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How Does Financial Analysis Influence the Firm's Failure of Iraqi Private Sector?

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Abstract

The objective of this study is to examine the failure of construction companies services by using Abbas and Rashid Model. This study comprised sample of 38 companies in construction companies services at Iraq. A Wilcoxon Test was used to compare between the Abbas and Rashid Model & Kida Model. Data were gathered from the construction companies services listed on the Iraq financial market for the period 2012-2015. This study results show that the Kida Model is the best model where it is most accurate in predicting the failure in the construction companies services in Iraq. The data for this study are collected from the construction companies that listed in the Iraqi financial market. Recommendations for future research are needed to conduct similar studies to compare the models for predicting company failure in other sectors such as the industrial sector.

Keywords: Failure companies; Kid; Abbas and rashid; Iraq.

1. Introduction

Financial insolvency of big businesses, a typical and dramatic phenomenon that affects the economic and social structure of a country, has been the object of numerous studies that aimed to detect the causes and predict its future happening with reasonable accuracy (Celli, 2015). As a result of the bankruptcy, companies in general and public shareholding, in particular, will suffer financial distress. Not only the owners are affected, but also other financial statement users, such as investors, creditors, and the economy in general will also be affected. Consequently, an early warning of bankruptcy could be taken as a precaution to be established to lower the risk and danger levels of company bankruptcy or distress (Alkhatib and Al Bzur, 2011).

In the recent years, due to the inherent dynamism of economic and financial activities of companies, it has become necessary to know more precise information on the bankruptcy risk in future. The risk of bankruptcy issue has become very important for all construction service sectors, because this sector was significantly affected by incidents of payment (Barbuta-Misu and Codreanu, 2014). Corporate failure is a major concern to stakeholders, including employees, management, investors, creditors, government, etc. It can produce heavy losses and sewer costs to the whole society and economy. Corporate failure is a sign of resources misapplication which leads to unwanted social implications. Furthermore, evidence shows that bankruptcy costs incurred by firms can reach up to 17% of the firm value three years prior to bankruptcy (Al-Abrrow et al., 2019). The economic cost of business failures is substantial with direct bankruptcy costs amounting to approximately 5% of the market value of the firm. Thus, predicting failure as early as possible with sound accuracy enables firms to take action to reduce the costs of bankruptcy, avoid failure to all stakeholders and contribute towards the business and financial environment stability. Predicting the failure of companies is one of the most important issues for international organizations because of its negative impact on the level of the company, investors and the economy of countries in general.

The interest in predicting the failure of companies started research the early 1930s. Individually to predict the failure of companies, and increased interest in this subject, especially in the United States of America in the beginning of the sixties of the last century, as researchers were interested in studies aimed at general to identify indicators that can be guided in predicting the potential failure, Since many companies have been exposed to bankruptcies that have been increasing, causing great damage to shareholders, lenders and investors, and the extent of the responsibility of the auditor for these incidents, since then there have been many studies that have developed models that have a high predictability of failure and depend on financial ratios and using modern methods In financial analysis such as

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multiple discrimination analysis. One of the most prominent of these models, the Abbas and Rashid model and the Kida model, will be based on these models.

The collapse of stock markets has thrown many local and international companies out of business and destroyed many economic sectors throughout the world. Many construction companies' services are obligated by auditing standards to assess and report about companies' capability to continue as a going-concern. Thus, companies fail after receiving clean or unqualified audit opinions. Failure prediction models can predict business failure with a high accuracy rate within a few years before the failure.

Valid failure prediction models thus can reduce losses for investors and other stakeholders, by sending alert signals in a timely manner (Al-Abrrow *et al.*, 2019; Celli, 2015). Thus, there is a need to apply and study failure predication models to help the companies from failure. The main problem of this study is related to failure of companies' especially in Iraq market. Therefore, there is a need by researchers in both developed and developing countries to apply different models such as Abbas (Abbas) and Rashid (Kida) models to help the companies from the failure. Both Abbas (Abbas) and Rashid (Kida) models will be applied in this study because there are few studies that have been compared between the two models in Arab countries especially in Iraq. Thus, there is a need to study and compare between the two models to identify which model is better for predict failure of construction companies services in Iraq.

