CONSIDERING THE ABILITY OF ALTMAN'S BANKRUPTCY PREDICTION MODEL IN PREDICTING BANKRUPTCY BETWEEN LISTED COMPANIES IN TEHRAN STOCK EXCHANGE BASED ON BEHAVIORAL FACTOR (MANAGERS' INTELLIGENCE)

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Abstract— One of the main subjects in classifying the companies is related to the bankruptcy prediction. In fact, investors, creditors, owners and state-run organizations and managers are interested to evaluate the companies' financial status, because they will be inflicted a huge cost as bankruptcy happens. This study is mainly aimed to consider the ability of Altman's bankruptcy prediction model in predicting bankruptcy between the listed companies in Tehran Stock Exchange (TSE) based on behavioral factor (managers' intelligence). For this reason, Emotional Intelligence (EQ) has completely been studied. In this study, some of the 119 managers of these listed companies have taken as our statistical population (2013-14). Also, collecting instrument of the needed data in this study for the quantitative variables (bankruptcy prediction model) is the companies' financial data (2013), and for the qualitative variables is a questionnaire regarding to the managers' intelligence. The collected data have statistically analyzed and classified by the descriptive method, and Logistic Regression Model along with perceptive method have used for the hypotheses test. The final results made by the statistical analyses clearly show that there is not a significant relation between the managers' emotional intelligence (EQ) in predicting bankruptcy through Altman's model between the listed companies in Tehran Stock Exchange (TSE).

Keywords— Managers' Intelligence (EQ), Bankruptcy, Altman's Bankruptcy Prediction model

I. INTRODUCTION

Today, science has been found the ability and power accrued to emotions in the human's life, and now science is looking to discover and determine their position in the human's activities and behaviors. In the recent years, large numbers of the studies have changed their way from intelligence toward emotion intelligence and moral intelligence at the organizations and companies. In fact, since 1990s this concept has entered into the management field. Also, different studies have indicated the managers who have high emotional and moral intelligence, then they are more efficient in attaining the personal and organizational (corporate) goals.

Emotional intelligence (EQ) is looking to describe the emotions' status in the principle capabilities (Goleman et.al 2002). Goleman believes when we want describe the reasons of the great leaders' effectiveness or we want speak about powerful attitude and strategy, finally we reach to this matter that "great leaders rely upon their emotions."

We conclude the leadership does not mean supremacy, but it is convincing art of others for a common goal. Goleman et.al (2002) believe those leaders and managers who take advantage from the EQ, they could be created the more effective health model and working relations.

Today, so many of the staff and managers' decisions and behaviors at the organizations are depended to their moral values. Whereas, human capital (whether individual or group) is still known as most important competitive advantage in conducting with the others, then the persons' judgment about correct or incorrect actions could severely impact on their performance's quality and quantity, corporate performance and success as well. Hence, the organizations should pay attention to the moral principles. Therefore, moral could impact upon the performance through exactly-regulated relations, decreasing the contradictions and differences, increasing cooperation and coordination level and also decreasing the costs resulted by the control process. It should be noted that moral intelligence (MI) could promote the commitment and responsibility sense between the staff and this trend will be lifted the group and personal efficiency specifically. Therefore, If the moral principles to be observed against the inner and outer beneficiaries, we witness a multiplied advantages, more legitimized corporate actions that these items easily could raise the competitive advantage and profitability. Hence, the managers should pay the way to promote the corporate moral.

Despite to this matter that the companies' bankruptcy could bring a huge loss for the investors, creditors and other beneficiaries and whereas these guys have a close look at the bankruptcy model, then this study is

looking to point out: whether the managers' intelligence could be helpful in predicting bankruptcy of the companies or not? Since, these managers have a crucial role in decision making and predicting the alarming signs (bankruptcy), then this study has aimed to answer to this question that whether the managers' intelligence (EQ) could have a significant relation in predicting bankruptcy through Altman's model between the listed companies in TSE or not?

