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EVALUATING THE EFFECT OF MANAGERS' NARCISSISM ON BANKRUPTCY RISK AMONG COMPANIES LISTED ON THE TEHRAN STOCK EXCHANGE

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Abstract: Bankruptcy or default is a situation, in which, a business company or enterprise gets unable to pay its debts and cannot meet its obligations. Different reasons can cause bankruptcy that mismanagement seems to be one of the most important reasons for bankruptcy. This study aimed to examine the effect of managers' narcissism on bankruptcy risk among companies operating on the Tehran Stock Exchange. This is a quasi-experimental research of post-event type, which falls into the field of positive accounting research based on real information. The final sample of this study was chosen using the systematic elimination (screening) and non-randomized sampling method, including 177 companies in a period of 8 years from 2013 to 2020. The research data were extracted annually from the Codal website, which were entered in the EVIEWS10 software following calculations in EXCEL software to examine the research relationships and hypotheses. The results of testing the research hypothesis revealed that the managers' narcissism has a significant impact on the bankruptcy risk. The results obtained were consistent with the

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results of previous empirical studies indicating that improving the ability and characteristics of managers can enhance the performance of the company.

Keywords: Managers' narcissism, Bankruptcy risk, Tehran Stock Exchange.

JEL CODES: M10, M12, M20.

1. Introduction

Many studies have examined the effect of managers' behavioral and personality traits on the companies' policies in previous years. In their new theory, Hambrick and Mason (1984) stated that managers' experiences, values, and personalities affect the decisions related to the company and pointed out that managers may make different decisions in similar situations (Hambrick and Mason, 1984; Hambrick, 2007). The possible financial problems of the entities in different fields can have serious consequences can be reflected at the macroeconomic level (Pordea et al., 2020). Many studies have been conducted based on this theory. The results indicate that managers' personality traits can affect investment behaviors, financial policies, financial crisis (Bertrand & Schoar, 2003), voluntary disclosure (Bamber et al., 2010; Yang, 2012), tax avoidance (Dyreng et al., 2010), number of board meetings (Davis et al., 2015), and accounting methods (Ge et al., 2011). Some studies have been conducted on the effect of managers' personality characteristics on companies' decisions aimed at evaluating the impact of CEO features on different dimensions of the company. Some studies have focused on examining the effect of managers' overconfidence on organizational behaviors such as decisions related to investment (Malmendier and Tate, 2005; Hirshleifer et al., 2012; Bendavid et al., 2013), earnings management (Hribar and Yang, 2016), and accounting fraud. Malmendier and Tate (2005) realized that over-confident CEOs (managers) show further sensitivity in investment concerning the cash flow. Hirshleifer et al. (2012) also came to the conclusion that the CEOs' overconfidence significantly affects innovation and its relevant costs. Narcissism in managers can lead to unpleasant effects like causing feelings of humiliation in employees and subordinates, discouragement and frustration of employees, confusion in recognizing the behavior of the manager, the prevalence of subservience, the decline of moral virtues among employees, ambiguity in the goals of the organization, etc.

This study was designed to evaluate the effect of narcissism in CEOs (managers) on bankruptcy risk aimed at determining whether the companies listed in the Iranian capital market, like other foreign companies listed on the stock exchange, need to consider narcissism as a bad sign or not? And, does managerial narcissism, as suggested by Ham et al. (2018), cause the company to perform poorly?