2. Literature Review
2.1. Financial

Financial activity is the cornerstone of the company's success. Its management requires high planning and organizational skills by its employees. Financial activity is responsible for moving the rest of the company's activities, Al-Abrrow *et al.* (2018). In terms of financial failure, it occurs for several things, such as the existence of operations of the company followed by concessions on the property. For the benefit of creditors, or loss to creditors due to failed operations, or because of the seizure of the company's property and leaving some of the unpaid liabilities in the company's possession (Abdulaali *et al.*, 2019; Alhamdi *et al.*, 2019). Financial Failure is just a circumstance where an organization's working money streams are not adequate to fulfill current commitments and the organization is compelled to make restorative move. Money related trouble can fill in as an organization's notice gadget. For example, an organization with a high adapting level (more obligation back) will encounter money related pain sooner than one with a low equipping (less obligation fund). The impact of this is providers giving products and enterprises using a credit card terms are probably going to lessen the liberality of their terms, or end supplies, on the off chance that they see there is an expanded possibility of the organization not being in presence in a couple of months time. It might likewise prompt default on an agreement. Investors and loan specialists will tend to ignore a monetarily troubled organization need additionally back. This may proceed for a long time even after the emergency has passed (Ugaglia and Cadot, 2019). Corporate disappointment happens when an organization ends up plainly ruined and leaves business. Organizations that fall flat have clearly performed gravely. Bankruptcy is the powerlessness to pay one's obligation as at when due. In such circumstance, the benefits will be deficient to release the liabilities. After an organization has fizzled, it ought to be conceivable to dissect the reasons why disappointment happened and what turned out badly. On the off chance that administration can recognize the indications of disappointment ahead of time, they may have the capacity to find a way to manage the issues and keep it from happening (Al-Abrrow *et al.*, 2019).

Corporate disappointment can be anticipated. There are two varying perspectives about its expectation. One view is that it is caused by monetary issues, for example, misfortunes or liquidity issues while another view is that the reasons for disappointment are not money related. Money related issues are the results of different issues, and disappointment is caused by these other non-monetary reasons. Foreseeing the disappointment of organizations might be founded on either a quantitative approach or a subjective approach. On the off chance that disappointment can be anticipated by the presence of money related issues, it ought to be conceivable to utilize monetary proportions and quantitative investigation to foresee the disappointment.

Then again, if the reasons for disappointment are non-money related, it may be important to utilize subjective measures of execution and judgment to anticipate disappointment (Obaidat, 2019). As is commonly said, there is no smoke without flame. This conveys us to the genuine reasons for corporate disappointment which may be poor administration; organization's powerlessness to hold key staffs is likewise a central point that may cause corporate disappointment. Different elements incorporates poor administration frameworks, the passing of a major customer, an extensive increment in loan fees, responsibility for organization in the hands of few people, absence of inward controls, poor business arranging, poor money related arranging, poor promoting, absence of development, declining deals, absence of reinvestment towards the substitution of maturing non-current resources, the delays of vital capital use, falling piece of the pie for recorded organizations and expanding rate of staff turnover.

At the point when an organization apparently is in danger of disappointment, measures ought to be gone out on a limb. The measures that are required might be evident from the reasons for disappointment. Numerous authors have recommended what ought to be done to maintain a strategic distance from disappointment. For instance, Ross and Kami, in an article on why the powerful fall prescribed Ten Commandments which ought not be broken. For an organization to keep away from disappointment, it must have a system. It must have solid inner controls. The top managerial staff must take an interest. It must maintain a strategic distance from an arrangement of a one man run the show. There must be administration top to bottom. It must keep itself educated of progress, and respond to it. The client must be dealt with like a ruler. It must not abuse PCs. The business must not control its records (keep away from window dressing. The business should dependably arrange to address the issues of its workers to a sensible

degree (Al Rahahleh *et al.*, 2019). From the above, the researcher knows that the company has failed to meet the company's ability to cover all its costs, which contributes to the company's inability to achieve a return on investors' funds.

