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# THE ROLE OF FINANCIAL STATEMENT ANALYSIS IN CREDIT LOAN DECISIONS AND ITS RELATION WITH CREDIT RISK: EMPIRICAL STUDY ON SAUDI BANKS

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**Abstract**

This research aims to gain insights into the role of financial statement analysis on credit-granting decisions by exploring the extent to which Saudi commercial banks rely on financial statement analyses when taking credit-granting decisions. It also aims to explore the obstacles that restrict the use of financial statement analyses as well as the relationships between the use of financial statement analysis during credit-granting decisions, the loan loss provision, bank size, and eight attributes of bank loan officers.To achieve this goal, an empirical study has been conducted on a sample of (163) employees from the credit departments of the Saudi Commercial banks. A survey has been created to collect the study data. Data was from financial statements of banks under study. To process the data and test the study hypotheses, a number of statistical methods were employed including descriptive methods. Significant findings are:1)Saudi commercial banks employ customers' financial statement analyses when taking the credit-granting decisions. Moreover, it is considered as one of the integral steps of this process.2)The most notable obstacle to the use of financial statement analyses is the lack of proper customers' accounting records.3)The loan loss provision is not affected by the use of financial statement analyses during credit-granting decisions. Also, the level of use of financial statement analysis does not correlate bank size.4)There is a positive correlation between the use of financial statement analysis during credit-granting decisions and between educational qualification, specialization, and years of experience of the credit officer. However, there is a negative correlation between the level of authorization granted to the credit officers, the level of training courses on financial analyses and between the use of financial statement analyses during credit-granting decisions.In the light of the study findings, a number of recommendations have been made. The most significant of which are:1)Saudi commercial banks should increase their use of customers' financial statement analyses in addition to the collaterals provided by customers.2)The significance of improving the efficiency of credit employees in commercial banks through continued training.3)The importance of providing credit officers with sufficient authorization to carry out their duties properly.4)Conducting more research on this subject since there is scarcity of studies in this respect in the Kingdom of Saudi Arabia.

## 1- Introduction

The Kingdom of Saudi Arabia has witnessed extensive progress and growth in all its economic sectors. Banks are one of the most important pillars on which this progress and growth is based; as they contribute to providing financial support to all investment projects through various credit facilities necessary to feed these projects. The value of credit facilities granted by banks operating in the Kingdom of Saudi Arabia in 2012 amounted to approximately one trillion riyals (Saudi Arabian Monetary Agency Report 2012). This indicates the huge volume of demand for credit facilities provided by commercial banks to all economic sectors in the Kingdom.

Credit facilities are the most important operations carried out by commercial banks. They play an important role in achieving their objectives. The financial statements issued by many Saudi banks show that the highest percentage of their assets is represented by financing granted to customers - individuals and companies - and the largest share of their revenues comes from commissions on these financings. Therefore, these banks will ensure that their credit decisions are made correctly and soundly. By choosing appropriate means and policies that will provide a high degree of certainty when making these decisions; which will avoid any credit risks that may arise as a result of the customer's failure to pay the principal or interest of the loan. Which would negatively affect the objectives of these banks (Omar 2004; Al-Baldawi and Al-Douri 2010; Al-Jaafari 2012).

Contemporary management requires the availability of a set of information sources that are consistent with the quality of sound administrative decisions. Accounting information is one of the most important of these sources, especially when issuing credit decisions; as it requires conducting analysis and study of the elements of the financial statements before granting credit; to reduce the level of risk that can be exposed to, rationalize credit, and avoid any side effects (Al-Tamimi 2011). Analyzing the financial data of the borrowing client is an indispensable step within a series of steps necessary to make a decision to grant a loan or credit facilities. This analysis provides the credit decision maker with an important source of information represented by a set of indicators that will be used in the credit application study stage and other subsequent stages (Matar 2003).

This study is an attempt to shed light on the role of financial statement analysis in credit granting decisions and its relationship to credit risks.

## 2- The problem of the study

In contrast to the significant expansion in loans provided by Saudi commercial banks; however, a number of Saudi commercial banks recently announced that they have written off a large percentage of their debts that have lost their chances of recovery. This means that they are exposed to credit risks that may raise the issue of rationalizing the decision to grant credit at these banks, its effectiveness, and the most important elements of making this decision. Hence, the problem of the study emerges, as banks face a challenge when making credit granting decisions; due to the competition among

banks in attracting deposits to use them in providing the necessary financing to their customers. But at the same time, they must verify the customer's ability to fulfill his obligations towards the bank; This requires them to preserve the rights of their stakeholders, achieve their goals, and try to avoid any credit risks that may pose a threat to their interests and continuity. Therefore, the problem of the study is represented in the following main question:

Does financial statement analysis play an effective role in making the decision to grant credit, and reduce credit risks in Saudi commercial banks?

## 3- The importance of the study

- It addresses Saudi commercial banks, which are considered one of the important pillars in supporting economic development in the Kingdom of Saudi Arabia, through their financing of various activities carried out by economic institutions.
- It addresses financial analysis, which is one of the most important tools necessary to study the data and information contained in the financial statements; which contributes to providing the necessary indicators to serve decision-making.
- The importance of credit activity in banks; as it is one of the most important main functions provided by banks. It is one of the most profitable activities for the bank. In addition, the most dangerous for it; as making sound credit decisions leads to avoiding credit risks that may in some cases lead to the bankruptcy and liquidation of the bank.
- Directing the attention of specialists and interested parties in both commercial banks granting credit facilities and economic institutions benefiting from the importance of the information contained in the client's financial statements in rationalizing credit decisions, and sparing their credit portfolios from any risks associated with these decisions.
- Contributing to providing scientific material that benefits both academics and students of administrative sciences on the importance of financial statements in rationalizing credit decisions, and reducing the risks associated with these decisions.
- There are no previous similar studies conducted in the Kingdom of Saudi Arabia on the role of financial statement analysis in making the decision to grant credit and its relationship to credit risks, according to the researcher's knowledge.

## 4- Study objectives

- Shedding light on financial statement analysis and its uses in credit decisions at commercial banks, and the credit risks to which banks are exposed.
- Studying the extent to which commercial banks rely on financial statement analysis when making a credit granting decision.
- Identifying the most important obstacles that limit the use of financial statement analysis when making a credit granting decision.

- Identifying the relationship between the use of financial statement analysis in the credit granting decision at commercial banks, and each of the characteristics of the credit granting officer, the size of the bank, the extent of reliance on the information contained in the financial statements, and the percentage of the provision for potential credit losses.

## 5- Study hypotheses

- **The first hypothesis:** There is no statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit, and the percentage of potential credit loss provision.
- **The second hypothesis:** There is no statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit, and the characteristics of the credit granting officer.
- **The third hypothesis:** There is no statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit, and reliance on information in the financial statements.
- **The fourth hypothesis:** There are statistically significant differences in the extent of using financial statement analysis in making the decision to grant credit, attributed to the size of the lending entity.

## 6- Study methodology

In this study, the researcher followed the descriptive analytical approach, by studying the extent of using financial statement analysis in making credit granting decisions in Saudi commercial banks. By designing a questionnaire, analyzing the answers and responses to it, and balancing the questionnaire results with some data extracted from the financial statements; with the aim of verifying the study hypotheses. A set of statistical tests were used, such as the (T) test to test the study hypotheses; to reach the results and recommendations. The information was collected through books, references, websites, and previous studies related to the research topic.

## 7- Study Limits

The study was limited to Saudi commercial banks without addressing foreign banks licensed to operate in the Kingdom of Saudi Arabia. The study was conducted on the basis of the role of financial analysis using ratios for customer lists in banks, without addressing other financial analysis methods. The study of the relationship with credit risks was also limited to the provision for potential credit losses only.