According to them, narcissistic managers fail to properly manage the company's affairs due to their specific characteristics. Narcissistic managers see themselves as special ones, and thereby, expect others to treat them particularly. They cannot tolerate criticism and get angry when criticized, and accuse the critic of "ignorance, stupidity, and unable to understand reality". They consider themselves strong, famous, the wisest person, etc., and expect others to obey and follow them. Since others cannot meet their demands because their arrogance contradicts reality, then, their social relationships are fragile and suffer from numerous interpersonal and occupational issues and losses created by their own behavior, while having no insight or awareness of them (Fine, 1986). All these factors may influence the behavior of such people and their dealing with issues and problems. Narcissistic managers can cause the company to face losses by taking instant and uncalculated decisions and also without consultation. Naturally, they shirk their responsibility in the event of such situations due to their personality traits and try to blame external factors and others for the damage. All of these factors may lead to the company's bankruptcy. Thus, the results of this research can be useful and significant for shareholders, investors, creditors, and other internal and external stakeholders of the company. Besides the abovementioned and regardless of their performance, narcissistic managers may request extraordinary and special privileges for themselves and their associates due to their personality traits, which would not be necessary for the interests of the company (Goncalo et al., 2010; Nevicka et al., 2011; Ong et al., 2016). Accordingly, many scholars in this area see narcissism as a bad sign (Nevicka et al., 2011). Another important aspect of this research is its potential to help the board of directors and shareholders of companies in choosing competent managers and CEOs. The CEOs in Iran are selected by the board of directors. In fact, The Chief Executive Officer (CEO) is the highest executive director in a company whose main responsibilities are to develop and implement high-level strategies, core company decisions, overall management of the company's operations and resources, and to act as the focal point between the board and the company's operations. The CEO often has a position on the board, and sometimes the chairman and the CEO is one person. The CEO of the company is considered the representative of the company and has the right to sign within the limits of the authority delegated to him by the board of directors. Managers are one of the main pillars of the company because, in addition to having managerial responsibilities from a legal point of view, it also has various responsibilities. Since the CEO plays a key role in determining the company's policies and is responsible for the overall management of the company's operations, it can be expected that his decisions in the short and long term can have profound effects on the company. Despite numerous studies conducted abroad on the relationship between managers'

personality characteristics and different dimensions of the company, we have not found comprehensive studies in this area and on evaluating behavioral factors.
One of the important characteristics of Iranian society is respect for elders and traditional rulers. Human communication in Iranian society is based on a kind of respect and traditional laws. These social rules are also in place in companies and can sometimes affect the structure of companies. Human relations in Iran are such that the decisions of elders are not usually opposed, and this will make narcissistic managers in Iran usually having an easier way to influence their subordinates and be able to exert more influence. Therefore, we can expect that in countries like Iran, the effects of narcissistic managers are more than in other countries in the world.

2. Theoretical foundations of research

2.1. Managers' narcissism and bankruptcy risk

The CEOs (managers) are recognized as a key factor in improving the performance of any organization and the decisions made by them are effective in the failure or success of their organization (Amemic et al, 2010). Thus, the behaviors of managers in the organizational environment, derived from their personality traits, play a crucial role in the process of evolution, dynamism, and flourishing of the organization (Chatterjee & Hambrick, 2011). Also, as the type of personality, attraction, and degree of control of senior managers are effective on the results of the organization (Flynn & Staw, 2004), therefore, senior managers are able to influence the behaviors and outputs of the organization with a significant effect on the efforts and results of the organization (Finkelstein & Hambrick 1996). In the meantime, the phenomenon of narcissism appears as one of the personality characteristics developing in some managers. Narcissism, which has been widely studied as a personality disorder, displays signs among managers like authoritarianism, self-display, seeking superiority, pride, exploitation, being rightful and self-sufficiency (Campbell & Campbell, 2009). In a study, Dita et al. (2020) investigated the effect of financial manager narcissism on financial reporting and its impact on the quality of profits. The data were collected from a sample of 60 manufacturing companies listed on the Indonesia Stock Exchange in 2018. In this research, the debt-to-assets ratio and firm size were considered as control variables. The managers' narcissism revealed a significant relationship with accrued earnings management according to the results. On the other hand, other research findings demonstrated that organizations run by highly narcissistic managers disclose more financial information through the Internet. In a study, Ham et al. (2017) assessed the effect of managers' narcissism on the quality of financial reporting. The size of managers' signatures was used to assess the level of narcissism in this study. Based on their conclusion, narcissism has a significant relationship with earnings (profit) management. This finding indicates the significance of managers' personality traits in the area of financial reporting decisions. Olsen et al. (2013) focused on the issue that whether there is a significant relationship between the narcissistic personality of managers and financial factors of the company such as earnings per share or not. To this end, the research subject was analyzed using the panel data related to 500 companies during the period 1992 to 2009. They demonstrated that companies administered by narcissistic managers have higher earnings per share and stock price compared to other companies. They also concluded that the narcissistic personality of senior CEOs in the company can enhance the performance of the company. In a paper, Rijsenbilt & Commandeur (2013) studied the relationship between managers' narcissism and the likelihood of fraud in the company. To do so, the data related to a sample consisting of all S&P 500 flagship companies were collected and analyzed during the period 1992 to 2008. They used 15 objective indicators to assess narcissism. Revealed by the results, a positive and significant relationship was found between managers' narcissism and fraud in the company. This finding confirms the CEO's narcissistic psychological approach as a probable cause of fraud. In a study, Bamber et al. (2010) focused on examining the impact of the CEOs' features on voluntary disclosure of company financial information. In the regression analysis among sample companies, the unique personality characteristics of CEOs were found to have a significant impact on the voluntary disclosure of the company's information. Bertrand and Shore (2003) examined the effect of managers' personality traits on the company's behavior and performance. They utilized the panel data related to different companies and managers to conclude that fixed personality features of managers bring a widespread and significant effect on the company's decisions. They suggest that a considerable level of heterogeneity in the financial and organizational investment of companies can be explained by the manager's constant personality effects. Another conclusion made by them suggests that there is a significant relationship between managers' personality traits and the company performance and better-performing managers will receive further rewards.