1.1. Conceptual model of variables

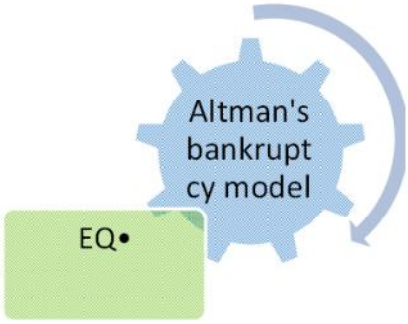


Fig.1. conceptual model of variables

1.2. Bankruptcy

An increasing competition by the corporations has limited accessibility to the needed resources, on the other hand the same competition has increased the possibility of bankruptcy. The past studies were shown that the companies are hidden their bankruptcy, and when they decide to speak out about the bankruptcy that no action can prevent of their financial collapse.

Since the 8 decades ago, the study about the bankruptcy prediction was started, and this kind of study is one of the most preliminary studies in the financial field. This subject is very important for different groups as follow; companies' beneficiaries, academics, insurers, lenders, financial analyzers and those who are active in the companies' merging field. In fact, bankruptcy has direct and indirect costs not only economic but also political and social. Also this subject is very important from perspective of corporate sovereignty, then the legislators are looking to curb the credit risk.

The most important reason for the companies' bankruptcy is mismanagement. Neilsen et.al say when a bankruptcy happens that the company's value fall below a possible level, this possible level would be happened by changes in the time-base structure of the interest rate and an uncertainty about the value of assets. According this definition, bankruptcy is an expectation and conceptual level. The other studies carried out by Leland, Zeigler and Toft, and finally this level was measured.

According to Article 412 of Iranian Commercial Code, a bankruptcy looms as a company could not pay its debts. The bankruptcy bill of a passed away owner (company) could be issued a year after death occurrence. Legally, in the bankruptcy event the debtor hand over whole of his/her assets to the creditor, and when the signs of bankruptcy were removed, he/she could reboot the past job. The bankrupted companies are those companies who their index has been closed and their shares have not been offered in the Stock Exchange. The non-bankrupted companies have not these situations at the Stock Exchange at all.

1.3. Reasons of bankruptcy

As you know, determining the reason or reasons led to bankruptcy and financial problem is not a simple trend, since there are always several issues as a bankruptcy looms. Don and Brad say the main reasons are related to the financial problems (Volfing and Volden 1975).

Sometimes, the reason(s) of bankruptcy would be identified through considering the financial statements and diaries. The accountants who are very experienced in considering the weakened companies' financial status, in fact they could easily be determined the reason(s) of bankruptcy. But, a short-term suitable situation could be hidden the possible of bankruptcy from the accountants' eyes. Newton has divided this subject into the two inner and outer-organizational reasons (hotchiks 1995).

1.4. Considering the bankruptcy in Iran

According to Article 141 of partial amendment of Commercial Code (1968), the bankrupted companies have these duties;

If the half of the company's capital was lost through the received losses, the board of directors must hold an emergency general assembly, so that the company's wind up or continuation to be voted by the stockholders. If these stockholders are not voted to wind up the applicable company, then based on Article 6 of the same law, the company's capital should be declined to the current capital level. If the board of director is not held this emergency general assembly or this assembly could not be held based on the determined laws and regulations, any beneficiary could refer to the court of law and request the wind up verdict on this company.

Article 143: if this company was bankrupted, or during the winding up this matter to be identified that the company's asset and capital to pay its debts is not enough, the court based on a submitted request by any beneficiary could be convicted each manager, managers or managing director due to lack of enough asset and capital or inflicted bankruptcy – and they should pay off debts as corporate or individually based on the court's verdict (MansoorJahangiri 2000). Moreover, in Article 412 of the current law, there is a hint about the pay off debts.

1.5. History and definition of EQ

Aristotle says getting angry is so simple. In fact, all people could get anger, but this angry should be

shown for a suitable person, suitable time, suitable value, suitable reason and suitable method, then getting angry is not simple! Definition about the EQ is a floating one like the Cognition Intelligence. Reuven Bar-On was created the concept of EQ (1985). So, he could be described his own method in evaluating the general intelligence. He believed that the EQ could reflect our ability in a successful siding with the others alongside our inner senses. After a long study period as the 17 years, he was introduced the character-based list. His test would measure the five fields; interpersonal relation, intrapersonal relation, adaptability, stress management, general mood.