## 8- Study Division

In light of the study methodology and objectives, the rest of the study topic will be addressed as follows:

- The theoretical framework, which provides an overview of financial statement analysis and its role in evaluating credit applications in banks. It also briefly reviews credit facilities and credit risks.
- Previous studies, which provides a comprehensive review of the literature related to the study topic.
- The applied study method, through which the methodology followed in this study is reviewed, as well as the characteristics of the study community and its sample, the data collection tool, its components, and its characteristics, and the method of processing and analyzing this data.
- Study results and discussion, through which the results reached by the study are reviewed and the hypotheses are tested.
- Summary of results and recommendations: This chapter reviews the summary of the study results and the proposed recommendations.

## 9- Theoretical Framework

### Financial Analysis

Financial analysis is a process through which a set of quantitative and qualitative indicators about the economic activity of the project are explored or derived. It contributes to determining the importance of the operational and financial activities of the project and their characteristics, through information extracted from financial statements and other sources. These indicators are then used to evaluate the performance of the facility for the purpose of making decisions (Matar 2003).

Financial analysis in its true sense is not limited to merely reading the numbers shown by the published financial statements, but rather extends to searching for the implications behind those numbers that help predict their future trends (Matar 2003). Financial statements constitute the raw material and the basic basis in the financial analysis process. Financial analysis studies the data of these statements to reach results and indicators that benefit decision-makers to support their decisions, especially those related to credit areas. The financial statements of the customer requesting credit are studied and analyzed to make a decision whether or not to grant credit (Al-Hamzawi 2000). Establishments currently use three basic financial statements. They are: the balance sheet, the income statement, and the cash flow statement. The Saudi Companies Law stipulated the first and second lists, while the third list became a requirement of the general presentation and disclosure standard (Al-Wabil 2001).

### Bank Credit

Bank credit is defined as: "The bank providing individuals and establishments in society with the necessary funds, in return for the borrower's pledge to repay those funds, interest, and commissions in specific installments or in one payment. Credit is granted in return for guarantees with specific conditions; guaranteeing the bank to recover its rights in the event of the debtor's default" (Omar 2004), Economic activities have developed rapidly over the past years. The newly introduced banking services have diversified to meet the rapid development in economic life, with which credit

instruments have developed. The bases on which bank credit can be divided have varied (Al-Ajran 2008):

- It is divided in terms of its nature into direct, in which the facilities are placed directly at the disposal of the borrower, and constitute an obligation on the bank (loan, overdraft, and discounting of commercial papers). In addition, indirect, in which documentary credits are opened, or through guarantees, or credit cards.
- There are also guaranteed facilities, called in-kind facilities; Where facilities are provided against a collateral (goods or bills of exchange), as a guarantee for repayment of the loan. Moreover, unsecured facilities are called personal facilities; where facilities are granted without guarantees, and the bank is satisfied with the good reputation or financial position of the loan applicant.
- Credit facilities are provided to the private sector, which is what is provided to individuals, institutions, and private companies. In addition, facilities for the public sector, which are loans provided to the state or companies owned by it.
- There are three types of credit facilities, which are short-term, medium-term, and long-term facilities.
- Credit facilities are distributed according to the economic activity of the party to which they are provided, so it is industrial, agricultural, services, commercial, mining, investment, consumer, and others. Dividing facilities according to term is the most important type of credit facilities used in the Kingdom; as commercial banks in the Kingdom focus on short-term and medium-term credit operations (Al-Ajran 2008, and Al-Ghadian 2002).

  A. Short-term credit: It is the most common and widely used in Saudi commercial banks, and is characterized by the fact that the financing period granted does not usually exceed one fiscal year. It is also often in the form of credit limits placed by banks at the disposal of the customer. This financing usually takes the form of overdrafts, discounting securities, and regular loans with or without interest.

  B. Medium-term and long-term credit: The medium-term credit period extends from one to three years; while the long-term credit period is more than three years. It is usually used to finance expansions in production capacity. It usually takes the form of bank loans, or the sale of mechanical equipment on a Murabaha basis or otherwise. The sources of repayment of these loans come primarily from the completion of the success of asset financing and the achievement of positive cash flows.

**Using financial analysis in credit decisions:**

Banks usually ask their customers who wish to obtain loans or credit facilities to provide a set of financial and non-financial information. The bank studies and analyzes it; and in light of the results of this study, the bank accepts to provide the loan to the customer or rejects his request (Matar 2003). This information is often obtained from the customer's financial statements, whether directly or indirectly (financial analysis);

to reach an estimate of the strength of the customer's financial position. His ability to continue and pay his debts, and to estimate the degree of risk associated with the loan. This estimate is not only useful in making the decision to grant or reject the loan. It also helps the bank determine the rate of return (interest rate) that is consistent with the level of risk associated with the loan: i.e. obtaining an appropriate and guaranteed return on the loan amount (Al-Khalayleh 2004). Al-Hamzawi (2000) believes that analyzing the customer's financial statements is of great importance in the field of judging the availability of general rules in granting credit to the customer. Its results indicate the extent of the efficiency of administrative performance, and the difficulties that hinder the customer's activity as well. Credit management, when it conducts a financial analysis of the client's financial statements, seeks to achieve or verify two goals, which are (Al-Zubaidi 2002). First, the client's ability to pay the bank's dues when due. Second, determining the extent of the client's need for the required credit. These two goals constitute the content of the credit process in commercial banks (the client's obtaining credit, and his ability to pay what he owes).

**Credit facilities granted by commercial banks in Saudi Arabia:**

The number of commercial banks operating in the Kingdom of Saudi Arabia by the end of 2015 was twenty-three banks, including Saudi and foreign banks. The number of their branches is (1989). The number of Saudi commercial banks is (12) commercial banks; all of which provide credit facilities. Short-term bank credit in the Kingdom (less than one year), granted to the private sector and public sector institutions in 2015, increased by 9.4% over the previous year. It reached an amount of (685.5 billion riyals). Medium-term credit (one to 3 years) increased in 2015 by 1.6% over the previous year. It reached an amount of (241.5 billion riyals). Long-term credit (more than 3 years) increased by 10% over the previous year; It reached an amount of (435 billion riyals) (Monetary and Banking Developments Report, Saudi Arabian Monetary Agency 2016).

**Credit Risk:**

Credit is the main source of profitability for commercial banks; which requires the management of the commercial bank to maintain a degree of security that protects it from exposure to emergency crises. At the same time, it achieves a reasonable amount of profits, without depriving the national economy of its contribution to supporting and developing it. Some believe that every agreement that leads to the establishment of lending is a high-risk business. The credit analyst's mission does not end with approving the customer's request, but another stage begins with determining the cost or price of the loan for the customer based on the estimated degree of risk. Accordingly, credit risk can be defined as (Muhammad 2000): the degree of fluctuation of the actual return of the lending process from the contractual return; because of internal reasons, represented by weak bank management. Alternatively, external reasons resulting from either the customer's inability to pay, or his delay in payment. On the other hand, for sovereign reasons, such as economic, political, and

social conditions. This degree is measured using traditional financial ratios. With the help of some statistical methods as a basis for making the credit decision.

## 10- Previous Studies

Study (et al, 2001 Rebel): This study aimed to prove the difference between large and small banks in the United States of America in granting loans to small business establishments. Surveys conducted by the Federal Reserve System on small business enterprises (4637 companies) were used. It includes detailed information about the borrowing operations carried out by these companies, their credit history, and information about their balance sheets. The aim of these surveys was to analyze the differences between large and small banks in terms of loan approval processes. The researchers tested a number of hypotheses, the most important of which was that large banks (with assets of $1 billion or more) tend to use standard criteria obtained through financial statement data during the process of making decisions about granting loans. while small banks (with assets of less than $1 billion) deviate from those criteria by relying heavily on the personality of the borrower.