Tehran Stock Exchange is an organized and self-regulated market in which securities are traded by brokers or traders in accordance with the law. The stock exchange is established and managed in the form of a public joint-stock company. Companies listed in this market sometimes experience financial crises and are exposed to bankruptcy. The financial distress of companies, which is due to internal and external factors (management system) and external organizational (macroeconomic factors), leads to waste of resources. In this study, in order to eliminate conjunctural influences (bankruptcy due to the economic environment), we tried to select a sample of companies with specific characteristics and perform the final analysis between these companies to determine the extent of the impact of managerial narcissism in the financial crisis and the risk of bankruptcy of companies.

Table 1 Background of related researches

Authors	Purpose of the study	Sample	Research method	Results
Dita et al (2020)	Investigated the effect of financial manager narcissism on financial reporting and its impact on the quality of profits	The data were collected from a sample of 60 manufacturing companies listed on the Indonesia Stock Exchange in 2018	Regression model	The managers' narcissism revealed a significant relationship with accrued earnings management
Ham et al (2017)	Assessed the effect of managers' narcissism on the quality of financial reporting.	947 publicly traded companies with revenues Greater than $1.2 billion.	Regression model	Narcissism has a significant relationship with earnings (profit) management.
Olsen et al (2013)	CEO Narcissism and Accounting: A Picture of Profits	500 companies data from 1992 through 2009	Regression model	Companies administered by narcissistic managers have higher earnings per share and stock price compared to other companies.
Rijsenbilt & Commandeur (2013)	The relationship between managers' narcissism and the likelihood of fraud in the company.	A sample consisting of all S&P 500 flagship companies was collected and analyzed during the period 1992 to 2008.	Regression model	A positive and significant relationship was found between managers' narcissism and fraud in the company
Bamber et al. (2010)	Examining the impact of the CEOs' features on voluntary disclosure of company financial information.	a sample consisting of 687 companies during the period 1998 to 2006.	Regression analysis	the unique personality characteristics of CEOs were found to have a significant impact on the voluntary disclosure of the company's information.
Bertrand and Shore (2003)	The effect of managers' personality traits on the company's behavior and performance.	The data were used are the Forbes 800 files, from 1969 to 1999, and Exec comp data, from 1992 to 1999	Regression analysis	a considerable level of heterogeneity in the financial and organizational investment of companies can be explained by the manager's constant personality effects.