The moral intelligence was firstly introduced by the two psychologists; Peter Salovey and John Mayer. They were told those who have EQ, easily could be controlled their and others' emotions, and they could be differentiated between the emotions' negative and positive consequences, also they could be used from emotional information to guide the personal attempts and thinking process. Daniel Goleman as a scholar in the behavioral sciences and author the book titled "working by emotional intelligence" was first person who entered this concept into the corporate scope. Goleman says the EQ is a capability, talent and skill that can be deeply overshadowed the personal abilities (Bradbery 2005).

Goleman point out (1995); the EQ is a new concept, but current information show the EQ can be as powerful as the IQ and even sometime more powerful than it. He believes the intelligence could only be led to a %20 of the academic progress, while the rest could be attained by the emotional and social intelligence. Generally, those who are powerful in the EQ, they possibly are more successful in their commitments (Mahmoud AmiriNia 2014).

Goleman was completely described the EQ. His main source was the studies of Salovey and Mayer, but he was added other variables on it, so that the components of EQ can be completely identified. He put finger on the different character-based features such as optimism, perseverance and ability to making default about the joyful moments.

You have been surely envied about the others and friends' high EQ level, but you have to know that the God has blessed the EQ for us as acquisition; therefore we can reach to the same matter via our efforts. The emotional intelligence or EQ has an important part of the human's intelligence spectrum, and it includes regulation, understand and cognition of the emotions and taking advantage from them in the real life.

The EQ as one of the most attractive subjects in the psychology has been drawn attentions in the recent years. Since, the experts of this scope have confessed that the EQ has a higher share in the persons' successes against the IQ. In fact, the EQ means the persons' capability for:

1- Control and management of emotions
2- Modifying and controlling the emotions for creating the motivation along with accepting the responsibility and starting toward the interest goals
3- Creating an effective relation with others in the social affairs and management fields
4- Creating an effective (by the EQ) and efficient relation with others via identifying their emotions

II. DETAILS AND PROCEDURES

2.1. Hypotheses of study

1- Altman's model could easily be predicted the listed companies' bankruptcy in Tehran Stock Exchange (TSE)
2- Managers' intelligence could impact upon the ability of Altman's model
2-1- EQ accrued to the managers could impact on the ability of Altman's model

2.2. Statistical sample and population

The statistical population includes some of the 119 managers of the listed companies in TSE (2013-14). This number was achieved via systematic deletion about those companies that were not provided the needed variables for this study. The selected companies were prepared for the test of study hypothesis. These companies had these terms as qualified;

1- The companies should not be included the private, investor and banking ones. Since, these kinds of companies have different financial statements and accruals
2- The fiscal year should be assigned at the end of Esfand (12^{th} month of Iranian calendar equals with 20 March), this is due to easy analyzable of the needed data
3- Financial data and information should be available
4- Managers should have been at their official posts during 2013-14 period
5- Questionnaires regarding to the managers' intelligence were sent by e-mail and fax for these managers, and their responses were received by the same instruments as well
6- As study runs, the fiscal year should not be changed

This study was carried out within the 2013-14 period, and this time was selected due to considering the managers' intelligence (EQ) and its impact on predicting bankruptcy of the listed companies in TSE as the related managers were at their official posts.

2.3. Collection method of needed data

In this study, an intelligence questionnaire was used as collection instrument of needed data. In fact, these questionnaires were sent to the applicable managers by the e-mail and fax. The final questionnaire was edified by the experienced assessors (academics and

professors), so that the interested goals would be attained – this questionnaire was designed based on independent variables (emotional) and dependent variables (Altman's bankruptcy prediction model).
The information about the theoretical basics will be collected by the library method, and different Persian and English books and articles would be used. The test of study hypotheses has been used as most reliable source due to reliability of these companies' financial reports. These financial reports include the financial statements that all have taken form TSE's official site (2013). Also, Excel and SPSS software will be used in the same test and analyzing the related data.

2.4. Analysis method of data

Before any analysis on the collected data and also the perceptive analysis, the questionnaire's validity and reliability should be firstly considered. The reliability was considered by the Cronbach's alpha, and its results show this questionnaire has adequate reliability. The validity for this study was considered through the exploratory factor analysis, hence KMO index (Kaiser-Meyer-Olkin) and Bartlett's test (due to its multivariate form) were used. According to these two tests, when these data are suitable for the factor analysis that KMO is higher than 0.6 and nears to 1, and significance level (sig) in the Bartlett's test is less than 0.05.
In the next stage, the instruments of descriptive statistics and tables like dispersion and central indexes were provided, so that the collected data to be analyzed and more transparent through them. Finally, logistic regression test was carried out as well.