2.2. The Concept of Failure

The failure of companies can be expressed in two senses one economic and the other is about measuring the success or failure of the company based on the amount of return on capital, as the company is failing when it is unable to achieve the appropriate return on capital invested commensurate with the expected risks, On the inability of the company to pay its obligations as scheduled (Permatasari *et al.*, 2019). Failure is one of the most serious things that can be exposed to financial activities in companies, and there are many reasons that contribute to the occurrence and lead to the end of bankruptcy, and is a middle stage in which the company goes from financial regression to bankruptcy and liquidation (Alnoor *et al.*, 2019). The researcher believes that the company does not become suddenly or unexpectedly deteriorated, but there are some indicators that can be addressed by management such as change in demand for products and the continuous increase in indirect costs and obsolescence of production methods and increasing competition and lack of credit facilities and increasing burdens without working capital.

Abdulaali *et al.* (2019), identified the failure as the inability of the company to meet its financial obligations in full, as it was in the process of bankruptcy and liquidation. Ugaglia and Cadot (2019), defined the company's inability and inability to cover all the costs involved, including the financing of capital, as well as the failure of the management to achieve a return on capital invested in proportion to the expected risks of investment. Economic failure is the failure of the project to obtain an adequate return on the funds invested in it. In other words, the project's return on investment is less than the weighted cost of its invested funds (Al Rahahleh *et al.*, 2019). Financial failure is a weakness in solvency when it is due to the company's exposure to Insolvency may result in liquidation when the carrying amount of the asset is less than the carrying amount of the technical failure to reach the bankruptcies due to the project defaults (Alnoor *et al.*, 2019). Ugaglia and Cadot (2019), compares the accuracy of two approaches: traditional statistical techniques and machine learning techniques, which attempt to predict the failure of banks. A sample of 3000 US banks (1438 failures and 1562 active banks) is investigated by two traditional statistical approaches (Discriminant analysis and Logistic regression) and three machine learning approaches (Artificial neural network, Support Vector Machines and k-nearest neighbors). For each bank, data were collected for a 5-year period before they become inactive. 31 financial ratios extracted from bank financial reports covered 5 main aspects: Loan quality, Capital quality, Operations efficiency, Profitability and Liquidity. The empirical result reveals that the artificial neural network and k-nearest neighbor methods are the most accurate. Alhamdi *et al.* (2019) predict the financial stumbling of companies and used 24 financial ratios out of the 56 extracted from previous studies. The study was conducted on the telecommunications sector in China. The data were analyzed from the financial statements of companies using logistic analysis. Six financial ratios were reached. The forecast of the financial stumbling of the companies is: ratio of trading, ratio of cash flow to total debt, ratio of sales to total assets, ratio of net profit to equity, ratio of net profit to total assets, ratio of current liabilities to total debt.

2.3. Manifestations of Failure

Before the company fails completely or before it can be called an insolvent company and in the process of bankruptcy, there are many manifestations that point to this Becerra-Ornelas and Nuñez (2019). The apparent imbalance in the structure of the financial company, such as the company's dependence on borrowing, especially short term borrowing increasingly, and work to increase the financial leverage. The inability of some companies to keep abreast of technical development and follow the traditional methods, which leads to the performance of their tasks efficiently and effectively low at times, especially in the circumstances of strong competition and severe. Inadequate organizational structure of the company, in addition to weak financial efficiency and management in the management of the company's activities. Weak and fragile control on working capital, which leads to higher items of goods (Becerra-Ornelas and Nuñez, 2019). Cui *et al.* (2019), shows a relative report utilizing diverse classifiers and execution measurements to inspect the part of the business area in corporate disappointment expectation in light of the information from various business divisions. The investigations utilize a true French database of corporate organizations differentiated in various enterprises. The insolvency of organizations is gauge utilizing 10 expectation models and assessed by 8 execution measurements. The exploratory outcomes are examined by methods for multidimensional scaling, which changes the high dimensional metric information into a 2D space through a pairwise separate protecting projection. Through the elucidation of the outcomes, we can find that the business division utilized as an indicator altogether upgrades the exploratory energy of expectation models. In addition, by examining the outcomes there is prove that not just substantial advantages are achieved with business division data yet additionally the propelled outfit approaches yield great to amazing enhancements in this money related setting.