Study (2002 Kwok): This study examined the level of use of financial information and reports of companies applying for loans, especially cash flow information and the cash flow statement, by bank loan officers when making loan-granting decisions. The study participants were selected from four groups of financial report users in China: bank loan officers, auditors, financial analysts, and accounting academics. Each participant was given a copy of the annual financial reports of two companies applying for loans; in order to make two independent decisions based on the information provided. The cash flow statement of one company was presented using the direct method, while the cash flow statement of the other company was presented using the indirect method. The results of the study indicated that while cash flows came in second place in terms of the most used financial information, the participants in this study obtained most of the information from other financial statements, not from the cash flow statement; as they obtained this information more than the balance sheet. Study (Carmen 2004 & Antonio) this study aims to provide evidence regarding the importance of Spanish financial reporting information presented to credit granting institutions.

This is during their process of making credit-granting decisions. The reasons that limit the usefulness of financial reporting information, and to provide possible suggestions to make this information more useful and beneficial for credit granting institutions. The researcher used a questionnaire to collect data directed to a sample of (54) credit granting institutions, represented by (15 banks, 13 credit cooperatives, and 26 savings banks). In which their opinions were surveyed about the usefulness of Spanish financial reporting information when granting credit, the restrictions imposed on the usefulness of this information, and the possible solutions provided by local authorities to make these reports more useful. The results of this study indicate that the most useful financial data are the balance sheet data. In addition, that for legal reasons - mainly - the profit and loss account represents less important financial data for the process of credit granting institutions making their decisions related to granting loans.

Many restrictions limit the usefulness of financial reports. Including: the lack of sufficient external control, or auditing of accounts and the lack of employees specialized in preparing general financial reports; hence, increasing reliability. Moreover, the availability of financial reports in a timely manner; would help rationalize credit-granting decisions and assess risks. Study (Al-Buhaisi and Al-Kahlout 2007): In this study, the extent to which banks operating in Palestine rely on financial analysis when making credit-granting decisions was identified. Moreover, the factors that affect this. To achieve the objectives of the study, the researcher prepared a questionnaire that was distributed to (15) Palestinian and Arab banks, and the sample size was (76) employees from the facilities employees at the banks. The researcher concluded that there is a weak degree of reliance on financial analysis in making credit decisions in banks operating in Palestine. In addition, that the degree of reliance on financial analysis increases the more the financial information is audited and attached to the auditor's report.

Moreover, the more years of financial information requested by the financial analyst for the accounts of the company requesting credit and credit analysts, who have years of experience, do not tend to rely on financial analysis when making credit decisions. There is a relationship between the degree of reliance on financial analysis and the degree of authorization granted to the credit analyst. In light of these results, the researcher presented several recommendations. The most important of which are: the necessity for banks to oblige companies seeking credit to provide reliable financial information, and not to hide any information related to the company's financial position that would affect the decision to grant credit, and to provide financial information for more than one audited fiscal year accompanied by an auditor's report.

Study (Kitindi et al, 2007): This study seeks to identify the usefulness and relevance of annual financial reports to lenders in Botswana (South Africa). In order to determine whether users of financial information benefit from the information contained in the annual financial reports of companies applying for loans. The results of the study, which were obtained through analyzing the responses of seven banks that grant loans in Botswana, indicated that these lenders request financial information from loan applicants in order to help them make lending decisions. The most recent annual financial reports are the most preferred reports. As well as income statement information; they care more about profitability than liquidity and financial solvency (information from the balance sheet and cash flows). As an indicator of the borrower's future expectations. Lenders view reports related to review and audit operations as very important for their loan granting decisions. While the notes accompanying the financial statements are not used by lenders, nor are reports issued by directors or heads of management in companies used.

Study (2008) Rafik & Neung: This study focused on small banks, and discussed whether financial statements are an important consideration when making loan granting decisions. And whether the level of credibility in financial statements has an impact on the view of loan granting officers of the importance of those financial statements. The researchers prepared a questionnaire on (55) loan officers in six small

banks (the size of the total assets of these banks ranged from four hundred million dollars to three billion dollars) in the Southern California region. The results of the study indicated that financial statements are viewed as important information. They are used when evaluating loan grant applications in small banks; however, loan-granting officers do not take into account the credibility of those financial statements when evaluating loan applications.

Study (2009) Kim: This study aimed to verify whether financial statements are among the factors that are important in lending decisions in large and small banks. The study sample was loan officers in six small banks and three large banks in Southern California. The classification criterion into large and small is represented by the size of the total assets in these banks. The study relied on a questionnaire distributed to loan employees in these banks to collect its data. The sample size was (55) employees in small banks, and (49) employees in large banks. The most important findings of the study are that the audited financial statements reviewed by a certified public accountant are important when granting loans in both large and small banks. Non-financial factors (purpose of borrowing - number of years of practice - guarantees) are more important than financial statements for small banks.

Study (Al-Zarqan 2010): This study aimed to identify the importance of using financial ratios in serving the credit decision, and the role of financial analysis in reducing credit risks. The study was applied to credit facilities employees working in three Jordanian banks, totaling (80) employees. The questionnaire was used as a tool to measure variables. The results of the study indicated the existence of a statistically significant relationship between financial analysis and reducing credit risks. There is also a statistically significant relationship between the use of financial ratios and the qualifications of the head of the credit facilities department. In addition, the bank's ability to choose the least risky credit. The study recommended that commercial bank management should adopt financial analysis in the process of granting bank credit. Because this reduces the risk ratios in the bank, and work on setting specific criteria for granting loans in Jordanian commercial banks. Moreover, ensuring the customer's ability to fulfill the bank's financial obligations.

Al-Tamimi's study (2011): This study aimed to know how credit decisions are made based on audited financial statements in commercial banks operating in Aden Governorate. The researcher designed a questionnaire to collect data from a sample of (20) employees from general managers, credit management managers, risk management managers, and internal audit management managers. In addition to some employees in those departments. The study reached many results, including that the financial statements, direct contact with the facility's management, the tax card, and inquiries about the customer's risk center are among the most important sources of information influencing credit decision-making. The profitability item, capital, and cash flow statement are among the most important items in the financial statements influencing credit decision-making. Likewise, the facility's continued profitability, competitive position, and reputation are among the most important descriptive indicators in weighing the credit decision. The study recommended the necessity of

relying on the results of the financial analysis of the audited financial statements to rationalize the credit decision, and not focus on social and personal prestige, or the tangible guarantees of the customer requesting credit.

Study (Al-Salihat 2011): This study aimed to determine the extent of the impact of the quality of accounting information on long-term credit decisions in banks, by measuring the impact of five variables. These variables are represented in the main characteristics of the quality of accounting information, which are the characteristic of relevance, the characteristic of reliability, and the secondary characteristics of the quality of accounting information. They are the characteristic of comparability, the characteristic of stability, in addition to determining the impact of the Basel Accord decisions on the decision to grant credit. The study was applied to Jordanian commercial banks, where the researcher designed a questionnaire that was distributed to the sample members, numbering (82) employees working in the credit departments in Jordanian commercial banks. The researcher concluded that accounting information characterized by the characteristic of relevance is a basic factor for banks in making their correct credit decisions. Thus, the level of certainty increases when making a credit decision. The characteristic of reliability provides decision-makers with objective information that can be relied upon. The characteristic of comparability helps credit decision-makers balance the financial position of the credit applicant with previous periods, and monitor his credit performance. The ease of credit decision is linked to the availability of the stability feature, and there is an influential role for Basel decisions in the credit decision-making process. The most important recommendation of the study is the need for banks to rely - primarily - on accounting information provided by borrowers through audited financial statements. Moreover, not to be satisfied with the factors influencing credit granting, such as guarantees, capital, and reputation. There is also a need for banks to take into account the issue of improving credit risk management, by adhering to the application of international standards of the Basel agreements.

Study (Al-Jaafari 2012): This study examined the extent of using financial ratios in making financing decisions in Islamic banks operating in Jordan. From the point of view of all individuals working at the administrative and executive levels in three Jordanian Islamic banks. To achieve this, the researcher formulated a set of hypotheses, tested them, and analyzed them using a questionnaire as a measurement tool. The sample size was (117) employees. It was concluded through it that financing decisions are made correctly in banks; but their procedures are old and need to be developed, and that there is a large use of financial ratios in making financing decisions by finance officials. Banks bear a very high cost because of failed financing decisions that are reflected in the high volume of bad debts, and other indirect costs. The study recommended the importance of focusing on financial ratios related to the credit decision, such as liquidity ratios, activity ratios, and other ratios that would rationalize the decision to grant credit facilities.

