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The Use of Financial Analysis in Predicting the Failure of the Joint-Stock Industrial Companies - An Applied Study on a Sample of Iraqi Industrial Companies

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ABSTRACT

The failure of companies is one of the most important topics that prompted many writers and researchers to study them, due to the negative effects it may have on the national economy and on society as a whole. There are many methods of financial analysis in predicting failure, including the Altman model. As Altman's equation was applied to the data obtained from the list of financial position and profit disclosure for the study sample companies and listed on the Iraq Stock Exchange, and the results of the analysis for the years of study appeared varying for the general period from 2012 to 2017, as well as the recurrence of failure of some companies during the years of study where the value was (Z) is low ((for the year 2013 the value of Z (1.43) for the Iraqi Carpet and Furniture Company)), ((and for the year 2014 the value of Z (0.25), (-175.61), (1.70), (1.47), (1.62), for the company Al-Kindi for the production of vaccines and patient medicines, the National Company for Chemical and Plastic Industries, the Iraqi Company for the manufacture and marketing of dates, Baghdad for the manufacture of packaging materials, and the Iraqi carpets and furnishings, respectively)).

INTRODUCTION

The issue of predicting the failure of companies is one of the important topics that have occupied many international bodies and organizations, because of its negative effects on the level of the company, investors and the economy as a whole. The process of predicting the failure of companies occupies great importance for many of the parties related to the company, whether these are internal or external bodies in this matter, including (banks, investors, management, auditors, and government agencies).

Interest in this topic began since the thirties of the last century, when a number of researchers used some financial ratios individually to predict the failure of companies, then interest in this topic grew, especially in the United States of America, since the beginning of the sixties of the last century, as a number of researchers were active in conducting Studies aiming to identify indicators that can be guided in predicting the probabilities of failure, in the wake of the bankruptcy incidents that occurred in a number of American companies, which began to increase, causing great harm to shareholders, lenders and investors, and the extent of the auditor's responsibility for these incidents. Since then, many studies have appeared that have developed models that have a high predictability based on financial ratios and using modern methods of financial analysis, and among the most prominent of these models was the (Altman) model and its model known as the (Z. Model), and he followed his approach. Many foreign and Arab researchers are relying on the same method.

The research seeks to use one of the methods of financial analysis, which is the method of financial ratios in predicting the failure of companies through the application of one of the financial analysis models, which is the Altman model on a sample of Iraqi industrial companies listed in the Iraq Stock Exchange, where the research was divided into two parts, the first dealt with the aspect Theoretical, and the second concerned with financial analysis for the purposes of predicting failure through the application of Altman's model .

RESEARCH METHODOLOGY

Research Problem

The research problem is related to the lack of awareness of Iraqi industrial companies, investors and others about the risks of companies being exposed to failure in the future and the insufficiency of financial ratios used individually in predicting failure, and whereas relying on financial

analysis using single financial ratios gives shadowy results that cannot be relied upon in judging the company's future, especially with an increasing number of companies achieving successive losses, which leads to capital erosion and then the failure of these companies, which will in turn affect the national economy.

Importance of Research

The research derives its importance from the importance of the issue of failure and its prediction among many of them (management, current and prospective investors, banks, creditors, account auditors, and government agencies), and because of its serious impact on the level of the company and the national economy.

Research Hypothesis

The research is based on the hypothesis that - Altman's model can be used to predict the failure of Iraqi industrial companies

Spatial and Temporal Boundaries of Research

First) Limits of spatial research:

1. Al-Kindi for the production of vaccines and veterinary medicines.

2. National Chemical and Plastic Industries.

3. The Industrial of Al Hilal

4. Iraqi for the manufacture and marketing of dates.

5. Baghdad for soft drinks.

6. Baghdad for the manufacture of packaging materials.

7. Iraqi carpets and furnishings.

Second) Temporal research limits according to the sequence of companies above:

1. List of financial position for the years (2012-2016).
2. List of financial position for the years (2013-2016).
3. List of financial position for the years (2012-2016) .
4. List of financial position for the years (2013-2017) .
5. List of financial position for the years (2013-2017).
6. List of financial position for the years (2013-2017).
7. List of financial position for the years (2013-2017).

THE FIRST TOPIC / THE THEORETICAL SIDE

Failure in companies generally has two concepts, the first is economic and the second is financial, as the first focuses on measuring success or failure depending on

the amount of return on capital. To pay its due obligations on time. (Essam Muhammad Essam, et al., 2000, 177).