Source: Own Processing.

Narcissism can undoubtedly be considered as one of the main frameworks of human personality and behavior from the middle of the twentieth century onwards.

Narcissism and self-centeredness mean being so self-centered that you do not find the ability to empathize with others and understand their feelings. By simple definition, the narcissist is so engrossed in his love that he cannot fall in love with another. These people are very arrogant and self-centered and see themselves as very complete and needless of any change. They consider themselves very important and despise others, small and worthless. Obviously, when all these features are combined in the manager of a company, it can affect the different behaviors and dimensions of the company. Therefore, it can be expected that performance, profitability, bankruptcy probability, rate and degree of tax evasion or avoidance, how to invest and many other factors in companies that are fascinated by their managers are different compared to other companies. Previous research has shown that narcissism in managers can affect different dimensions of the company. These studies showed that narcissism is significantly associated with over-investment in various sectors, especially in research and development. They also show that companies with narcissistic managers will experience lower financial productivity and perform worse than other companies. Despite this poor performance, narcissistic managers usually receive more rewards than their peers. Apart from the above, given the direct impact of the manager and his decisions and behavior on the company, it can be expected that narcissism among managers affects important dimensions such as the risk of bankruptcy of companies. Numerous studies have discussed the characteristics of the CEO in general and narcissism in particular, and its impact on various financial and non-financial dimensions of the company. In this study, the relationship between narcissism in managers, profit quality and bankruptcy risk has been investigated.

3. Methodology

This is a quasi-experimental research of post-event type, which falls into the field of positive accounting research based on real information. It can be also classified as applied studies based on the objective, which can be used to improve and perfect behaviors, methods, tools, instruments, products, structures, and models employed by human societies by applying the fundamental research results. The type of research data is historical (post-event) and the type of research methodology is descriptive-correlation in terms of the nature of implementation. Since we do not make any changes in the values of independent and dependent variables, then, the type of research data is historical (post-event). We will use library sources (books, articles, and journals available in the field of research), theses, reputable international publications available online on websites, and other valid scientific databases to collect data on theoretical sources, subject literature, and theoretical topics of the research. The data and information required for calculating variables related to earnings management will be extracted from companies' basic financial statements and information related to the announcement of the change of management from the website of the Tehran Stock Exchange and Securities Organization. This information will be derived through zip files containing corporate financial statements, which have been gathered and compiled by the information management unit of this institution.

3.1 Statistical sample

The study statistical population included all companies listed on the Tehran Stock Exchange. The following conditions were set designed to select a statistical sample considering the extensity of the statistical population volume and some inconsistencies among the members of the population:

- These companies should have been listed on the stock exchange before 2011 and their shares should have been traded on the stock exchange and still be traded from the beginning of 2011.
- These companies should not have faced an operational interruption during the years 2011 to 2018 and their fiscal year should terminate at the end of the solar year (To increase the comparability level).
- The companies should not have changed their fiscal year during these years and their required information have to be available for extracting the data.

By applying the above limitations, the companies of the research statistical sample with similar features were obtained from the statistical population and the statistical sample was chosen purposefully with a systematic elimination method. Thus, the final sample consisted of 177 companies.

3.2. Research variables

3.2.1. Narcissism

We utilized two criteria of managers' photos and managers' signatures in our study to assess the narcissism level of managers similar to the research conducted by Wong et al. (2011), Olsen and Stockelberg (2016), Lewis et al. (2012), Ge et al. (2014) and Ham et al. (2018).

3.2.2. CEO’s photo

We need to explain that concerning the measurement criterion of managers' photos that in the size of the managers’ photos in the mentioned researches presented in the financial statements or the company's website would be used in the form of a special scoring. The narcissism assessment process of managers based on their photos will be as follows. The CEO’s face width is divided by the height of the face, which is measured as dividing the distance between two temples (face width) by the distance between the eyebrows and the upper lip (face height). The ratio of this width to height measurement is represented as WHR. According to studies, the WHR is a major cause of testosterone-related behaviors in men (Wong et al., 2011; Lewis et al. 2012; and Ge et al., 2014). Consistent with this, Stirrat and Perrett (2010) demonstrated that measuring the human face width to length ratio (ratio of width to height) seems to be one of the characteristics of sexual dimorphism and testosterone, which can be used as a factor to measure the tendency to violent and aggressive behavior in men.