Study (Maitah et al, 2012): This study aimed to determine the extent to which commercial banks use financial analysis of accounting data to rationalize credit decisions. And the factors affecting this, and to work on developing a vision to solve

the problems that hinder the use of financial analysis as a basis for making credit granting decisions in commercial banks. In addition, to study the relationship between the qualifications and experience of credit granting decision makers. Moreover, their reliance on financial analysis in rationalizing credit decisions. The researcher prepared a questionnaire on loan officers and analysts in four state-owned Libyan commercial banks. The sample size was (73) analysts and credit officers. The results of the data analysis indicated a weak rate of using financial analysis during the credit decision-making process. This is due to several reasons, including: Most credit officers and analysts did not receive training courses in the field of financial analysis. Moreover, they did not have the authority to make the credit granting decision. The results also showed a statistically significant relationship between the reliability of financial data and the degree of reliance on financial analysis. In addition, that there is a statistically significant relationship between the degree of reliance on financial analysis and the degree of authority granted to the analyst and credit officer. The existence of training courses for credit officers increases their reliance on financial analysis when making the decision to grant credit and hide any information. The study recommended that banks should oblige companies requesting loans to provide reliable financial statements that would not affect the decision to grant credit. These statements should be for more than a year and attached to the auditor's report.

Study (Abu Dalbouh 2012): This study examined credit risks and their types in commercial banks - especially emerging ones - from their dealings with companies. In addition, the impact of using financial analysis tools (liquidity ratios, profitability ratios, debt ratios, activity analysis ratios and financial structure analysis) in reducing credit risks. The study was conducted on a sample of branch managers and employees working in the credit facilities department in Jordanian commercial banks, the size of which was (200) employees. The most important conclusion reached by the researcher is that there is a statistically significant impact of using financial analysis tools in reducing credit risks. It was found that Jordanian banks use liquidity ratios and profitability ratios largely. Which contributes to rationalizing and reducing credit risks. However, the use of debt ratio analysis tools and financial structure analysis was not at a sufficient level. As for the use of activity analysis ratios, it was at an average level, close to low. This constitutes a weak point in the credit system in banks, and contributes to increasing the risks to which credit operations are exposed. There is a high level of use of vertical and horizontal analysis, in a sufficient and appropriate manner for making financing decisions. Which works to reduce their risks. It also concluded that banks face many risks, the most important of which are operational risks, market risks, and liquidity risks. The study recommended the importance of training employees in the credit facilities department to use financial analysis tools; in a way that leads to rationalizing the acceptance or rejection of companies' credit facilities.

Study (Abu Sardana, et al. 2015): This study aimed to identify the factors affecting the decision to grant credit in Jordanian banks. These factors are the extent to which credit officers in banks focus on the personal characteristics of the borrower. Analyzing his

ability to generate cash flows, and using financial leverage ratios to rationalize the decision to grant credit. Analyzing the economic and industrial conditions that govern the customer's work environment. Analyzing the rate of coverage of guarantees for the principal of the debt, and the interest due on it, and taking into account the instructions of the Central Bank, and the bank's credit granting policy. It also aimed to study the relationship between the factors affecting the decision to grant credit. and the provision for doubtful debts. The study was applied to a sample of (15) commercial, investment, and Islamic banks in Jordan. A questionnaire was distributed to the credit departments in banks as a tool for collecting data, with a total of (160) distributed questionnaires, in addition to other data obtained from the published financial statements. The results of the study showed that credit officers in Jordanian banks study credit applications and take into account all factors affecting the decision to grant credit. However, the results did not show any relationship between any of these factors and the provision for doubtful debts. The study recommended the necessity of studying the strength and effectiveness of the credit facilities follow-up system in some Jordanian banks, and the necessity of determining a percentage of non-performing credit facilities by the Central Bank. To protect Jordanian banks from any cases of financial distress or bankruptcy, and to maintain the strength and pace of the economic situation in Jordan.

From reviewing previous studies, it becomes clear that most of them agree on the importance of the information contained in the financial statements in the decision to grant credit. This affects the extent of the risks that lending institutions can bear in the event of failure to properly evaluate the customer, or grant credit without studying and analyzing his financial situation. Therefore, the current study was distinguished from previous studies in that it focused on Saudi commercial banks; due to the absence of similar studies previously conducted in the Kingdom of Saudi Arabia (to the best of the researcher's knowledge). It was found necessary to make a new addition to the field of scientific research that had not been previously addressed in Saudi Arabia. It is concerned with studying the role of financial statement analysis in the decision to grant credit and its relationship to credit risks.

## 11- Applied Study Method

### 11-1 Study Method

The descriptive method was followed for the applied study, by studying the extent of using financial statement analysis in making credit granting decisions in Saudi commercial banks. By designing a questionnaire, analyzing the answers and responses to it, and balancing the questionnaire results with some data extracted from the financial statements; with the aim of verifying the study hypotheses.

### 11-2 Study community and sample

In order to achieve the study objectives, the study community was defined as employees in Saudi commercial banks, numbering (12) commercial banks. As for the study sample, it was represented by employees in credit facilities at branches of Saudi

commercial banks in Riyadh. The sample size was (255) employees working in credit facilities departments in Saudi commercial banks.

11-3 Study tool:

The information necessary to implement the study was collected through the following sources:

A- Questionnaire list; To know the opinions and attitudes of the study sample, and the questionnaire was designed based on the theoretical framework and referring to previous studies. The questionnaire was distributed through direct delivery to the sample members; (255) questionnaires were distributed. (163) questionnaires were retrieved and were ready for analysis: representing 64% of the distributed questionnaires.

B- The published financial statements of the banks under study, for a period of three years, from 2011 to 2013. This period is sufficient to achieve its objective; as the average percentage of credit loss provision was extracted. In addition, the average size of assets for each bank, which is necessary to test the hypotheses. The financial statements of the banks were obtained from the website of "Arqaam Investment Company". It is a company specialized in publishing economic and financial information on the Internet.

11-4 Questionnaire sections and axes:

**The first section:** It contained a set of general questions related to the characteristics of the study sample.

**The second section:** It includes a set of statements in several axes, so that the respondent answers those using closed graded answers, and this section includes the following axes:

The first axis: The importance of a set of criteria and elements when making a decision to grant credit.

The second axis: Characteristics of the financial information of the credit applicant customer.

The third axis: The extent of using the analysis of the customer's financial statements in the decision to grant credit.

The fourth axis: Financial ratios used in credit decisions.

The fifth axis: Obstacles to using financial statement analysis in credit decisions.

11-5 Validity and reliability of the study tool:

After designing the study tool, it was presented to a group of experienced arbitrators from the faculty members of King Abdulaziz University to seek guidance from their opinions and experiences on the suitability of the questionnaire questions. Their comments and suggestions were used to reach the final version of the questionnaire, which was distributed to the study sample.

Table (1) Stability coefficients of the study tool according to its various axes

| Axis | Number of paragraphs | Cronbach's alpha |
|------|----------------------|------------------|
| The importance of a set of criteria and elements when making a credit granting decision. | 14 | 0.764 |
| Using the analysis of the customer's financial statements in the credit granting decision. | 13 | 0.826 |
| The most commonly used financial ratios when making credit decisions. | 23 | 0.933 |
| Obstacles to using financial statement analysis in credit granting decisions. | 9 | 0.898 |
| The questionnaire as a whole. | 59 | 0.889 |

The Alpha Cronbach equation was also used to measure the stability of the questionnaire. It is clear from Table (1) that the value of the total stability coefficient of the questionnaire is (0.889). This is a high stability coefficient; which reflects the stability of the scale, as it will give the same results if it is reapplied to the same sample.