(Aladdin Jabal) defines failure ((as the company's returns inability to cover all costs, including the cost of capital financing, and the management's inability to achieve a return on the invested capital commensurate with the expected risks of those investments)). (Aladdin Jabal, 2004, 188).

Second / Reasons for the Failure of Companies- :

The reasons for failure can be summarized as follows: (Salah Abd al-Rahman al-Taleb, 2000, 22, 43), (Abbas Hamid, 2015, 397).(

First: Internal Reasons:

.Weak management and lack of knowledge of it1.

2. Inefficiency of various operational policies such as sales, pricing and production policies.

3. Undertaking unnecessary expansions and resorting to underdeveloped technology.

4. Financing part of fixed assets from current liabilities4.

5 .The administration's inefficiency in collecting dues from customers and others.

6. Accumulated losses.

7. Failure to fully exploit the available production capacity.

8.Weak productivity of the worker per hour and the productivity of assets per hour.

9 . Poor monitoring and failure to work with the comprehensive quality system.

Second: External Causes:

1 -The economic conditions surrounding the competitor's environment and the unavailability of the necessary funding sources to carry out the necessary expansions.

2- The high cost of funding sources.

3- The pessimistic expectations of investors and financial analysts in the stock market and others.

4 -Intense competition.

This, as a whole, leads to higher costs, lower profits, and thus weaker competitiveness and viability in the market.

Third / The manifestations of financial failure: - (Rashad Al-Attar, 2001, 22), (Muhammad Majeed Salim, 2009, 155), (Ali Abbas, 2010, 195).

1- Imbalance in the financial structure of the company.

2-The inability of some companies to keep pace with technical development.

3- Weak financial and administrative efficiency in managing the company's activities.

4-Weak control over working capital.

5-The company's failure to identify profitable activities.

6-Delay in preparing final accounts.

7-Delay in paying suppliers' dues.

8-Decreased sales and increased competition.

9 - low profitability.

Fourth / Using financial analysis in predicting corporate failure (Waheed Mahmoud and Saif Abdel Razzaq, 2010, 11).

Researchers have been active in the United States of America since the beginning of the sixties of the last century in conducting studies aimed at indicators that can be guided to predict the possibility of financial failure, due to the great importance of the topic of predicting failure for many groups, many researchers have conducted studies to try to build a model for predicting failure Companies, and they succeeded in finding a set of models that have proven successful, and among these studies:

1-Altman study1968.

2-Deakin Study1972.

3-Argenti study1979.

4-The study of Kida 1981.

5-Sherrod's study 1987.

6-Cammpell Study1993.

Within the framework of this research, the researcher adopted the Altman model: It is known as (Z. Model) (Waheed Mahmoud and Saif Abdul Razzaq, 2010, 9-29), (Ali Khalaf and Buthaina Rashid, 2013, 117). The first and most important work that tried to override the traditional method of analysis, which the predecessors used to predict the failure of companies relying on simple statistical methods in analyzing financial ratios, to choose one financial ratio believed to be the best in distinguishing between failed and non-failed companies (Waheed Mahmoud, Saif Abdel Razzaq, 2010, 12).

Altman used in building this model a statistical method more complex than the old method called the method of discriminatory analysis, as this method was able to deduce a linear relationship between a set of variables that are the best in distinguishing between failed and non-failed companies (Aladdin Jabal, 2004, 196).

Altman used a sample of (66) industrial companies, of which (33) failed

companies, (33) companies that were not failing, and reached the best financial ratios, which are (5) financial ratios according to which we can predict failure, and put them in an equivalent form, namely: -

$$Z = 1.2\ X_1 + 1.4\ X_2 + 3.3\ X_3 + 0.6\ X_4 + 1\ X_5$$

whereas:

X_1= Net working capital / total assets.

X_2= Retained Earnings and Reserves / Total Assets .

X_3= Profit before tax / total assets .

X_4= Market Value of Shareholders' Equity / Total Assets .

X_5= Sales / total liabilities.

The coefficients (1.2, 1.4, 3.3, 0.6, 1) represent the weights of the function variables as they express the relative importance of each variable depending on what the companies use.

The value of Z represents the value of the equation and is compared with the criteria established by (Altman), namely: (Lewis & Pen drill, 2000, 406).

1 - Companies with (Z) less than (1.81) are considered failed companies because their performance was low.