Prior studies show that WHR is a valid cue to testosterone-related behaviors in males (Carré, Putnam, and McCormick 2009, Short, et al. 2012, Weston, et al. 2007, Wong, et al. 2011). Carré and McCormick (2008) show that WHR can be measured from photographs (instead of measuring the skull directly) and that this ratio predicts aggressive behavior inside and outside the laboratory. An important caveat applies; whether individual differences in the facial width-to-height ratio vary according to testosterone levels at puberty is still speculation at this point and subject to debate. However, the relation between WHR and aggression or deception propensity, as already discussed, has been well documented and, ultimately, it is this cue to aggression and/or deception that we need to derive our predictions regarding narcissism. Lewis et al. (2012) also showed that the ratio of facial width to height is associated with characteristics such as violence and aggression, immoral behavior, profiteering in business and sovereignty. Recent research has also suggested that testosterone levels in men are related to their level of narcissism (Pfattheicher, 2016). Accordingly, several studies in recent years have used the image criterion of managers to measure the degree of narcissism in them (Zakerean, 2021; Shahedhossein et al. 2021; and Hossein, 2020).

Figure 1 The process of measuring testosterone levels index
Source: Adapted from Ge et al., 2014.

3.2.3. CEO's signature

The results of many studies show that the characteristics of managers have a significant effect on incorrect reporting of the company. The results of these researchers show that the size of managers' signatures was related to the management of accruals. The results also show that in some cases, the signatures of managers have a high correlation with the company's profit management.

In this study, we will also use the CEO's signature volume to measure the narcissism rate besides his photo. To this end, the signatures of the CEOs in the financial statements of the sample companies must first be extracted. A rectangle will be drawn around each sample signature as such the corners of the rectangle would have the closest distance to the individual's signature. The width and length of the rectangle will then be determined in centimeters. To disregard the names of managers in the signatures as the volume of signatures, whether the names of managers will be ignored or the area of the rectangle will be divided by the number of letters in the manager's name (Ham et al., 2018).

3.2.4. Bankruptcy risk

The risk of insolvency is a large area of study, investigated for over 50 years (Balteș & Pavel, 2019). Bankruptcy risk, like other existing risks, including bankruptcy cost, affects the performance of companies in various industries (Sanni et al., 2020). Article 141 of the Commercial Code is used to identify companies at risk of bankruptcy. Based on the Commercial Code of Iran, companies are subject to this article that at least half of the company's capital has been lost due to occurred losses. Accordingly, the value of one (1) will be considered for companies with the bankruptcy risk and the value of zero (0) will be set for other companies.

3.3. Control variables

1. Company size: The natural logarithm of total assets.
2. Company performance: The profit divided by total assets.
3. The ratio of market value to book value: The current value of equity divided by the book value of the equity (P/BV).
4. Financial leverage: Total liabilities divided by total assets.