III. RESULTS AND DISCUSSION

3.1. Reliability and validity of questionnaire

Table1: KMO and Bartlett's tests about validity of questionnaire and managers' behavioral performance factor

	Number of questions	Test of KMO	Bartlett's test		
			K2	Freedom	Sig
EQ	10	0.90	645.86	45	00

Table2: KMO and Bartlett's tests about validity of questionnaire and managers' behavioral performance factor

	Number of questions	Test of KMO	Bartlett's test		
			K2	Freedom	Sig
Questionnaire of managers' behavior factor	10	0.87	17.71	378	00

Despite to the results of Table 1, the value regarding to KMO is >0.50, then suitable correlations exist between the data. On the other hand, the value regarding to the Significance level (sig) in Bartlett's test is <0.05, then there are suitable media and other similar devices for analyzing the hypotheses test.

Table3, reliability coefficient test (reliability) or a questionnaire for managers' behavioral factor

Questionnaire	Number of questions	Cranach's alpha
EQ	10	0.89

Questionnaire	Number of questions	Cranach's alpha
Managers' behavioral factor	10	0.89

Despite to these results, the reliability of this questionnaire was confirmed, since its value of Cronbach's alpha is higher than %80. Also, reliability coefficient for the managers' behavioral factor was confirmed as well.

3.2. Distribution quality of sample persons based on demographical variables

For more familiarization with the listed companies' managers in TSE, their demographical variables were provided; sex, marital status, age, education level and working background.

3.3. Numeric description of managers' age

Table4: descriptive data based on managers' age

Descriptive data based on managers' age		
Age	Number	Percent
25-35	28	%24
36-45	42	%35
46-55	33	%28
56-60	16	%13
Total	119	100.0

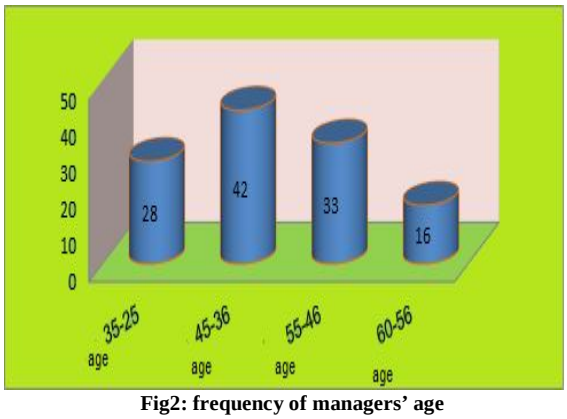


Fig2: frequency of managers' age

3.4. Numeric description of managers' education level

Table5: descriptive data based on managers' education level

Descriptive data based on managers' education level		
Education level	Number	Percent
Associate	13	%11
B.A	26	%22
Master's	47	%39
Doctorate	33	%28
Total	119	100.0

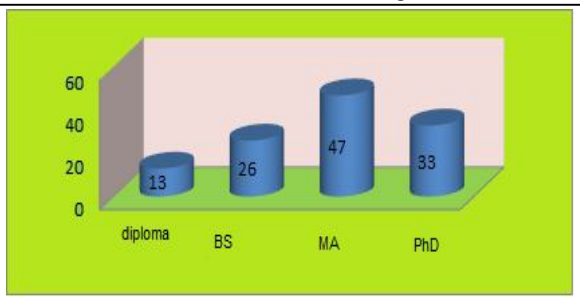


Fig3: managers' education level

3.5. Numeric description of managers' working background level

Table6: descriptive data based on managers' working background level

Descriptive data based on managers' working background level		
Age	Number	Percent
1-5	15	%13
6-10	17	%14
11-15	19	%16
16-20	26	%22
21-25	25	%21
Over 25	17	%14
Total	119	100.0