2 - Companies with (Z) more than (2.99) are considered non-failing companies in the short term because their performance was high.

3- Firms that have a (Z) between a factor of (1.81) and (2.99) their performance is average or difficult to predict decisively about their failure.

It can be seen that the ratios adopted by this model deal with the most important financial dimensions that must be studied in the company (liquidity, profitability, market, and activity). (Waheed Mahmoud and Saif Abdul Razzaq, 2010, 12). Altman explained that the most important contribution ratios in separating the group of failed companies from non-failing companies are (X3), which represents the ratio of profitability measurement, and this is logical, as the most important goals that companies seek are It is profit, especially private sector companies.

THE SECOND TOPIC/ THE APPLIED ASPECT

First / Application Case- :

The researcher will apply Altman's model to the financial statements of the companies, the research sample from 2012 to 2017, and as we noted in the theoretical side, this model depends mainly on financial measures, as follows : -

A - (X_1) Ratio of net working capital / total assets: This ratio reflects the relative importance of working capital to total assets, and this ratio measures the company's net liquid assets to total assets, and this ratio is one of the important analytical financial indicators, as it expresses the importance The relative proportion of operating current assets to total assets.

B- (X_2) The ratio of retained earnings and reserves / total assets: This ratio expresses the total amount of income (profits) that can be invested, or the accumulated losses, which are called accumulated deficits, and this ratio depends on the age of the company, so the older the company, the balance of its profits The retention rate is higher, and vice versa, and therefore this percentage is related mainly to the administration's policy of distributing profits.

C- (X_3) the ratio of profit before interest and taxes / total assets: that the use of this ratio is based on a rational basis that the effectiveness of assets in generating profits is measured by net profit before deducting interest and taxes and not after, because the total assets consist of shareholders' money, as well as money Creditors and facilities granted by the state for the survival and continuation of the company's activity.

D- (X_4) The ratio of the market value of shareholders' equity / total assets: This ratio measures the amount of the shareholders 'equity covering the total liabilities owed by the company, as the shareholders' equity is the safety margin for creditors.

E- (X_5) Ratio of Sales / Total Liabilities: This ratio refers to measuring the extent of using assets at their maximum capacity, as when this percentage is low, this means that the company does not undertake a business size commensurate with the size of its investments in assets and vice versa.

Note: All the data of the Altman function from the list of financial position of the companies, the research sample shown below, from the directory of companies listed in the Iraq Stock Exchange:

1. Al-Kindi for the production of vaccines and veterinary medicines. P. 190.
2. National Chemical and Plastic Industries. P. 186
3. The industrial Alhilal . P. 182.
4. Iraqi for the manufacture and marketing of dates. P. 180
5. Baghdad for soft drinks. P. 178
6. Baghdad for the manufacture of packaging materials. P. 176
7. Iraqi carpets and furnishings. P. 174

Source: Iraq Stock Exchange, Semi-Annual Report 2018, and Listed Companies Guide 2017.

$$Z = 1.2\ X_1 + 1.4\ X_2 + 3.3\ X_3 + 0.6\ X_4 + 1\ X_5$$

Year 2012

Table (1) : The value of the prediction function (Z)

	Company	X1	X2	X3	X4	X5	z Value
1.	Al-Kindi for the production of vaccines and veterinary medicines	**0.88**	**0.255**	**0.234**	**2.58**	**0.72**	**4.453**
2.	industrial Alhilal	**0.41**	**0.607**	**0.59**	**1.32**	**0.47**	**4.550**

Source: From the researcher's work

- These two companies were taken because of the availability of data in the financial position list for the year 2012.

Through Table (1) it becomes clear that the value of (Z) is greater than the standard value (2.99) , so the two companies are considered non-failures for the year 2012 .