3.4. The research conceptual model

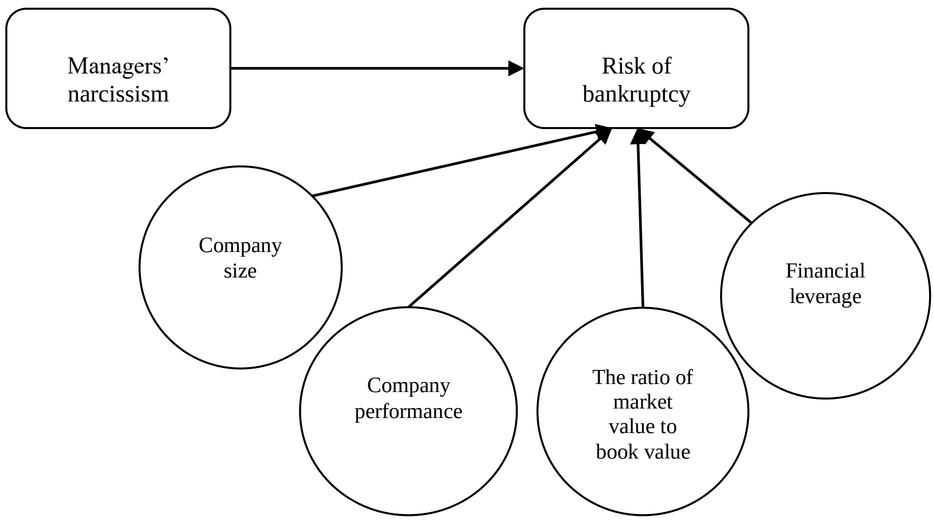

Figure 2 The research conceptual model
Source: Own Processing.

3.5. Research Hypothesis

Hypothesis: The managers' (CEOs') narcissism has a significant impact on the company's bankruptcy risk.

4. Research findings

The research data were extracted annually from the Codal website, which were entered in the EVIEWS10 software following calculations in EXCEL software to examine the research relationships and hypotheses. It should be noted that the data were of the combined (panel data) type. Therefore, we would not encounter the problem of heteroskedasticity in fitting the research models. The reliability of data related to the research variables was examined by the unit root test. The research models were fitted through multiple linear regressions. The t-statistic and F-statistic were used to examine the significance of the relationships between independent and dependent variables and the significance of the whole model, respectively. Also, the coefficient of determination was employed to assess the impact rate of independent variables on the dependent variable, while the Durbin-Watson statistic was applied to determine the presence or absence of autocorrelation between the model residues.

4.1. The statistical description of research variables

The criteria, including the mean, median, standard deviation, skewness, and kurtosis were used to statistically describe the studied variables. The statistical description test results are given in Table 2.

Table 2 The statistical description of the research variables

Variable Name	Bankruptcy Risk	Narcissism (Manager's Photo)	Narcissism (Manager's Signature)	Company Size	Company Performance	Market Value to Book Value Ratio	Financial Leverage
Variable Abbreviation	RISK	FACE	SIGN	SIZE	ROA	MTB	LEV
Mean	-0.1598	1.860	24.93170	14.59147	0.0924	2.993390	0.493823
Median	-0.1593	1.859	24.67595	14.56348	0.0923	2.980801	0.489821
Maximum value	1.109	3.122	58.88372	29.97966	0.355	7.042356	1.052963
Minimum value	-1.169	0.609	0.115371	0.255497	-0.186	0.009123	0.004476
Standard deviation	0.321	0.412	9.160073	4.787489	0.085	1.218024	0.187388
Skewness	-0.011	0.114	0.064062	-0.017785	-0.039	0.037108	0.066483
Kurtosis	2.932	2.887	2.901100	3.015376	2.964	2.707438	2.763460

Source: Research Findings. Own Processing.

4.2. Examining the reliability of the research variables

The reliability of the research variables was assessed by the unit-roots test. The results are provided in Table 3.

Table 3 Unit Roots Test

The unit root test of the panel data

H0: There is a unit root

	Statistic	Significance level
Narcissism (manager's photo)	716.789	0.000
Narcissism (manager's signature)	778.426	0.000
Bankruptcy risk	734.162	0.000
Company's size	908.321	0.000
Company's performance	856.227	0.000
Market value to book value ratio	664.637	0.000
Financial leverage	875.110	0.000

Source: Research Findings. Own Processing.

All variables are at the static level and the null hypothesis, implying the existence of a unit root and non-static (non-stationary) variables is rejected at the 95% confidence level.