Traditional bankruptcy prediction models, designed using classification or regression techniques, achieve short-term performances (1 year) that are fairly good, but that often worsen when the prediction horizon exceeds 1 year. We show how to improve the performance of such models beyond 1 year using models that take into account the evolution of firm's financial health over a short period of time. For this purpose, we design models that fit the underlying failure process of different groups of firms. Our results demonstrate that such models lead to better prediction accuracy at a 3-year horizon than that achieved with common models (Cui *et al.*, 2019).

2.5. Corporate Failure

Corporate failure is international problem, the number of corporate failure was important for most of countries. Corporate failure can affect the companies around the world. Corporate failure was an important role in financial theory and accounting (Fernando *et al.*, 2019). Corporate failure was define, as a company was unable to pay back the financial obligations when mature. When a company was face bond default, overdraft on bank or nonpayment for preference stock dividend, the corporate might consider as financial failure. Becerra-Ornelas and Nuñez (2019) stated that corporate failure defines as company fail to earn a return on risk capital, hence the company was failed to pay its financial obligation when due. Insolvency on a company means the company's total liabilities were greater than the fair value of assets. In the view of accounting, bankruptcy occurs when total of realize and debt obligations greater than expected cash flow Cui *et al.* (2019). Alnoor *et al.* (2019), defined range of corporate failure is to earn economic rate of return from capital invested given the business risk. Legal bankruptcy was followed by liquidity of assets in the firm. Cui *et al.* (2019), stated that financial failure occurs when corporate was fail to repaid liquid from resources in financial. There are reduce on liquidity and serious losses at the end of period declining in financial. Failure in financial was happened when liabilities unable to repaid from liquid financial resources. When liabilities of a firm were unable to repay at the end of period of financial decline, these might lead to financial distress for the company. Predicting the failure or bankruptcy of companies is one of the important topics that has preoccupied many international organizations and bodies because of its negative effects on the level of the company, investors and also on the level of the economy in general. The importance of predicting the failure of companies stems from the interest of many related parties These bodies are internal or external in this regard, including (banks, management, auditors, government agencies), and attention has been given to this issue since the 1930s, where a group of researchers used some financial ratios individually to predict the inevitable (Abdulaali *et al.*, 2019). The mechanism of corporate failure has increased since the early 1960s, especially in the United States. Many researchers have conducted studies to identify indicators that can be used to predict the potential for corporate failure (Eneizan *et al.*, 2016). The efficiency of activity the financial management of companies is the cornerstone of achieving their objectives of survival and growth. The bad management of this activity may sign these companies in the so-called financial decline, which is the alarm for future financial changes that may result in financial failure and bankruptcy. Alnoor *et al.* (2019), the present study aims to predict the failure of Construction services companies listed on the Baghdad Stock Exchange using Abdulaali *et al.* (2019), In this chapter will address the theoretical literature and previous studies related to the subject of the current study.

It is difficult to depict the budgetary disappointment in all perspectives. All organizations, little or huge, may experience disappointments in economies. Budgetary disappointment is; neglecting to achieve organization's objectives because of disappointments in organization arrangements, money related choices and different fields. The circumstance when an organization neglects to achieve its objectives, pay its obligations, and loses its believability, which implies being unfit to satisfy its obligations somewhat or totally, and the procedure proceeding until the point when that stage is depicted as a disappointment. Thus, disappointment results in being not able pay the organization's obligations and ends up being a money related disappointment (Abdulaali *et al.*, 2019). As per another definition, money related disappointment may be characterized in a assortment of ways and 'numerous circumstances may be characterized as disappointment, for example, disappointment of a solitary auxiliary organization of a business or overall; paying its obligations late (i.e. paying their interests and capital portions of here and now what's more, long haul liabilities after they have turned out to be awful obligation on the adjust sheet of the other party), or neglecting to pay, losing its believability or going bankrupt' (Matar and Eneizan, 2018).