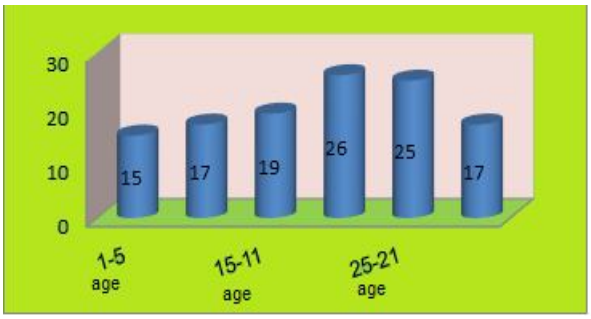


Fig4: frequency of managers' working background level

3.6. Frequency and numeric percent regarding to managers' behavioral factor based on type of the companies and Altman's (Z) model (1968)

Table7: numeric percent of managers' behavioral factor based on Altman's (Z) model

Z		Mean	High	Total
EQ	Bankrupted	10 (%8)	16 (%13)	26 (%22)
	Sound	31 (%26)	62 (%52)	93 (%78)

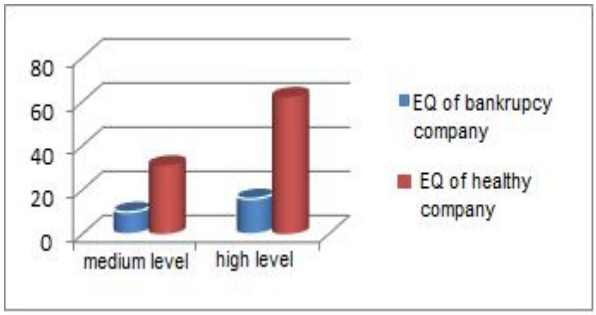


Fig5: numeric percent of managers' behavioral factor based on Altman's (Z) model

3.7. Frequency and numeric percent regarding to managers' behavioral factor based on type of the companies and Altman's (Ź) model (1983)

Table8: numeric percent of managers' behavioral factor based on Altman's (Ź) model

Ź		Mean	High	Total
EQ	Bankrupted	16 (%1)3.4	23 (%19)	39 (%33)
	Sound	25 (%21)	55 (%46)	80 (%67)

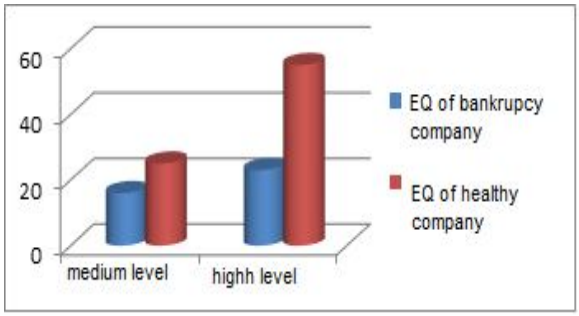


Fig6: numeric percent of managers' behavioral factor based on Altman's (Ź) model

3.8. Frequency and numeric percent regarding to managers' behavioral factor based on type of companies and Altman's (Ẑ) model (1995)

Table9: numeric percent of managers' behavioral factor based Altman's (Ẑ) model

Ẑ		Mean	High	Total
EQ	Bankrupted	0	2 (%2)	2 (%2)
	Sound	41 (%35)	76 (%64)	117 (%98)

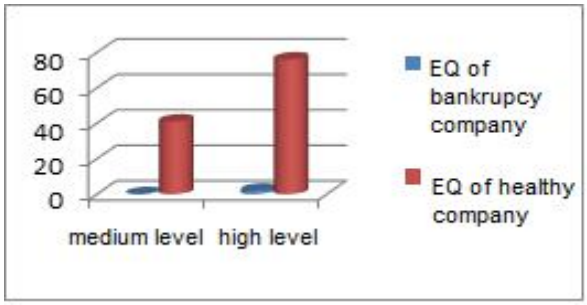


Fig7: numeric percent of managers' behavioral factor based on Altman's (Ż) model

3.9. Considering the hypotheses of study

Table10: classification and test of zero model accrued to Altman's model

Predictability		Zero model			Percent of predictability
		Bankrupted	Sound	Percent	
Z	Bankrupted	0	26	0.0	78.2
	Sound	0	93 (total: 119)	100	
Ż	Bankrupted	0	39	0	67.2
	Sound	0	80 (total: 119)	100	
Ẑ	Bankrupted	0	2	0	98.3
	Sound	0	117 (total: 119)	100	

Despite to these results, the 5 independent variables could be predicted the changes regarding to the

dependent variables (bankruptcy) by Altman model (1968) with a %78 as confidence level, Altman's model (1983) with a %67 as confidence level and Altman's model (1995) with a %98 as confidence level.

