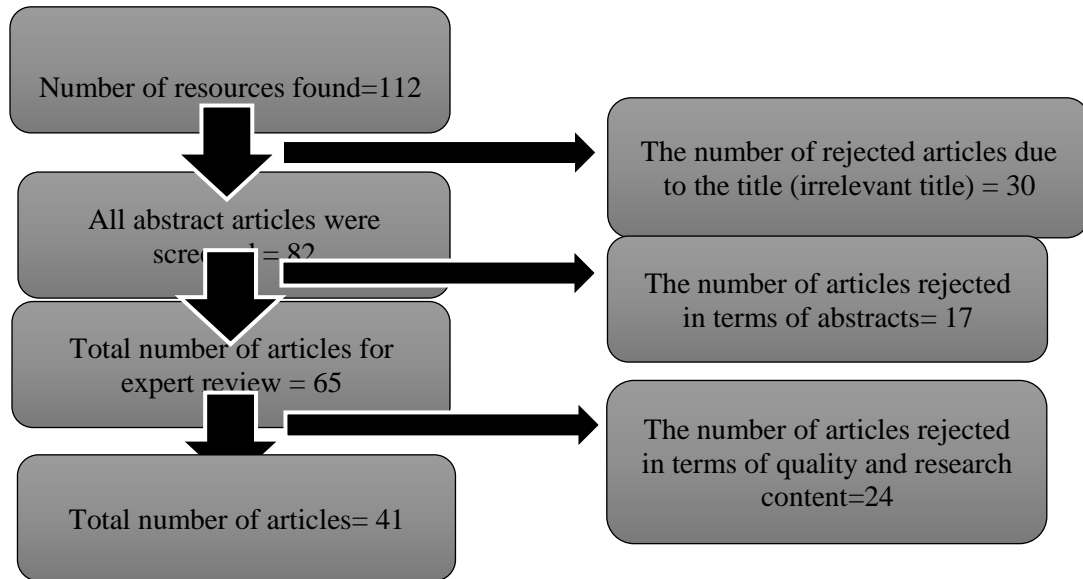
Fig 2. *Summary of the screening process to select the final articles*

Text Information Extraction

The selected articles throughout the metacomposite were continuously studied several times in order to obtain the findings within the separate contents in which the original and primary studies were conducted. After collecting and reviewing the required data, they are classified into semantic units and specific codes, and in this research, the context analysis method has been used for the analysis stage as well as the presentation of the final findings of the synthesis. Context analysis is a method to determine, analyze and express the patterns (contexts) in the data that organizes and describes the data in detail and can even go beyond this and interpret different aspects of the research topic. Thomas, 2003). According to the investigations

Table 1

Information of the researches identified about the components of investors' cognitive perception

Main categories	Subcategories	Concepts	Abundance	References
Internal factors	Individual characteristics	flexibility	5	Nadeem et al (2020) Dogan (2015), Gathenya et al (2011), Kyrgidou & Hughes (2010), Mohajeran et al (2015), Ebrahiminezhad & Ghaderi (2014), Sadat Mohseni & Shafizadeh (2017)
		Risk taking	4	Jafari et al (2020), Ghayour Baghbani & Behboodi (2017), Ebrahiminezhad & Ghaderi (2014), Hadadian et al (2018)
		Accepting uncertainty	2	Alaei (2014), Maharati et al (2015)
		Mindset	3	Nategh Golestan & Zeinabi (2021), Osoolian et al (2021), Omotosho & Anyigba (2019)
		Tolerating failure	1	Nicolai & Jacob (2011)

Main categories	Subcategories	Concepts	Abundance	References
		Belief in the sacred	2	Mehrabpour (2018), Amiri (2018)
	Personality characteristics	Safe	1	Alizadeh & Fallah (2021), Nategh Golestan & Zeinabi (2021)
		Cautious	2	Noruzi et al. (2018), Mehrani and Madanchi Zaj (2018)
		Worry and concern	1	Alizadeh & Fallah (2021), Nadeem et al (2020), Teng & He (2020)
	Cultural characteristics	Social attitude	2	Azimi delarestaghi et al (2019)
		Cultural perspective	2	Ghayour Baghbani & Behboodi (2017)
		A sense of patriotism	4	Maharati et al (2015), Mohajeran et al (2015)
External factors	Climatic factors	Temperature	5	Kathiravan et al (2018), Sariannidis et al (2016), Brahmana et al (2015), Floros (2008), Chang et al (2006)
		Sunlight	2	Nategh Golestan & Zeinabi (2021)
		Humidity	2	Kyrgidou & Hughes (2010), Teng & He (2020), Sadat Mohseni & Shafizadeh (2017)
		Cloud cover	2	Nategh Golestan & Zeinabi (2021)
		Wind speed	4	Ansaari ranani & Nasehi far (2007), Dogan (2015)
	Information environment	Information transparency	2	Mehrani and Madanchi Zaj (2018),
		Scattered information	1	Ansaari ranani & Nasehi far (2007), Omotosho & Anyigba (2019)
		Information access	2	Nategh Golestan & Zeinabi (2021), Hadadian et al (2018)
		Information quality	2	Shim et al (2015), Zimmer (2006)
	Social media	Communication methods	4	Norouzi et al (2018)
		Internet marketing	4	Thaler (2015), Ansaari ranani & Nasehi far (2007)
		Social media content	2	Cao & Han (2015), Omay & Iren (2019)