Monetary disappointment of organizations may in some cases be the disappointment of an organization to satisfy its present liabilities incidentally and here and there the inability to satisfy them for all time, and in this manner causing the loss of its benefits. There are many elements that prompt disappointment of organizations and prompt at last particularly when the disappointment is persevering. Among a portion of the explanations behind disappointment are defective practices of administration, lacking capital structure of organizations, extreme expenses to be borne by the organization and in addition high getting, deficient value capital, and spontaneous development and so on (Al-Abrrow *et al.*, 2019). The conditions for budgetary disappointment can be recorded as takes after (Alnoor *et al.*, 2019) when the substance has gone bankrupt. when the substance has lost portion of its capital (when the entirety of the current year and earlier year's misfortunes surpass the substance's capital), at the point when the substance has lost 10% of its aggregate resources (when the entirety of the current year and earlier year's misfortunes achieve 10% of the aggregate resources of the substance), when the substance has made a misfortune for three continuous years and couldn't pay its obligations at development, when the substance has ceased its movement (creation) when the substance's obligations surpass its aggregate resources. Business-related reasons can be considered as elements prefer deficient value cash-flow to fund the development, profiting from the use exorbitantly, the area choice mistakes, powerlessness to meet client desires, and extreme interest in settled resources and so on Matar and Eneizan (2018). Predicting corporate financial distress has become an important topic, especially after the great financial crisis of 2008. Most of the previous studies on this topic have only focused on financial ratios to develop prediction models. The shift from physical resources to a knowledge-based economy has increased the importance of Intellectual Capital (IC) for the firms. This study uses IC indicators along with traditional financial ratios to develop a model which can be used to predict corporate financial distress. The study focused on 12 failed and 12 matching successful firms from the New Zealand stock exchange from 2001 to 2014. The results show that the overall accuracy has increased from 82% to 92% after including IC indicators as predictors. Four financial ratios namely sales to fixed assets, sales to current assets, current ratio and firm size have been found to be significant predictors. The results indicate that IC indicators can be included in corporate financial prediction models. The

results are useful for the investors who can use this model, by including IC indicators, to assess the financial health of a firm before making investment related decisions (Abdulaali *et al.*, 2019). Eneizan *et al.* (2016) identify the concept of financial regression and its stages and the reasons for traffic in these stages and access to financial failure, and the application of the Sherrod model for the purpose of measuring the financial failure that may pass the company sample study, as well as to identify the extent of the company's research sample stages of financial regression or not. The reason for the financial decline that may be experienced by the research sample company was based on the General Company for the manufacture of drugs in Nineveh as a research sample among the industrial companies operating in the province of Nineveh. The study concluded that the industrial companies that conduct a continuous and effective periodic inspection of their internal and external environment are better able to cope with the risks of financial regression and minimize their damage. There are several stages. The company is the most difficult stage to meet the company is the stage described by researchers and writers in this area (the stage of actual collapse, total deterioration), as it is difficult for the management of the company to obtain additional funding that can repay the Financial obligations, which leads the company to difficulties to prevent the ability to meet the failure situation in the future and therefore the bankruptcy closer to success.

3. Methodology
3.1. Research Design and Source of Data
This study was run by researchers to study the financial analysis model for predicting company failure in the construction companies' services in Iraq. Quantitative research was used to determine the best model between Abbas and Rashid model and the Kida model based on the Wilcoxon test. Secondary data will be collected from the service of construction companies in Iraq. Descriptive statistics of the bankruptcy models will be used in the study to analysis the data that's collected from construction services companies listed on the Iraqi stock market. The sample of the study is 38 construction services companies listed on the Iraqi stock market for the period 2012-2015 and the results of the error rate in the two types of bankruptcy I and II models of the study. The cost of error in predicting and predictive accuracy ratio of the study models, as well as the hypothesis test by presenting the results of the Wilcoxon non-scientific test of the statistical differences with a precision rate for the prediction of the two models used.

3.2. Population and Sample
The population refers to construction companies listed on the Iraqi financial market. The research is concentrated on the financial analysis methodology for predicting company failure in the construction companies services in Iraq. In this study, 100 construction companies listed on the Iraqi financial market are the population while the sample size consisted 38 construction companies listed in the Iraqi financial market.

3.3. Data Collection
This study will use a secondary data. Common sources of secondary data for social science include censuses, information collected by government departments, organizational records and data that was originally collected for other research purposes. The researcher collect the secondary data from the construction companies that listed in the Iraqi financial market.