Table11: describing the abbreviations accrued to the variables of study

	Sign	Variables	Abbreviation
Model (1968)	Z	Ratio of circulating capital to total assets	A
		Accumulated interest to total assets	B
Model (1983)	Ż	Income before interest and tax to total assets	C
		Market value of equity to book value of debt	D
Model (1995)	Ẑ	Book value of shares to book value of debt	D'
		Total sale to total assets	F

Table 12: classification and test of zero model accrued to Altman's model

Predictability		Zero model			Percent of predictability
		Bankrupted	Sound	Percent	
Z	Bankrupted	0	26	0.0	78.2
	Sound	0	93 (total: 119)	100	
Ż	Bankrupted	0	39	0	67.2
	Sound	0	80 (total: 119)	100	
Ẑ	Bankrupted	0	2	0	98.3
	Sound	0	117 (total: 119)	100	

Despite to these results about the zero model, the 5 independent variables could be predicted the changes regarding to the dependent variables (bankruptcy) by Altman model (1968) with a %78 as confidence level, Altman's model (1983) with a %67 as confidence level and Altman's model (1995) with a %98 as confidence level.

Table13: describing the related abbreviations

	Sign	Variables	Abbreviation
Model (1968)	Z	Ratio of circulating capital to total assets	A
		Accumulated interest to total assets	B
Model (1983)	Ż	Income before interest and tax to total assets	C
		Market value of equity to book value of debt	D
Model (1995)	Ẑ	Book value of shares to book value of debt	D'
		Total sale to total assets	F

Table14: classification and test of zero model accrued to Altman's model

Predictability		Zero model			Percent of predictability
		Bankrupted	Sound	Percent	
Z	Bankrupted	0	26	0.0	78.2
	Sound	0	93 (total: 119)	100	
Ż	Bankrupted	0	39	0	67.2
	Sound	0	80 (total: 119)	100	
Ẑ	Bankrupted	0	2	0	98.3
	Sound	0	117 (total: 119)	100	

Despite to these results about the zero model, the 5 independent variables could be predicted the changes regarding to the dependent variables (bankruptcy) by Altman model (1968) with a %78 as confidence level, Altman's model (1983) with a %67 as confidence level and Altman's model (1995) with a %98 as confidence level.

Table15: describing the related abbreviations

	Sign	Variables	Abbreviation
Model (1968)	Z	Ratio of circulating capital to total assets	A
		Accumulated interest to total assets	B
Model (1983)	Ż	Income before interest and tax to total assets	C
		Market value of equity to book value of debt	D
Model (1995)	Ẑ	Book value of shares to book value of debt	D'
		Total sale to total assets	F

(The managers' EQ has impact upon the ability of Altman's bankruptcy prediction model)

3.10. Bankruptcy prediction about listed companies in TSE based on three Altman's models

Table16: classification and Altman's model (1) for testing the managers' EQ

Model	Company	Number	Percent of correct prediction	Percent of incorrect prediction	Percent of prediction
Z	Bankrupted	26	25 (%96)	1 (%4)	%98
	Non-bankrupted	93	92 (%99)	1 (%1)	
Ż	Bankrupted	39	31 (%79)	8 (%21)	%89
	Non-bankrupted	80	75 (%94)	5 (%6)	
Ẑ	Bankrupted	2	2 (%100)	0	%100
	Non-bankrupted	117	117 (%100)	0	

Despite to these results we conclude that prediction accrued to the Altman's (Z) model: %96 as correct prediction about the companies' bankruptcy and also %99 as non-bankruptcy for these companies, then totally this model stands at range of the %98 along with the 6 independent variables (circulating capital to total assets, accumulated interest to total assets, income before interest and tax to total assets, market value of equity to book value of debt , total sale to total assets, and managers' EQ), then this model has a suitable predictability about the companies' bankruptcy and non- bankruptcy in TSE (2013).

Despite to these results we point out that prediction accrued to the Altman's (Ż) model: %79 as correct prediction about the companies' bankruptcy and also %94 as non-bankruptcy for these companies, then totally this model stands at range of the %89 along with the 6 independent variables (circulating capital to total assets, accumulated interest to total assets, income before interest and tax to total assets, market value of equity to book value of debt, total sale to total assets, and managers' EQ), then this model has a suitable predictability about the companies' bankruptcy and non- bankruptcy in TSE (2013).