Analysis Data and combination of qualitative

The goal of metasynthesis is to create a new and integrated interpretation of the findings. At this stage, the researcher looks for new topics that have appeared among the studies. This action is called subject investigation. As soon as the subject is identified, the researcher provides a classification that best describes the subject (Sandelowski and Barroso, 2007). In this research, 2 main categories, 6 sub-categories and 24 concepts were created. Based on the obtained codes, the answers to the research questions were determined, which are presented in the discussion and conclusion section.

Quality Control

In the meta-combination method, to ensure the quality of research findings, one of the main tools to achieve the highest degree of theoretical and practical validity is the use of experts' opinions in confirming and validating the research achievements. In the current research, we provided the extracted concepts to several experts in the investment field. In the stage of data grouping, the criteria of previous

researches were considered as codes, and taking into account the semantic similarities between the codes, they were integrated and concepts were created. In the final step, to evaluate the quality and ensure reliability, the results Experts were placed. Kappa coefficient has been used to evaluate the reliability of the research. Cohen (1960) devised the Kappa formula to calculate the expected agreement (Equation (1)).

(1) $\text{Kappa} = (po - pe)/(1 - pe)$

That Po is the observed agreement and Pe is the expected agreement. The kappa value fluctuates between zero and one, and the closer its value is to one, it indicates that there is more agreement between the browsers. In this paper, a kappa index of 0.91 was calculated, indicating high agreement between reviewers. In this article, as mentioned, all 41 studies and calculated components have been confirmed by experts in terms of quality.

Presentation of Findings

The researcher combines and organizes the research results based on the research question. In this step, all the results and findings obtained from the previous steps are presented.

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- Presentation of findings

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Research Findings

In this research, attention is paid to previous models and researches, and by extracting the concepts of investors' cognitive perception, which is a feasible and doable thing and has been proven in previous researches, a model for investors' cognitive perception is presented using metacombination method. . The next issue that is obtained from previous studies is the role of all internal and external influencing factors on the model, which is a comprehensive look at the issue of investors' cognitive perception. Therefore, with the use of previous studies, both the feasibility and aspects of the comprehensive components and central sub-components of the model have been considered, which have been used to conduct this research. As mentioned in the previous section, in this research, the validity and quality of the findings were confirmed with the consultation and help of experts, and with the help of the experience of the authors and experts, the classification of factors that was done by the context analysis method was improved and completed. As table (1) shows, in the component of individual characteristics from sources such as Dogan (2015), Gathenya et al. (2011), Mohajeran et al. 2015), Sadat Mohseni and Shafizadeh (2017), Bojin Havan and colleagues (2007), Hadadian et al. (2018), Omotosho & Anyigba (2019) (2019), Nicolai & Jacob (2011), Mehrabpour (2018), Amiri (2017) and the steps of metacombination method were based, as a result, 6 concepts of Flexibility, risk-taking, acceptance of uncertainty, mindset, tolerance of failure and belief in the sacred were obtained. In the component of personality traits, sources such as Alizadeh & Fallah (2021), Alaei (2014), Maharati et al (2015) and the steps of metacombination method were based, and as a result, 3 concepts including confident, obtained with caution, concern and concern. In the component of cultural characteristics from researches such as Rahnamai Roud Pashti et al. (2013), Azimi Dalarstaghi et al. (2017), Torabi