3.4. Data Analysis
The goal of analyzing the data was to handle the evidence fairly, to produce convincing logical conclusion and to rule out alternative interpretations. Therefore, after the data is collected from different sources, the next step is to process, analyze and interpret data. Data will be analyzed using Excel software.

5. Findings
5.1. Descriptive Statistics
The descriptive statistics method was used achieve objective one and two. In addition descriptive statistics method was used to analyze data in the arithmetic mean, median, maximum value, minimum value and standard deviation. By applying the Abdulaali *et al.* (2019) equation and the Abbas and Rashid model to extract the Z index from 2012 to 2015, The Iraqi Stock Exchange of 38 companies.

Table-1. Descriptive Statistics of Study Models for Companies

	Kida	Abbas and Rashid
Mean	3.52	0.98
Mediator	1.78	0.18
The lesser value	1.21	M-3.87
Great value	17.39	11.23
standard deviation	4.25	2.94

Source: Student's Data (2017)

It is clear from Table 1 that the Abdulaali *et al.* (2019) model and the Rashid and Abbas (2011) model. Abdulaali *et al.* (2019), while the largest value in the Abdulaali *et al.* (2019) model was the largest (17.39) followed by the Rashid and Abbas (2011), the value is 11.23.

6. Data Analysis
6.1. Type One Error
Table 2 shows the error ratio of the first type in the bankruptcy prediction of the two models used in the study. The results show that the error rate for The Kida model was 64% for the first type of 2012 and was 69%, 75% for 2013, 2014 and 72% for 2015.

Table-2. The error rate of the first type in the prediction of corporate models

	Abbas and Rashid	Kida
2015	87%	72%
2014	88%	75%
2013	89%	69%
2012	88%	64%

Source: Student's Data (2017)

In the model (Rashid and Abbas, 2011), the first error rate for 2012 was 88% and was 89%, 88% for 2013, 2014 and 87% for 2015. Table 2 shows that the error rate of the first type prediction was the lowest in the Kida model (1980) and the Rashid and Abbas (2011) model.This shows the efficiency of the Abdulaali *et al.* (2019) model in the estimation, ie the Abdulaali *et al.* (2019) model is the best between the two models as it is the most accurate in the prediction of the investment companies sample study.

6.2. Type Two Error
Table 3 shows the error rate of the second type in the bankruptcy forecast of the models used in the study. The results show that the error rate in the estimation of type II Abdulaali *et al.* (2019) has been the error rate in the prediction of 11% for 2012, 8% for 2013, 5% for 2014 and 2% for the year 2015.In the Rashid and Abbas (2011) model, the second type error is 58% for 2012, 33% for 2013, 27% for 2014 and 24% for the year 2015.

Table-3. The error rate of the second type in the prediction of the two models of companies

	Abbas and Rashid	Kida
2015	24%	2%
2014	27%	5%
2013	33%	8%
2012	58%	11%

Source: Student's Data (2017)

Table 3 shows the error in type 2 prediction on the model Abdulaali *et al.* (2019) and Rashid and Abbas (2011) These results show that the Abdulaali *et al.* (2019) model is the most accurate and best to predict the state of companies, then the Abbas and Rashid model. The cost of error in estimating bankruptcies for study models (The cost error in predicting) Table 4 shows the cost of error in estimating bankruptcy for the models used in the study. The results indicate that the cost of error in estimating the Abdulaali *et al.* (2019) model was the cost of error in estimating 5.8 for 2012, 6.9 for 2013, 6.7 for 2014 and 7.2 for the year 2015.In the example of Rashid and Abbas (2011) the cost of the error was estimated at 9.01 for 2012, 9.34 for 2013, 9.47 for 2014 and 9.23 for the year 2015.

Table-4. The cost of error in estimating the bankruptcy of the models

	Abbas and Rashid	Kida
2015	9.23	7.2
2014	9.47	6.7
2013	9.34	6.9
2012	9.01	5.8

Source: Student's Data (2017)

Table 4 shows that the Abdulaali *et al.* (2019) model is less expensive to predict and thus the Rashid and Abbas (2011) model is better for predicting bankruptcy. Where the Rashid and Abbas (2011) model clearly recorded the highest risk of bankruptcy. These results suggest that the Abdulaali *et al.* (2019) model is more accurate in predicting corporate bankruptcy as it shows the lowest cost of error in forecasting.