11-6 Measuring the variables used in testing the hypotheses:

The answers to the questions in the questionnaire represent a measure of the study variables used in testing the hypotheses. These variables include:

- The extent of using financial statement analysis in the decision to grant credit (this variable was measured through the arithmetic mean and standard deviation of the respondents' answers to 13 statements in question No. 9 in the second part of the questionnaire questions).
- Characteristics of the credit-granting officer (this variable was measured by analyzing the respondents' answers to questions No. 3 to 7 in the first part of the questionnaire).
- Reliance on information in the financial statements (this variable was measured by analyzing the respondents' answers to question No. 7 in the second part of the questionnaire questions).

While other study variables used in testing hypotheses were measured through financial information extracted from the financial statements of Saudi commercial banks. As previously mentioned in the study tool paragraph, these variables include:

- Probable credit loss provision ratio (This variable was measured by finding the average credit loss provision ratio for 3 years (2011-2013) in Saudi commercial banks. Then, these banks were classified into two categories: banks with a high credit loss provision ratio and banks with a low credit loss provision ratio).
- Size of the lending entity (This variable was measured by classifying Saudi commercial banks according to the size of their assets. Banks with assets less than 100 billion were classified as small banks. Banks with assets less than 200 billion and more than 100 billion were classified as medium banks. While

banks with assets exceeding 200 billion were classified as large banks. According to their financial statements published in 2013).

11-7 Statistical methods used:

The data obtained were statistically processed using the Statistical Program for Social Sciences (SPSS) to reach the study results and interpretations. The statistical methods used are as follows:

- Frequencies and percentages to describe the study community for general questions.
- Testing stability using Cronbach's alpha coefficient to determine the stability of the questionnaire paragraphs.
- The arithmetic mean of the sample members' responses to the questionnaire statements.
- Standard deviation to identify the variance in the sample members' responses to each statement of the questionnaire.
- Testing the difference between two averages (Independent Samples T-test); to study the significance of the difference between two averages.
- Testing the Pearson correlation coefficient at the significance level ($\square = 0.05$).
- Testing the Spearman correlation coefficient at the significance level ($\square = 0.05$).
- Testing the analysis of variance (One–Way ANOVA) at the significance level ($\square = 0.05$).
- Five-level Likert scale to calculate the degree of agreement in terms of its strength or weakness for the five-level Likert scale, the response degree was determined. So that the degree (5) is given for the response I completely agree, the degree (4) for the response I agree, the degree (3) for the response is neutral, the degree (2) for the response I disagree, and the degree (1) for the response I absolutely disagree so that:
- The arithmetic mean value from (1) to (1.79) degrees is the degree (I absolutely disagree).
- The arithmetic mean value from (1.80) to (2.59) degrees is the degree (I disagree).
- The arithmetic mean value from (2.60) to (3.39) degrees is the degree (neutral).
- The arithmetic mean value from (3.40) to (4.19) degrees is the degree (agree).
- The arithmetic mean value from (4.20) to (5) degrees is the degree (I completely agree).

## 12- Study results and discussion

12-1 Results of questionnaire analysis:

12-1-1 Results of analysis of general information of sample members as shown in Table (2)

Table (2) Distribution of the study sample according to general information

| General Information | | Number | % |
|---|---|---|---|
| Workplace | Head of Department | 77 | 47.2 |
| | Bank Branch | 86 | 52.8 |
| Academic Qualification | Secondary | 7 | 4.3 |
| | Diploma | 13 | 8 |
| | Bachelor's | 114 | 69.9 |
| | Master's | 28 | 17.2 |
| | PhD | 1 | 6. |
| Specialization | Accounting | 24 | 14.7 |
| | Business Administration | 72 | 44.2 |
| | Economics | 18 | 11 |
| | Public Administration | 7 | 4.3 |
| | Other | 42 | 25.8 |
| Years of Experience | 1-5 Years | 61 | 37.4 |
| | 6-10 Years | 73 | 44.8 |
| | More than 10 Years | 29 | 17.8 |
| Have you taken courses in financial analysis? | Yes | 140 | 85.9 |
| | No | 23 | 14.1 |
| Degree of authority granted in the credit granting decision | Divorced | 5 | 3.1 |
| | Limited | 103 | 63.2 |
| | No Authorization | 55 | 33.7 |
| Total | | 163 | 100% |

12-1-2 Results of the analysis of the characteristics of the financial information required from the client:

Table (3) Distribution of the study sample according to the characteristics of the financial information required from the client.

| Financial information required from the client | | Number | % |
|---|---|---|---|
| Do you request financial information from the company requesting credit? | Always | 148 | 90.8 |
| | Mostly | 4 | 2.5 |
| | Sometimes | 7 | 4.3 |
| | We don't require | 4 | 2.5 |
| The financial information requested from the customer is for the period. | Current year | 13 | 8.2 |
| | Previous year | 7 | 4.4 |
| | 2 years ago | 13 | 8.2 |
| | 3 years ago | 116 | 73 |
| | More than 3 years | 10 | 6.3 |
| What financial statements do you request? | Balance sheet | 145 | 91.2 |
| | Income statement | 137 | 86.2 |

| | Cash flow statement | 120 | 75.5 |
|---|---|---|---|
| Do you take the financial information contained in the financial statements as is, or is it modified? | Accepted as is | 73 | 45.9 |
| | Amended | 86 | 54.1 |
| Does the financial information have to be audited and accompanied by an auditor's report? | Yes | 152 | 95.6 |
| | No | 7 | 4.4 |
| The extent to which financial information is relied upon in decision-making. | Very high | 50 | 31.4 |
| | High | 78 | 49.1 |
| | Average | 31 | 19.5 |
| The extent to which the financial information provided by companies for the purpose of obtaining credit is trusted. | Very high | 20 | 12.6 |
| | | 73 | 45.9 |
| | | 65 | 40.9 |
| | | 1 | 0.6 |

**It is noted from the following table (3):**

1. That 90.8% of the banks to which the sample members belong; request financial information related to the customer. Moreover, 2.5% of them do not request financial information related to the customer. This is a very small percentage. This indicates the importance of the customer's financial information in the decision to grant credit.
2. That most of the banks to which the study sample members belong require that the financial information be for the previous three years; their percentage reached 73%.
3. That most of the banks to which the study sample members belong request the financial position statement (balance sheet) 91.2%. In addition, the banks to which the sample members belong that request the income statement (profits and losses) 86.2%, and the banks to which the sample members belong that request the cash flow statement 75.5%.
4. That most of the banks to which the study sample members belong; amend the financial information included in the financial statements according to the credit policy followed in the bank by 54.1%. While the banks to which the sample members belong that do not modify the financial information included in the financial statements were 45.9%.
5. Most of the banks to which the sample members belong require that the financial information be audited and accompanied by an auditor's report at a rate of 95.6%, and the banks to which the sample members belong. Do not require that the financial information be audited and accompanied by an auditor's report at a rate of 4.4%. This is attributed to the fact that audited financial statements are more reliable.
6. Most of the banks to which the sample members belong rely on the financial information provided by companies requesting credit to a high degree at a rate

of 49.1%. Banks that rely on the financial information provided by companies requesting credit to a very high degree at 31.4%. While banks that rely on it to an average degree were 19.5%.

7. The majority trust the financial information provided by customers to a high degree at a rate of 45.9%, and banks that trust to an average degree at 40.9%. While banks that trust the financial information provided by customers very highly 12.6%. In addition, banks that trust the financial information provided by customers weakly 0.6%.