Year 2013

Table (2 :) The value of the prediction function (Z)

	Company	X1	X2	X3	X4	X5	Value of Z
1.	Al-Kindi for the production of vaccines and veterinary medicines	15.91	2.42	2.15	38.80	19.84	72.69
2.	National Chemical and Plastic Industries	0.58	0.082	0.082	1.029	0.90	2.59
3.	Industrial Al hilal	0.27	1.04	1.04	1.88	0.22	5.91
4.	Iraqi for the manufacture and marketing of dates	0.78	0.049	0.047	0.92	0.44	2.15
5.	Baghdad for soft drinks	0.47	0.12	0.12	2.10	0.028	2.41
6.	Baghdad for Packaging Materials Industry	0.57	0.035	0.033	2.58	0.15	2.53
7.	Iraqi Carpet and Furniture	0.54	0.057	0.050	0.59	0.19	1.43

Source: From the researcher's work

Through Table (2) it is possible to clarify the failed companies and the successful companies according to Altman's model and as in Table (2-a):

Table (2-a): Classifying companies into failed and successful companies according to Altman's model

	Failed Companies (z less than 1.81)		Successful Companies(z more than 2.99)
1.	Iraqi Carpet and Furniture	1.	Al-Kindi for the production of vaccines and veterinary medicines
2.	Industrial Al hilal		

Source: From the researcher's work

As for the rest of the companies, the value of (z) is between the standardized values (1.81) and (2.99) , this means that their performance is average or difficult to predict decisively about their failure.

Year 2014 **Table (3)**

The value of the prediction function (Z)

	Company	X1	X2	X3	X4	X5	Value of Z
1.	Al-Kindi for the production of vaccines and veterinary medicines	- 0.24	- 0.040	- 0.043	1.08	0.095	0.25
2.	National Chemical and Plastic Industries	0.54	0.30	- 53.8	1.41	0.01	- 175.61
3.	Industrial Al Hilal	0.26	0.65	0.62	1.11	0.08	4.01
4.	Iraqi for the manufacture and marketing of dates	0.74	- 0.016	- 0.017	0.98	0.31	1.70
5.	Baghdad for soft drinks	0.47	0.11	0.11	1.52	1.05	3.04
6.	Baghdad for Packaging Materials Industry	0.46	- 0.033	- 0.035	1.66	0.087	1.47
7.	Iraqi Carpet and Furniture	0.61	0.06	0.05	0.67	0.24	1.62

Source: From the researcher's work

Table (3-a): Classifying companies into failed and successful companies according to Altman's model

	Failed Companies (z less than 1.81)		Successful Companies(z more than 2.99)
1.	Al-Kindi for the production of vaccines and veterinary medicines.	1.	Industrial Al Hilal
2.	National Chemical and Plastic Industries	2.	Baghdad for soft drinks
3.	Iraqi for the manufacture and marketing of dates		
4.	Baghdad for Packaging Materials Industry		
5.	Iraqi Carpet and Furniture		

Source: From the researcher's work .

Year 2015

Table (4): The value of the prediction function (Z)

	Company	X1	X2	X3	X4	X5	Value of Z
1.	Al-Kindi for the production of vaccines and veterinary medicines	0.68	7.73	6.65	10.4	0.10	39.9
2.	National Chemical and Plastic Industries	0.36	0.29	0.29	10.64	0.23	8.40
3.	Industrial Al hilal	- 0.49	1.09	1.06	148.82	0.21	93.93
4.	Iraqi for the manufacture and marketing of dates	0.61	3.61	2.95	0.98	0.19	16.29
5.	Baghdad for soft drinks	0.47	0.13	0.13	1.72	1.06	3.26
6.	Baghdad for Packaging Materials Industry	0.34	- 0.08	- 0.09	2.06	0.04	1.27
7.	Iraqi Carpet and Furniture	0.68	0.070	0.060	0.76	0.26	1.82

Source: From the researcher's work

Table (4-a): Classifying companies into failed and successful companies according to Altman's model

	Failed Companies (z less than 1.81)		Successful Companies(z more than 2.99)
1.	Baghdad for Packaging Materials Industry	1.	Al-Kindi for the production of vaccines and veterinary medicines.
		2.	National Chemical and Plastic Industries Baghdad for soft drinks
		3.	Industrial Al Hilal
		4.	Iraqi for the manufacture and marketing of dates
		5.	Baghdad for soft drinks

Source: From the researcher's work

It is noticed from Table (4) that the Iraqi Carpet and Furniture Company has a value of (Z) (1.82), and this means that its performance is average or difficult to predict about its failure.