et al. and Leman (2006), Binos and Jocic (2013), Bai and Wang (2012) and the steps of metacomposition method were based and 3 concepts including social attitude, cultural perspective, sense of patriotism were obtained. In the component of climate factors from sources such as Kathirvan et al. (2018), Sarianidis et al. (2016), Brahmana et al. (2015), Floros (2008), Chang et al. (2006), Cao and Han (2015), Brahmana et al.(2014), Kathirvan et al.(2018), Shim et al.(2015), Shim et al.(2015), Chang et al.(2006), Kathirvan et al.(2018), Sarianidis et al.(2016), Shim et al. (2015), Shu and Hong (2009) and the steps of metacomposition method were used as a basis, as a result, 5 concepts including temperature, sunlight, humidity, cloud cover, wind speed were obtained. in the information environment component from sources such as Daniel and Titman (2006), Mayoral and Valladova (2012), Hirschleifer (2001), Hirschleifer et al. (2013), Chan and Chen (2015), Bali et al. (2014), Caramano and Vafas (2005) and the steps of metacombination method were based and 4 concepts were obtained including information

transparency, scattered information, information access, information quality. In the social media component from sources such as Aldrich and Krausio (2017), Benthouse and Beck (2015), Nufar and Heinz (2015), Norouzi et al. (2017), Haberman and Rego (2001), Tetlock (2011), Gergi Zadeh and Jafaripour (2012), Ansari Renani and Nashifar (2016), Kaplan and Haylin (2010), Kane and Fichman (2009) and the steps of metacombination method were based and 3 concepts including communication methods, internet marketing, Social media content obtained. In the continuation of the article, the counted components were examined by experts, explaining that the descriptive analysis of the data is not able to answer the main questions of the article and is merely a statistical picture of the answers. After designing the questionnaire, the opinions of scientific and executive experts about the identified components based on a five-point Likert scale were asked in a one-sample question, and their answers were analyzed based on the mean and one-sample t-test. Table (2) reports the results of experts' opinions.

Table 2
Results of experts' opinions

Components	Qty	Average	standard deviation	t-statistic	Meaningful
Individual characteristics	30	4.5	0.4340	50.78	0.000
Personality characteristics	30	4.5	0.5107	43.16	0.000
Cultural characteristics	30	4.33	0.4815	44.08	0.000
Climatic factors	30	4.12	0.4997	40.43	0.000
Information environment	30	4.18	0.4559	44.99	0.000
Social media	30	4.12	0.7602	26.58	0.000

According to the results extracted from the above table, the average opinions of experts about all components of investors' cognitive perception are significantly higher than the value of criterion 3, which indicates the

approval of all components. In other words, the significance level of all components is less than 0.05, so all components are important according to experts. Also, the results of Friedman's ranking are:

Table 3
Friedman ranking test results

Components	Average rank	Rank
2	4.06	Individual characteristics
1	4.44	Personality characteristics
3	3.44	Cultural characteristics
6	2.88	Climatic factors
4	3.25	Information environment
5	2.94	Social media

According to the results of table (3), the rank and importance of experts' opinions about the components of investors' cognitive perception are personality characteristics, individual characteristics, cultural characteristics, information environment, social media and weather factors, respectively.

Conclusion

This research seeks to answer two main questions: First, can the process of investors' cognitive perception be defined and specified in the form of a model so that it can be modeled? And secondly, if this is the case, what is this model like and what concepts and components does it have? In the review of the literature related to the cognitive perception of investors, it was observed that, firstly, many models and theories, despite the difference in the field of study, have common points, which shows that cross-field studies are a suitable capacity to find the common aspects of the fields. In this section, 2 main categories, 6 sub-categories and 24 concepts were identified as effective factors on investors' cognitive perception in the studied literature.

The first category is individual characteristics, which includes 6 concepts. 6 concepts including flexibility, risk-taking, acceptance of uncertainty, mindset, tolerance of failure and belief in the sacred, flexibility has a higher priority. As the research results show. Flexibility has attracted the attention of most researches and its role in investors is undeniable. In the category of personality traits, 3 concepts such as confident, cautious, worried and worried were obtained. These concepts show that investors with conservative and cautious policies and mentality can make effective decisions in the investment process.

The category of cultural features includes 3 concepts, including social attitude, cultural perspective, and sense of patriotism. Cultural support, change and persuasion of attitudes, public information about investment issues for the people and promotion of worthy Iranian culture along with support and support for investors. Attitude and culture affect investors' expectations. An effective attitude and culture is defined based on multiple expectations and facilitates the efforts of investors to manage resources. By committing to equal attention to opportunistic and advantage-seeking behaviors, an effective culture encourages new, creative, and risk-taking ideas and tolerates failure.

The fourth category, climate factors, which includes 5 concepts including temperature, sunlight, humidity, cloud cover, wind speed, was obtained. Climatic factors affect not only capital behavior but also their risk appetite, mood and investment decisions. Humans' daily activities are influenced by many internal and external factors, which are called environmental factors. Climate is considered as an important environmental factor affecting the general public. Slight changes in weather conditions may change people's daily activities. Climate changes usually, directly and indirectly, lead to complex psychological and physical reactions of investors.