12-1-3 The arithmetic mean and standard deviation of the sample members' answers to the questionnaire axes:

1. The importance of a set of criteria and elements when making a credit decision:

Table (4) the arithmetic mean and standard deviation of the axis of the importance of a set of criteria and elements when making a decision to grant credit.

| N | Phrase | Arithmetic mean | Standard deviation | Significance |
|---|--------|-----------------|--------------------|--------------|
| 1 | Source of loan repayment. | 4.71 | 0.577 | Very high |
| 2 | The default capacity of the customer (ability to repay). | 4.69 | 0.612 | Very high |
| 3 | Study and analysis of the financial situation of the customer. | 4.58 | 0.752 | Very high |
| 4 | The customer's credit history. | 4.50 | 0.651 | Very high |
| 5 | The type of loan required, and its compatibility with the general lending policy. | 4.46 | 0.678 | Very high |
| 6 | The customer's personality and business reputation. | 4.37 | 0.824 | Very high |
| 7 | The loan term and repayment date. | 4.17 | 0.803 | High |
| 8 | Information about the customer's credit facilities in other banks. | 4.10 | 0.795 | High |
| 9 | The sector of activity in which the customer works, and the degree of competition. | 4.07 | 0.821 | High |
| 10 | The loan amount. | 4.02 | 0.926 | High |
| 11 | The guarantees available to the customer. | 4.01 | 0.923 | High |
| 12 | Consultation from Sama Credit Information Company about the customer's previous situation. | 4.01 | 0.923 | High |
| 13 | The impact of laws and legislation on the customer's activity. | 3.99 | 0.871 | High |
| 14 | The prevailing economic conditions. | 3.84 | 0.955 | High |

The answers were arranged according to arithmetic averages from most important to least important for the sample participants when making a credit decision in Table (4). We find that the employees of Saudi banks participating in the study give high importance to all the mentioned elements related to the customer when making credit decisions. We notice from their arrangement - according to the importance of each element - that there is a very high importance when making a credit decision to the

source of loan repayment, the customer's ability to repay, studying and analyzing the customer's financial situation, the customer's credit history, the type of loan required, the customer's personality, and his commercial reputation, then the rest of the other elements come with less importance. This is according to the results in the table, which are arranged according to the importance of each element in descending order.

2. The extent of using the analysis of the client's financial statements in the decision to grant credit:

Table (5) The arithmetic mean and standard deviation of the axis of the extent of using the analysis of the client's financial statements in the decision to grant credit.

| N | Phrase | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|--------|-----------------|--------------------|-------------|--------------|
| 1 | The bank's credit policies require the use of financial statement analysis in evaluating credit applications. | 4.75 | 0.435 | 1 | I totally agree |
| 2 | The level of accuracy in credit decisions increases by using financial statement analysis. | 4.59 | 0.541 | 2 | I totally agree |
| 3 | The analysis of the client's financial statements is a stage in the credit decision-making process. | 4.57 | 0.544 | 3 | I totally agree |
| 4 | The analysis of the client's financial statements provides important indications and indicators that help in making sound credit decisions. | 4.55 | 0.590 | 4 | I totally agree |
| 5 | Many credit decisions depend on the analysis of the client's financial statements. | 4.49 | 0.612 | 5 | I totally agree |
| 6 | The analysis of the financial statements helps in determining the value of the credit granted to the client. | 4.48 | 0.632 | 6 | I totally agree |
| 7 | The laws of the Monetary Agency require the use of financial statement analysis in evaluating credit applications. | 4.44 | 0.649 | 7 | I totally agree |
| 8 | The bank's tendency to rely on the analysis of the client's financial statements; ensures the quality and type of the loan portfolio. | 4.42 | 0.683 | 8 | I totally agree |
| 9 | The analysis of the client's financial statements provides information and indicators about the potential risks in the credit decision. | 4.38 | 0.669 | 9 | I totally agree |
| 10 | The analysis of the client's financial statements achieves an evaluation of the operational performance of the credit applicant. | 4.33 | 0.693 | 10 | I totally agree |
| 11 | The analysis of the financial statements achieves an evaluation of the financial and monetary position of the credit applicant. | 4.32 | 0.664 | 11 | I totally agree |
| 12 | The analysis of the client's financial statements contributes to making credit decisions with low risks. | 4.32 | 0.718 | 12 | I totally agree |

| N | Phrase | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|--------|-----------------|--------------------|-------------|--------------|
| 13 | The analysis of the financial statements enables obtaining early warning indicators of problems that may face the credit granting process, and finding appropriate solutions and treatments for them in a timely manner. | 4.31 | 0.671 | 13 | I totally agree |
| | Using customer financial statement analysis in credit granting decisions. | 4.46 | 0.364 | | I totally agree |

In Table (5), (13) statements were allocated to identify the opinions of the study sample members about the extent to which the analysis of the customer's financial statements is used in the decision to grant credit in Saudi commercial banks. The table shows the arithmetic means, standard deviation, and degree of agreement for the answers of the study sample members to the statements. By extrapolating the results shown in Table (5), the researcher notes that the statements obtained arithmetic means that fall within (I completely agree). The arithmetic means of the statements ranged between (4.31 - 4.75). These are high averages that fall within the degree of (I completely agree). This means that Saudi commercial banks use the analysis of the customer's financial statements when making their credit decisions. It is clear from Table (5) that the level of accuracy in credit decisions increases using the analysis of financial statements, with an arithmetic mean of (4.59). The analysis of the customer's financial statements is a stage in the credit decision-making process; its arithmetic mean reached (4.57). The analysis of financial statements provides indicators that help rationalize the decision to grant credit, with an arithmetic mean of (4.55). The analysis of the client's financial statements helps the bank determine the value of the credit granted to the client (4.48). The bank's tendency to rely on the analysis of the client's financial statements ensures the quality of the loan portfolio, with an arithmetic average of (4.42). It provides indicators of potential risks in the credit decision; its arithmetic average reached (4.38). The results show that the bank's credit policies require the use of the analysis of the client's financial statements in credit granting decisions. It obtained the highest approval score, with an arithmetic average of (4.75). While the lowest approval score was that, the analysis of the financial statements enables obtaining early warning indicators of problems that may face the credit granting process. In addition, finding appropriate solutions and treatments for them in a timely manner, with an arithmetic average of (4.31).

3. Financial ratios used when making credit-granting decisions:

Table (4-5) shows the arithmetic mean, standard deviation, and ranking of the dimensions of the most commonly used financial ratio groups from the point of view of the study sample members when making credit-granting decisions.

Table (6) the arithmetic mean and standard deviation of the financial ratio groups used in the credit decision.

| N | Financial ratio groups | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|---|---|---|---|---|
| 1 | Liquidity Ratios | 4.17 | 0.583 | 3 | mostly |
| 2 | Profitability Ratios | 4.11 | 0.644 | 4 | mostly |
| 3 | Activity Ratios | 4.20 | 0.635 | 2 | mostly |
| 4 | Debt or Leverage Ratio | 4.31 | 0.587 | 1 | mostly |
| 5 | Market Ratio | 3.41 | 1.202 | 5 | mostly |

We note from Table (6) that the group of debt ratios (financial leverage) is the most commonly used when making credit granting decisions, with an arithmetic mean of (4.31). It is followed in use, according to the opinions of the study sample, by the group of activity ratios with an arithmetic mean of (4.20). Then the group of liquidity ratios, whose arithmetic mean was (4.17). Then the group of profitability ratios, with an arithmetic mean of (4.11). Finally, the group of market ratios, with an arithmetic mean of (3.41). This indicates a high interest among credit analysts in Saudi commercial banks in using financial ratios when making a decision to grant credit to a customer. This is because these ratios provide important indicators of the customer's situation, which contributes to rationalizing the credit decision.