4.3. Chow and Hausman tests

The panel data method was used to evaluate the correlation.
H0: Equality of the y-intercepts (The y-intercepts are equal)
H1: Absurd hypothesis: Inequality of the y-intercepts
The test results revealed that the Chow test statistic value was lower than 0.05, and thereby, the null hypothesis is rejected. Therefore, the panel model was chosen as the superior model (the fixed effects model was selected as the preferred model). Now the fixed effects model needs to be tested against the random-effects model. The Hausman test was used to do this, which results are given in Table 4.

Table 4 The results of Chow and Hausman tests

Hypothesis	Dependent variable	Chow test significance level	Hausman test significance level	Model fit
Research hypothesis	Bankruptcy risk	0.000	0.000	Panel model with fixed-cross-sectional effects

Source: Research Findings. Own Processing.

4.4. The result of testing the research hypothesis

Managers' narcissism has a significant effect on the company's bankruptcy risk.
H0: Managers' narcissism has no significant effect on the company's bankruptcy risk.
H1: Managers' narcissism has a significant effect on the company's bankruptcy risk.

The regression model of the research hypothesis

$$BR_{j,t} = \beta_0 + \beta_1 {*} Nar_{j,t} + \beta_2 {*} SI_{j,t} + \beta_3 PER_{j,t} + \beta_4 MTB_{j,t} + \beta_5 LEV_{j,t} + \varepsilon_{j,t}$$

The abbreviations in this model indicate the following:
Nar: Manager’s narcissism
SI: Company size
PER: Company’s performance (PER - Price Earning Ratio)
MTB: Market value to book value ratio
LEV: Financial leverage
BR: Bankruptcy risk
The results of model fitting are reported in Table 5.

Table 5 Fitting the model of the research hypothesis

Dependent variable: Company's bankruptcy risk				
Variable	Factor	Standard deviation	t-statistic	Significance level
Fixed factor	0.076	0.066	31.222	0.000
Narcissism (manager's photo)	-1.174	0.049	-23.875	0.000
Narcissism (manager's signature)	-0.0139	0.0007	-17.609	0.000
Company's size	-0.022	0.078	-0.293	0.768
Financial leverage	-0.0004	0.0004	-0.948	0.343
Market value to book value ratio	0.032	0.007	4.206	0.000
Company's performance	0.0002	0.002	0.089	0.928
Coefficient of determination: 0.659				
Durbin-Watson statistic: 1.805				
Significance level of the F statistic: 0.000				

Source: Research Findings. Own Processing.

Based on the results, one can conclude that the Durbin-Watson statistic is at a good level (1.805). Therefore, we can study other statistics with an acceptable confidence level.

Based on the fitting the research hypothesis model, one can see that the absolute value of the t-statistic related to independent variables (manager's photo and signature) is greater than 1.96 (and the significance level of t-statistic of this variable is lower than 0.05 at the significance level of 0.95%, indicating that the relationship is significant) and these variables have a significant impact on the dependent variable. Considering that the coefficient of independent variables is negative, the quality of this relationship is inverse. However, we know that the calculated criterion is an inverse measure of bankruptcy risk due to the type of model used to measure the risk of bankruptcy. Thus, the higher its value, the lower the risk of bankruptcy would be. As a result, the quality of the relationship is logically direct and significant.

Therefore, the H0 hypothesis is not accepted, which means the managers' narcissism has a positive and significant impact on the company's bankruptcy risk. The value of the coefficient of determination also suggests that the model related to the fifth hypothesis justifies 65.9% of changes of the dependent variable. Evaluating other explanatory variables implies that the variable of the market value to the book value ratio has an inverse (positive sign in regression and logically negative sign in relation) and significant effect on the company's bankruptcy risk.

5. Results and discussion

The results of examining the research hypothesis suggest that managers' narcissism has a positive and significant impact on the company's bankruptcy risk. Implied by this finding, the increased level of narcissism in managers will enhance the risk of bankruptcy of the company. The obtained results seem to be consistent with the results of studies performed by Ham et al. (2017) and Dita et al. (2020). The review and comparison of these results with the findings of previous experimental research reveal that the possible improvement of the ability and characteristics of CEOs may enhance the company's performance since improving the company's performance will reduce the risk of bankruptcy.