These results show that prediction accrued to the Altman's (Ẑ) model: %100 as correct prediction about the companies' bankruptcy and also %100 as non-bankruptcy for these companies, then totally this model stands at range of the %100 along with the 5 independent variables (circulating capital to total assets, accumulated interest to total assets, income before interest and tax to total assets, book value of shares to book value of debt, and managers' EQ), then this model has a suitable predictability about the companies' bankruptcy and non- bankruptcy in TSE (2013).

CONCLUSIONS

First main hypothesis: Altman's model has enough ability to predict the companies' bankruptcy, Despite to the abovementioned Analyses and Tables for the main model and predictability percent for the three Altman's models (%97, %90 and %97 respectively), it seems the model Z is better than $\hat{Z}$, but since the independent variables accrued to the regression analysis in the model $\hat{Z}$ could not be predicted the changes regarding to the dependent variable (possible bankruptcy or non-bankruptcy) and also their error level is >0.05, and Cox Venel's Coefficient of determination in the same model is %11, then this model ($\hat{Z}$) is removed. Finally, the two models (Z and Ź) are compared.

Also, despite to this matter that the strength of independent variables about the changes' variance accrued to the dependent variable (model Z) would be stood at the %59 as Cox Venel's coefficient of determination and this digit is better than the %57 accrued to the model Ź. Hence the model Z is better than Ź.

It should be noted that, the value of effectiveness related to the independent variables in the models Z and Źwas significant (their independent variables except market value of equity to book value of debt, and book value of shares to book value of debts, all have been equal), and all variables have been a %95 as confidence level – except accumulated interest to total assets in both models, other variables have been a direct and positive impact on the companies' bankruptcy prediction.

The model $\hat{Z}$ was removed due to its results in the Altman's model (1995) and also potential effects regarding the type of industry via deleting the variable of total sale to total assets at the non-production and service companies, this matter clearly indicates the results of this hypothesis have conformity with the results made by Altman (1995) and AhmadiKashani (2005). Also, these results have conformity with the results made by the studies of Altman (1995) and Safari (2002) about accuracy of the Altman's correct prediction models. Finally, we have to say that the model Z is better than Ź, and the model Źis better than $\hat{Z}$.

Second main hypothesis: the managers' intelligence has impact upon the ability of Altman's bankruptcy prediction model

Sub-hypothesis: the managers' EQ has impact upon the ability of Altman's bankruptcy prediction model

Despite to the provided Analyses and Tables for the above hypothesis, we could say that the predictability percents for the three Altman's models are as follow; %97, %90 and %97 respectively, and more importantly it seems model $\hat{Z}$ is better than Z, but since the independent variables accrued to the regression analysis in the both models ($\hat{Z}$ and Z) could not be predicted the changes regarding to the dependent variable (possible bankruptcy or non-bankruptcy) and also their error level is >0.05, then both are not confirmed at all. Finally, the only model Ź is compared. But the same model is dismissed too, because it has an error level as >0.05, hence this hypothesis is completely dismissed.

Extremer and Dowran Wary (2007) in their own research have reached to this point that the EQ has a negative relation with the companies' distress. Therefore, we conclude (in this study) some of the managers may have been taken decisions in the unsuitable situations raised by the country's current economic situation, financial status of the company or opponent companies.

Therefore, these introduced results could clearly show that the managers' EQ – despite a vast managerial behaviors in the sound companies – has not severely been impacted on the Altman's bankruptcy prediction model against the other uncontrollable disruptors such as inflation rate, cultural situation in working place, … as such that we all have perceived this failure. Hence, these results have not conformity with the results related to the research of Dr. MehrdadPeydai and Ali yousefi about "considering a relation between the EQ and managers' performance of Mehr Credit Institution, since these results show a positive relation between the EQ and managers' performance of Mehr Credit Institution. While, the results of this hypothesis could not show it, and this matter may be related to the type of statistical population or other items like; investor companies and banks have different financial statement and accruals, then they have a different estimation trend. In end, we conclude in the sub-hypothesis, the managers' EQ has not considerable impact on the ability of Altman's bankruptcy prediction model.

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