Year 2016

Table (5): The value of the prediction function (Z)

	Company	X1	X2	X3	X4	X5	Value of Z
1.	Al-Kindi for the production of vaccines and veterinary medicines	0.70	0.006	0.005	0.74	0.13	1.43
2.	National Chemical and Plastic Industries	0.32	0.17	0.17	1.45	0.36	2.41
3.	Industrial Al hilal	- 0.99	- 0.47	- 0.50	1.39	0.44	- 1.82
4.	Iraqi for the manufacture and marketing of dates	0.47	- 0.045	- 0.046	1.35	0.25	1.40
5.	Baghdad for soft drinks	0.20	0.14	0.14	1.26	1.005	2. 65
6.	Baghdad for Packaging	0.23	0.004	0.003	1.90	0.080	1.51

	Materials Industry						
7.	Iraqi Carpet and Furniture	0.65	0.06	0.06	0.93	0.32	1.94

Source: From the researcher's work

Table (5-a): Classifying companies into failed and successful companies according to Altman's model

	Failed Companies (z less than 1.81)		Successful Companies(z more than 2.99)
1.	Al-Kindi for the production of vaccines and veterinary medicines.		
2.	Industrial Al Hilal		
3.	Iraqi for the manufacture and marketing of dates		
4.	Baghdad for Packaging Materials Industry		

Source: From the researcher's work

It is noted from Table (5) that there are four failed companies, and three companies (National Chemical and Plastic Industries, Baghdad Soft Drinks, Iraqi Carpet and Furniture). Straight. Moreover, no company achieved a success rate for 2016.

Year2017

Table (6): Prediction function value (Z)*

	Company	X1	X2	X3	X4	X5	Value of Z
1.	Iraqi for the manufacture and marketing of dates	0.42	- 0.09	- 0. 10	0.76	0.17	0.67
2.	Baghdad for soft drinks	0.24	0.13	0.12	1.4	0.91	2.61
3.	Baghdad for Packaging Materials Industry	0.21	2.92	0.002	1.41	0.10	5.2
4.	Iraqi Carpet and Furniture	0.64	0.08	- 0.017	0.98	0.31	1.70

Source: From the researcher's work

**These companies were taken because of the availability of data in the financial position list for the year 2017.*

Table 6(a): Classifying companies into failed and successful companies according to Altman's model

	Failed Companies (z less than 1.81)		Successful Companies(z more than 2.99)
1.	Iraqi for the manufacture and marketing of dates	1.	Baghdad for Packaging Materials Industry

Source: From the researcher's work

Table (6) reflects that there are four companies for which data were available for the list of financial position for the year 2017, one company had failed performance and another company had successful performance according to Altman standard, as for the two companies (Baghdad for soft drinks and Iraqi for carpets and furnishings) their performance was in the middle as it reached a value of (Z) (2.61, 2.08) respectively and here it is difficult to predict its failure.

Discussing the Results:

Since the period from 2012 to 2017 was used according to the data obtained from the list of companies' financial position in the study sample, we will explain the following- :

Table (7): *Failed companies, according to school years*

Years	Failed companies
2012	-
2013	Iraqi Carpet and Furniture
2014	1. Al-Kindi for the production of vaccines and veterinary medicines. 2. National Chemical and Plastic Industries. 3. Iraqi for the manufacture and marketing of dates. 4. Baghdad for Packaging Materials Industry. 5. Iraqi Carpet and Furniture
2015	Baghdad for Packaging Materials Industry
2016	1. Al-Kindi for the production of vaccines and veterinary medicines. 2. Industrial Al Hilal 3. Iraqi for the manufacture and marketing of dates. 4. Baghdad for Packaging Materials Industry
2017	Iraqi for the manufacture and marketing of dates.

Source: From the researcher's work .

For the purpose of ensuring the accuracy of the results reached, the value of the index (Z) will be compared with the elements of the equation as they represent important indicators of the company's likelihood of failure, as follows- :

1 - As for the first component (X1) represented by net working capital, which is one of the liquidity ratios, it can be observed that there is a strong relationship between the value of (Z) and this indicator, as companies that had a low value of (Z) have a low net working capital ratio. This is logical, as the low net working capital indicates a lack of liquidity and thus indicates that the company is making large losses and is unable to pay its obligations, which is one of the reasons leading to failure. As you can notice the Iraqi Carpet and Furniture Company Table (2) for the year (2013), the values of (X1, X2, X3) are low, which negatively affected the decrease in the value of (Z) .

2 -As for the second element (X2) represented by reserved profits, it is noted that most of the companies did not distribute profits to investors, some may reach some for several years, due to the presence of accumulated deficit of these companies or lack of liquidity in them and this affects the company and it can be noticed that the companies that It has a low Z value and has a low retained earnings ratio.