6.3. Accuracy Predicting
Table 5 shows the accuracy of the bankruptcy forecast for the two models used in the study. The results show that the accuracy of the forecast for Abdulaali *et al.* (2019) model had a forecast accuracy rate of 74% for 2012 and 70% For 2013, 73% for 2014 and 67% for the year 2015.

Table-5. Accuracy ratio in bankruptcy forecasting

	Abbas and Rashid	**Kida**
2015	40%	67%
2014	38%	73%
2013	31%	70%
2012	56%	74%

Source: Student's Data (2017)

In the Rashid and Abbas (2011) model, forecast accuracy was 56% for 2012, 31% for 2013, 38% for 2014 and 40% for 2015. Table 5 shows that the highest accuracy of prediction was in the Abdulaali *et al.* (2019) and Rashid and Abbas (2011) models. These results indicate that the Kida model is the most accurate model for predicting the risk of bankruptcy for companies under study. The results show that there are statistically significant differences in the accuracy of the bankruptcy prediction between the Abdulaali *et al.* (2019) and Rashid and Abbas (2011) models, where P-value between the two models is 0,03442 and this value is less than 5%. To achieve objective three, Wilcoxon test was used to compare between the two models.

Table-6. Wilcoxon Test the statistical differences in the accuracy of the prediction

Wilcoxan Model	**Kida and Abbas and Rashed**
P	0.03442
Significant	5%

Source: Student's Data (2017)

7. Discussion and Recommendations

7.1. Results and Discussion

To achieve objective one and two, first type and second type error were used. The first-type prediction error was the lowest in the Kida model Abdulaali *et al.* (2019) and the Rashid and Abbas (2011) model. This indicates the efficiency of the Kida model Abdulaali *et al.* (2019) in the estimate. The Kida model Abdulaali *et al.* (2019) is the best since it is the most accurate prediction in the construction services sample study. The second type error is that the Abdulaali *et al.* (2019) model has a lower error of type II followed by Rashid and Abbas (2011). These results show that the Abdulaali *et al.* (2019) model is the most accurate and the best among the models for predicting the state of companies, then the Abbas and Rashid model. The Kida model Abdulaali *et al.* (2019) is less expensive to predict and hence the model (Rashid and Abbas, 2011). To achieve objective three, Wilcoxon test was used to compare between the two models. The highest prediction accuracy was in the Abdulaali *et al.* (2019) and Rashid and Abbas (2011) models. These results show that the Abdulaali *et al.* (2019) model is the most accurate model for predicting the risk of bankruptcy for companies under study.

There are statistically significant differences in the accuracy of the bankruptcy forecast between Abdulaali *et al.* (2019) and Rashid and Abbas (2011). P-value between the two models is 0, 03442 and this value is less than 5%.

7.2. Recommendations and Future Research

Adopting the application of the Kida model to predict the failure of construction services companies as a method of financial analysis adopted in companies to evaluate performance, after the study proved the suitability of this model to apply to companies, to help these companies to predict the future of the company annually The need for studies to predict the failure of the companies of other sectors (service, agricultural, investment, industrial, hotels and tourism) and to test the possibility of using one of the prediction models to predict the failure of these companies. Conduct similar studies aimed at predicting the failure of companies in other sectors listed on the stock exchange of Baghdad during the period 2012 -2015 comparative models.

8. Conclusion

The subject of predicting the failure or bankruptcy of companies is one of the important topics that has preoccupied many international organizations and bodies because of its negative effects on the level of the company, investors and also on the level of the economy in general. The importance of predicting the failure of companies stems from the interest of many related parties. These bodies are internal or external in this regard (banks, management, auditors, government agencies), and attention has been given to this issue since the 1930s, where a group of researchers used some financial ratios individually to predict the probability of failure of the company. Since the early 1960s, there has been increasing interest in the subject, with many researchers conducting studies to identify indicators that can be used to predict the potential for corporate failure.

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