Narcissistic managers use their skills and abilities to deceive, influence and threaten employees. Such managers are often unaware of and indifferent to the real needs of the company and believe that they deserve more praise, attention, and glorification than they receive from employees. Such leaders are more easily able to buy and sell companies, close and transfer facilities, and fire staff compared to other types of personalities, and typically, they rarely have any regret. Excessive self-centeredness and lack of empathy of managers often lead to distrust of employees. This distrust, associated with a strong need for power and fame, causes the narcissistic leader to use more control to maintain him and may bring irreparable damage to the company in doing so.

Accordingly, it can be said that companies that did not have narcissistic managers had better and higher performance. This result was consistent with the results of the research of Mashayekh et al. (2020).

Research suggestions and limitations

Meanwhile being very arrogant, selfish, and self-centered, narcissistic managers are often so smart, hardworking, and outstanding in their fields. But their narcissistic needs can neutralize or destroy their creative talent for the organization. Hence, the presence of such managers in the organization seems to increase the risk of bankruptcy. Accordingly, and due to the obtained results, we present the following suggestions:

a. The shareholders are advised to consider the personality traits and background of the company managers in their decisions regarding purchasing, maintaining, or selling stocks.
b. The boards of directors of companies are recommended to consider the managers' personality traits such as narcissism, overconfidence, etc. in their selection process as an important factor in the company's performance. This oversight will reduce the possible risks in the investments, prevent and reduce the risk of bankruptcy, and increase financial soundness and information transparency.
c. It is recommended to the stock exchange organization to design mechanisms to monitor the activities of managers, especially activities such as preparing

financial statements with the potential of causing serious consequences for investors and companies aimed at reducing the risk of bankruptcy among the companies listed on this organization.

d. According to the research goal and the results obtained, the researchers are recommended to examine the relationship between bankruptcy risk and liquidity of stocks by considering the type of industry as a modifying variable as well as investigate the impact of industry type on the relationship between manager narcissism and bankruptcy risk in future studies. Given that the study population in this study consisted of companies active in the Tehran Stock Exchange, naturally, the results achieved here apply to these companies and cannot somehow be generalized to all organizations and companies. Thus, it is suggested that the researchers will study this topic in other organizations and manufacturing and service-providing companies in future research. It is also suggested that the research must be conducted also vice versa: narcissists CEO who have beaten the market.

6. Conclusions

Narcissistic managers think of themselves as special people and expect to be treated in a special way. "It is difficult for them to tolerate criticism, and in return, they are angry and accuse the person in question of ignorance, stupidity and lack of understanding of reality." They consider themselves strong, famous, the most knowledgeable and expect obedience from others, because others cannot meet their demands. Because his arrogance is at odds with reality, their social relationships are fragile and they have many interpersonal, occupational, and lack issues that they create through their behavior while having no insight or awareness of them. Narcissistic managers can cause losses for the company by making sudden and unaccounted for decisions as well as without consulting. In this study, we showed that these decisions can even increase the risk of bankruptcy and ultimately the collapse of the business unit. The purpose of this study was to investigate the effect of managers' narcissism on corporate bankruptcy risk. To this end, we developed a practical framework and examined the dimensions of managers' narcissism. We utilized two criteria of managers' photos and managers' signatures in our study to assess the narcissism level of managers. The results show that managers' narcissism has a positive and significant impact on the company's bankruptcy risk. Our results have implications for researchers, investors and regulators. We help previous research on senior executives' personality traits by showing the relationship between narcissism and bankruptcy risk. Investors should henceforth pay more attention to the personality traits of managers when deciding to buy, hold or sell stocks. Capital market analysts can also use the results of this research to provide more accurate interpretations of companies' futures.

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Author contributions

FO and HN conceived the study and were responsible for the design and development of the data analysis. SHN and RR were responsible for data collection and analysis and also for data interpretation. FO was responsible for the literature review section.

Disclosure statement

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