Table (7) Arithmetic mean, standard deviation, and ranking of financial ratios used when making credit decisions.

| Financial ratios | | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|---|---|---|---|---|
| Liquidity Ratios | Current Ratio | 4.31 | 0.972 | 1 | always |
| | Inventory Liquidity | 4.19 | 0.787 | 2 | often |
| | Quick Ratio | 4.18 | 0.811 | 3 | often |
| | Accounts Receivable Liquidity | 4.18 | 0.851 | 4 | often |
| | Cash Ratio | 4.00 | 0.823 | 5 | often |
| Profitability Ratios | Net Profit Margin | 4.48 | 0.855 | 1 | often |
| | Gross Profit Margin | 4.44 | 0.839 | 2 | often |
| | Return on Equity | 3.98 | 0.652 | 3 | often |
| | Return on Investment | 3.85 | 0.748 | 4 | always |
| | Return on Total Assets | 3.81 | 0.841 | 5 | often |
| Activity Ratios | Debtors Turnover Ratio | 4.34 | 0.906 | 1 | often |
| | Average Collection Period | 4.34 | 1.273 | 2 | often |
| | Inventory Turnover Ratio | 4.29 | 1.256 | 3 | always |
| | Creditors Turnover Ratio | 4.18 | 1.226 | 4 | often |
| | Net Working Capital Turnover Ratio | 4.10 | 0.972 | 5 | often |
| | Asset Turnover Ratio | 3.98 | 0.787 | 6 | often |
| Debt or Leverage Ratios | Liabilities to Equity Ratio | 4.61 | 0.811 | 1 | always |
| | Debt Ratio (Liabilities to Assets) | 4.39 | 0.851 | 2 | often |

| | Financial ratios | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|---|---|---|---|---|
| | Interest Coverage Ratio | 4.28 | 0.823 | 3 | often |
| | Fixed Cost Coverage Ratio | 3.97 | 0.855 | 4 | always |
| Market Ratios | Earnings Per Share Ratio | 3.47 | 0.839 | 1 | often |
| | Dividend Yield | 3.42 | 0.652 | 2 | often |
| | Market to Book Value Per Share | 3.36 | 0.748 | 3 | always |

12-1-4 Obstacles to using financial statement analysis in credit granting decisions:

Table (8) Arithmetic mean, standard deviation, and ranking of obstacles to using financial statement analysis in credit granting decisions.

| N | Phrase | Arithmetic mean | Standard deviation | Arrangement | Significance |
|---|---|---|---|---|---|
| 5 | The client does not maintain regular accounting records. | 4.02 | 0.871 | 1 | I agree |
| 4 | Difficulty in obtaining or unavailability of the client's financial information. | 4.00 | 0.889 | 2 | I agree |
| 1 | Existence of policies followed by the bank. | 3.86 | 1.143 | 3 | I agree |
| 6 | Absence of standard ratios. | 3.71 | 0.954 | 4 | I agree |
| 2 | The amount of financing required. | 3.70 | 1.078 | 5 | I agree |
| 7 | Absence of a unified pattern for calculating some ratios. | 3.50 | 1.102 | 6 | I agree |
| 3 | The authority granted to the credit officer. | 3.46 | 1.061 | 7 | I agree |
| 8 | Difficulty in analyzing and interpreting financial ratios. | 3.36 | 1.195 | 8 | Neutral |
| 9 | The credit officer's inability to conduct financial analysis. | 3.17 | 1.317 | 9 | Neutral |

Table (8) shows the arithmetic mean and standard deviation of the sample members' answers regarding the obstacles that limit the use of financial statement analysis in the credit granting decision. Arranging them according to the arithmetic mean for each statement, we find that the client's failure to keep regular accounting records is the biggest obstacle to the use of financial statement analysis in the credit granting decision from the point of view of the study sample members; as it obtained an arithmetic mean of (4.02). As for the other obstacles that obtained lower means with some variation in the degrees of approval, they include: difficulty in obtaining the client's financial information or its unavailability (4.00). The existence of policies

followed by the bank (3.86), the absence of standard ratios (3.71), the size of the required financing (3.70). The absence of a unified pattern for calculating some ratios (3.50), the authority granted to the credit officer (3.46), and the difficulty of analyzing and interpreting financial ratios (3.36). The lowest degree of approval for the statement was the credit officer's inability to conduct financial analysis (3.17).

**12-2 Hypothesis Testing:**

First Hypothesis: There is no statistically significant relationship between the extent of using financial statement analysis in making credit granting decisions and the percentage of potential credit loss provision.

To test this hypothesis, Pearson's correlation coefficient test was used at the significance level ($\alpha = 0.05$), and the results were as in Table (9):

Table (9) Results of Pearson's correlation coefficient test for the relationship between the use of financial analysis in credit decisions and the percentage of credit loss provision

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the use of financial statement analysis in making credit decisions and the percentage of provision for potential credit losses. | −0.127 | 0.106 |

The results in Table (9) show that the significance value (P.value = 0.106) is greater than the value ($\alpha = 0.05$). Accordingly, there is no statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit, and the percentage of provision for potential credit losses. In other words, the percentage of provision for potential credit losses in banks is not affected by the use of financial statement analysis when making the decision to grant credit.

The researcher used the (Independent–Samples T Test) at a significance level ($\alpha = 0.05$) to calculate the differences between two groups, which are banks with high credit losses and banks with low credit losses. The median is calculated for the average percentage of provision for potential credit losses; it was found that the median value is (0.595). This value was considered a cut-off point for the percentage of provision for potential credit losses, on the basis of which two groups were formed accordingly. The first group is banks with high credit losses, which are those whose average percentage of provision for credit losses is greater than (0.595). The second group is banks with low credit losses, which have an average credit loss provision ratio of less than (0.595). The results are as shown in Table (10):

Table (10) Results of the (T) test for differences between two groups according to the average credit loss provision ratio.

| Credit Loss Allowance Ratio | N of Readings | M | S. d. | T | Degrees of Freedom | P. value |
|---|---|---|---|---|---|---|
| Banks with high credit losses | 106 | 4.52 | 0.502 | 1.624 | 161 | 0.106 |
| Banks with low credit losses | 57 | 4.39 | 0.491 | | | |

The results in Table (10) show that the value of p-value = 0.106, which is greater than the value of ($\alpha$= 0.05). Accordingly, the percentage of provision for potential credit losses is not affected by the use of financial statement analysis in the credit granting decision.

Hypothesis Two: There is no statistically significant relationship between the extent of using financial statement analysis in making the credit granting decision, and the characteristics of the credit granting officer.

To test this hypothesis, Pearson's correlation coefficient test was used at the significance level ($\alpha$= 0.05). The characteristics of the credit granting officer are represented in each of: (academic qualification - specialization - years of experience - obtaining courses in financial analysis - degree of authorization granted).

**First: Academic qualification:**

Table (11) Results of Spearman's correlation coefficient test for the relationship between the use of financial statement analysis and academic qualification

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent of using financial statement analysis in making credit granting decisions and academic qualifications | 0.171 | 0.029 |

From the results in Table (11), it is clear that the significance value (P.value) = (0.029) is less than the value ($\alpha$ = 0.05). Accordingly, there is a statistically significant relationship between the extent of using financial statement analysis in making the credit granting decision and the academic qualification. We find that Spearman's coefficient (+ 0.171). This indicates that there is a weak direct correlation between the use of financial statement analysis in making the credit granting decision and the academic qualification. That is, the higher the official's academic qualification - i.e. whether his qualification is a bachelor's, master's, or doctorate - the use of financial

statement analysis in making the credit granting decision increases to a weak degree. The lower the official's academic qualification - i.e. whether his qualification is a secondary school or diploma - the use of financial statement analysis in making the credit granting decision decreases to a weak degree.

**Second: Specialization:**

Table (12) Results of Spearman's correlation coefficient test for the relationship between the use of financial statement analysis and specialization

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent of using financial statement analysis in making credit granting decisions and specialization | −0.171 | 0.029 |

From the results in Table (12); it is clear that the significance value (P.value) = (0.029) is less than the value ($\alpha$ = 0.05). Accordingly, there is a statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit and specialization, and we find that Spearman's coefficient (-0.171). This indicates that there is a weak inverse correlation between the use of financial statement analysis in making the decision to grant credit and specialization. That is, the difference in the specialization of credit granting officials affects the extent of their use of financial statement analysis. Those with accounting and business administration specializations use financial statement analysis more, unlike those with other specializations.