3-As for the third element (X3), represented by the ratio of profit before interest and taxes to total assets, which some also call the rate of return on investment, we find that there is a strong relationship between this ratio and the value of (Z), since companies that have a low value (Z) It had a low rate of return on investment, and this indicator is one of the most important indicators used to differentiate between failed and successful companies as the goal of all companies is to achieve a high rate of return on investment to ensure the continuity of the company, whether before or after interest and taxes.

4 - The fourth element (X4) represented by the market value of shareholders 'rights, which is one of the important indicators that shows the extent of the relationship between shareholders' equity and the company's debts, as the higher the ratio the better the company, and if the ratio is low, this indicates an increase in the company's debts compared to its assets. The inability to fulfill obligations, which will lead to failure. It is noticeable that this percentage is low in most companies that have a low (Z) value, and this is a negative indicator for these companies.

5-As for the fifth element (X5), represented by the ratio of sales to total liabilities, it is noted that most of the companies that have this ratio are low and the value of (Z) is low, and this indicates the inefficiency of the departments of these companies in using their assets to achieve high sales.

In addition to the above, and based on the previous analysis, the negative and positive indicators of companies can be clarified through repeated failures, some of them agreeing with the results of Altman's model, and as in Table (8)

Table (8): Classifying companies into failed and non-failing according to the frequency of failure for the years of study.

Companies whose indicators are more negative than positive (i.e. repeated failures).	Companies whose indicators are more positive than negative
1 -Iraqi Carpet and Furniture for the years (2014, 2015)	1. National Chemical and Plastic Industries
2. Baghdad for the manufacture of packaging materials for the years (2014, 2015, 2016)	2. Industrial Al Hilal
3. Iraqi Dates Manufacturing and Marketing for the years (2014, 2016, 2017).	
4.Al-Kindi for the production of vaccines and veterinary medicines for the years (2014, 2016).	

Source: From the researcher's work

By looking at Table (8) and comparing the results with the classification of companies according to Altman's model, it becomes clear that all the results are identical.

CONCLUSIONS AND RECOMMENDATIONS:

Conclusions:

1. There is a set of indicators that characterize each of the stages through which the failure goes through, and that can be used as a guide to determine the status of the company and take the necessary measures to solve the problem.
2. Most of the models that have been developed to predict the failure of companies share a number of financial ratios, and the models that have shown high predictability depend on the

financial information published by the companies to assess the company's future position.

3. The accuracy of Altman's model in predicting the failure of Iraqi industrial joint-stock companies, and the possibility of using this model on all industrial sector companies.
4. The results of the analysis of the main financial indicators that make up the model showed that there is a weakness in the performance of the companies, the sample of the study in general, through negative indicators, which are the recurrence of failure for several years, which confirms the failure of these companies or the great approach to failure, if the departments of these companies do not take the necessary measures to correct performance.

Recommendations:

1. Adopting the application of the Altman model to predict the failure of Iraqi industrial companies as one of the methods of financial analysis adopted by companies to evaluate performance, after the study has proven the suitability of this model for application to Iraqi industrial companies, to help these companies predict the future of the company annually.
2. The necessity of studying the reason for the poor performance of many Iraqi industrial companies and taking the necessary measures to correct the performance of these companies because the weakening of the companies 'performance will affect the national economy.
3. The need to conduct studies to predict the failure of companies affiliated with other sectors (service, agricultural, banks, insurance, hotels, ... etc.) and test the possibility of using one of the prediction models to predict the failure of these companies, because the model that works in a sector may not be applied In another sector.
4. The necessity for professional organizations to issue a standard on failure and prediction to guide companies.
5. The financial brokerage offices in the Iraq Stock Exchange should use the Altman model, as it helps them in evaluating the performance of companies and deny the possibility of their exposure to failure and to benefit from it by many other companies related to the companies.
6. Investors should use Altman's model, as they enable them to identify unwanted investments to dispose of before incurring losses.

7. Government agencies should use Altman's model as it helps them to identify companies destined for failure early and take appropriate measures to find a solution, and avoid the company reaching bankruptcy, especially in mixed companies.
8. Countries should issue laws that compel their subsidiary companies, especially those listed on the financial markets, to use models for predicting the failure of companies according to what is consistent with the nature of their activities to know the company's future position and the possibilities of companies' failure, and to take the necessary measures to avoid their reaching the stage of bankruptcy and liquidation, in order to avoid The occurrence of future financial crises due to sudden failure and bankruptcy of a number of international companies.

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