The fifth category, the information environment, which includes 4 concepts including information transparency, scattered

information, information access, information quality. Market anomalies are generally stronger among firms with an information-scarce environment. Earnings changes after earnings announcements, price reactions to firm cash flow news, and other behavioral biases are stronger in firms with lower market capitalization, less analyst coverage, greater information uncertainty, or slower information release. Also, examining market reactions to public or private information, which requires private skills to decode, can be fruitful in understanding various market anomalies. The insight is that the decision maker in the information-scarce environment appears to be unbiased about the search for information and will therefore have a relatively stronger preference for conflicting information. On the contrary, the decision maker in a rich information environment will be more concerned about the quality of the information.

In the category of social media, 3 concepts were obtained, including communication methods, internet marketing, and social media content. Stock markets have interacted with social media and news media in various ways, and furthermore, news media seems to be the main indicator of social media. Social media repeat signals from existing news media, and a subset of "behavioral" traders interpret these repeats as factual information. In this context, social media and news media coverage have opposing effects on volatility and subsequent turnover. News media contain factual information and therefore reduce disagreement about asset values. Periods in which the asset experiences high news coverage from the news media have less volatility and turnover. Conversely, more social media coverage increases dissent and increases the confidence of behavioral investors.

The results of this research show that regardless of the number of articles, the identified components are almost common in most of the domestic and foreign researches, which is also mentioned in other sources. Of

course, there are also differences, so that some concepts such as acceptance of uncertainty, belief in sacred things, worry and anxiety, social attitude and cultural perspective are more emphasized in domestic researches than in foreign ones, Mehrabpour (2018), Amiri (2017), Azimi delarestaghi et al. (2019), Torabi et al. (2016) and on the other hand, the concepts of patriotism, temperature, sunlight, humidity, cloud cover, wind speed, information transparency, scattered information, information access, information quality Ebrahiminezhad & Ghaderi (2014), Hadadian et al (2018), Noruzi et al. (2018), Ansaari ranani & Nasehi far (2007), Dogan (2015) in foreign researches compared to domestic r has been emphasized.

Based on the research done so far, no research has been done with this title in the field of investors' cognitive perception. Basically, the issue of cognitive perception of investors is one of the new concepts that has the field of conducting extensive and wider research and considering its great importance for investors, it is very important and decisive, and this research is in accordance with their needs. This research is based on cognitive perception studies of investors in the past decades. Therefore, the results of this research and the suggestions based on this research have a practical aspect. It should be noted that qualitative research with all its benefits is associated with weaknesses such as generalizability and validity. Therefore, in order to increase the generalizability of this research, it is necessary for researchers to apply the presented factors in other similar fields of innovation, research and evaluate marketing. It is also possible to use the quantitative approach of linear structured equations to evaluate the validity of the model and develop the generalizability of the model's findings, and to rank the factors obtained based on multi-criteria decision-making methods, such as ANP, fuzzy ANP, Dimtel, etc.

Finally, based on the obtained concepts, the following practical suggestions are presented:

1) Based on the category of individual characteristics, it is suggested to examine the role of flexibility in behavioral changes and developments in investors and guide them towards achieving lofty goals and gaining competitive advantages in investment.

2) In connection with the category of personality traits, it is suggested that investors with conservative and cautious policies and mentality can make effective decisions in the investment process.

3) In the field of cultural characteristics, it is suggested that with cultural support, change and persuasion of attitudes, public information about investment issues for the people, and promotion of the worthy Iranian culture from investors who encourage and discourage new, creative and risky ideas.

4) In the category of weather factors, it is suggested to the stock exchange organization to display minor changes in weather conditions that directly and indirectly lead to complex psychological and physical reactions of investors on the stock exchange boards. In this way, investors should conduct behavioral analysis.

5) From the point of view of the information environment, it is suggested to the stock exchange organization to persuade the companies to provide the information fairly and with the necessary quality to everyone, which can be fruitful in understanding the various anomalies of the market. The insight is that the decision maker in the information-scarce environment appears to be unbiased about the search for information and will therefore have a relatively stronger preference for conflicting information. On the contrary, the decision maker in a rich information environment will be more concerned about the quality of the information.

6) In the category of social media, it is suggested that stock markets have interacted with social media and news media in different ways because news media contain real information and therefore reduce disagreements about the value of assets and the trust of behavioral investors.

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