**Third: Years of experience:**

Table (13) Results of Pearson's correlation coefficient test for the relationship between the use of financial statement analysis and years of experience

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent of use of financial statement analysis in making credit granting decisions and years of experience | 0.152 | 0.042 |

From the results in Table (13), it is clear that the significance value (P.value) = (0.042) is less than the value ($\alpha$ = 0.05). Accordingly, there is a statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit and years of experience, and we find that the Pearson coefficient (+ 0.152). This indicates that there is a weak direct correlation between the use of financial statement analysis in making the decision to grant credit and years of

experience. That is, the more years of experience the official has, the more weakly the use of financial statement analysis in making the decision to grant credit. The less years of experience the official has, the less weakly the use of financial statement analysis in making the decision to grant credit. Fourth: Receiving courses in financial analysis:

Table (14) Results of the Pearson correlation coefficient test for the relationship between the use of financial statement analysis and obtaining courses in financial analysis

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent of using financial statement analysis in making credit granting decisions and taking courses in financial analysis | −0.036 | 0.082 |

From the results in Table (14), it is clear that the significance value (P.value) = (0.082) is greater than the value ($\alpha$ = 0.05). Accordingly, there is no statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit and receiving courses in financial analysis. That is, receiving courses in financial analysis has no effect on the extent of using financial statement analysis in making the decision to grant credit, and this may be inconsistent with reality. However, we are forced to accept the results of the analysis as they are.

Fifth: The degree of authorization granted to the credit-granting officer:

Table (15) Spearman correlation coefficient test results for the relationship between the use of financial statement analysis and the degree of authorization granted

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent to which financial statement analysis is used in making credit granting decisions and the degree of authorization granted to the credit granting officer | −0.035 | 0.660 |

The results in Table (15) show that the significance value (P.value) = (0.660) is greater than the value ($\alpha$ = 0.05). Accordingly, there is no statistically significant relationship between the extent of using financial statement analysis in making the credit granting decision, and the degree of authorization granted to the credit granting officer. That is, the degree of authorization granted to the credit granting officer has no effect on the use of financial statement analysis in making the credit granting decision.

**Hypothesis Three:** There is no statistically significant relationship between the extent of using financial statement analysis in making the credit granting decision, and reliance on information in the financial statements.

To test this hypothesis, Pearson's correlation coefficient test was used at the significance level ($\alpha$= 0.05), and from the results in Table (16), it is clear that the significance value (P.value) = (0.045) is less than the value ($\alpha$ = 0.05). Accordingly, there is a statistically significant relationship between the extent of using financial statement analysis in making the decision to grant credit, and the degree of reliance on the financial information contained in the financial statements. We find that Pearson's coefficient = (+ 0.168).

This indicates that there is a weak positive correlation between the uses of financial statement analysis in making the decision to grant credit. and the degree of reliance on financial information: that is, the greater the degree of reliance on the financial information provided by the companies requesting credit, the greater the use of financial statement analysis in making the decision to grant credit, and the less the degree of reliance on financial information, the less the use of financial statement analysis in making the decision to grant credit.

Table (16) Results of Pearson's correlation coefficient test for the relationship between the use of financial statement analysis and the degree of reliance on financial information

| Test Subject Axes | Pearson Correlation Coefficient | P. value |
|---|---|---|
| The relationship between the extent of use of financial statement analysis in making credit granting decisions and the degree of reliance on financial information | 0.168 | 0.045 |

**Fourth hypothesis:** There are statistically significant differences in the extent of using financial statement analysis when making credit decisions, attributed to the size of the lending entity.

To test this hypothesis, the One-Way ANOVA test was used at a significance level ($\alpha$ = 0.05). Banks were classified according to the size of their assets into large, which are those with assets exceeding (200 billion riyals), medium-sized banks with assets (more than 100 billion riyals, and less than 200 billion riyals), and small-sized banks with assets less than (100 billion riyals). The results were as shown in Table (17).

Table (17) Results of the analysis of variance according to the size of the lending entity

| Axis | Lending entity size | N of readings | M | S. d. | F | P | Sig. |
|---|---|---|---|---|---|---|---|
| Using Financial Statement Analysis in Credit Decision Making | Large Banks | 50 | 4.42 | 0.49 | 0.428 | 0.653 | Not Indicative |
| | Medium Banks | 31 | 4.52 | 0.50 | | | |
| | Small Banks | 82 | 4.49 | 0.50 | | | |
| | Total | 163 | 4.47 | 0.50 | | | |

From the results in Table (17), it is clear that the significance value (p-value = 0.653) is greater than the value of $\alpha$ (0.05). Accordingly, there are no statistically significant differences in the extent of using financial statement analysis in making credit decisions; attributed to the size of the lending entity. It is clear that the use of financial statement analysis in the decision to grant credit does not differ according to the size of the bank or lending entity.

## 13- Results and Recommendations

### 13-1 Results:

The results of the study depend on achieving its objectives and testing its hypotheses; where it was reached:

1- Commercial banks use the analysis of the client's financial statements when making their credit decisions; where the arithmetic mean value reached (4.46) at the degree of I completely agree. It increases the accuracy of credit decisions, and provides indicators that help rationalize the credit decision.

2- The analysis of the client's financial statements is an essential step within a series of steps necessary to make a decision to grant credit. The percentage of commercial banks that request financial information about the client seeking credit reached (90.8%). Which indicates the importance of the client's financial information in the decision to grant credit.

3- Commercial banks attach great importance to the source of loan repayment, the client's ability to repay, studying and analyzing the client's financial situation, and the client's credit record.

4- The most used financial statements in credit decisions are the balance sheet, followed by the income statement. Then the cash flow statement, and most commercial banks require that these statements cover a period of three previous years.

5- Most commercial banks require that the financial statements be audited and accompanied by an auditor's report.

6- The most commonly used financial ratios when making a credit granting decision, in order of arithmetic averages, are:
- Group of debt ratios, with an arithmetic average (4.31).
- Group of activity ratios, with an arithmetic average (4.20).
- Group of liquidity ratios, with an arithmetic average (4.17).
- Group of profitability ratios, with an arithmetic average (4.11).
- Group of market ratios, with an arithmetic average (3.41).

7- One of the most important obstacles that limit the use of financial statement analysis in the decision to grant credit is the client's failure to keep regular accounting records.

8- The percentage of potential credit loss provision in commercial banks is not affected by the use of financial statement analysis when making a decision to grant credit.

9- The higher the academic qualification of the credit officer, the greater the use of financial statement analysis in credit decisions.

10- The difference in academic specialization of credit officers affects the use of financial statement analysis.

11- The more experienced the credit officer, the more they use financial statement analysis in credit decisions.

12- The results concluded that there is no statistically significant relationship between the extent of the use of financial statement analysis in credit decisions and receiving courses in financial analysis.

13- There is no statistically significant relationship between the use of financial statement analysis in making a decision to grant credit and the degree of authorization granted to the credit officer.

14- There is a statistically significant relationship between the use of financial statement analysis and the degree of reliance on it. The greater the degree of reliance on the information in the financial statements, the more this information is used by banks in credit decisions.

15- The use of financial statement analysis in the credit granting decision does not differ depending on the size of the bank.

## 13-2 Recommendations:

1. The importance of commercial banks relying more widely on financial analysis of customer lists, and not being satisfied with the availability of guarantees with the customer.

2. The importance of raising the efficiency of credit employees in commercial banks through continuous courses and continuing education.

3. The importance of granting credit employees sufficient authorization to work.

4. The importance of working to set specific criteria for granting loans in Saudi commercial banks.

5. The researcher looks forward to conducting more future studies on the research topic; due to the scarcity of studies on it in the Kingdom of Saudi Arabia, and the researcher suggests the following topics:

- The role of accounting information in rationalizing credit policies in Saudi commercial banks.
- The role of accounting information in predicting operational risks in Saudi commercial banks.

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