

The Arab American University Faculty of Graduate Studies

Investigating the Effectiveness of Using Credit Analysis Techniques to Bridge Credit Risk "Empirical Evidence from the Banking Sector"

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Declaration

I declare that the content of this thesis is my own research work, unless otherwise referenced. I certify that this thesis does not contain any material published before by another person or has been submitted elsewhere for any degree or qualification.

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Dedication

To my dear father & mother; may God prolong their life and keep them with safe & healthy for their love, support & encouragement.

To my soul mate, my husband who walked with me towards the dream.

To my dear brothers and sisters.

Moreover, to all my teachers and colleagues.

To the Arab American University incubator of creativity and science.

To all who contributed to the success of this desertion.

To all these people I dedicate this study

Researcher

Lina Yousef Mahmoud Jardaneh

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Abstract

The aim of this thesis is to examine the adoption of the credit analysis techniques to bridge credit risk to the current situation in local Palestinian banks.

The credit analysis was presented in this thesis as follows "historical credit record analysis, known models of evaluating credit risk, financial analysis, profitability, known standards credit approaches for "Creditworthiness", the applications of lending instructions of The Palestinian Monetary Authority, the borrowers market condition, the reputation and Morals of the Borrowers", which used to evaluate credit and bridge its risk.

This thesis relied on analytical descriptive approaches; with reference to the Palestine Monetary Authority (PMA) rules & regulations; Basel Conventions; International Accounting Standards (ISFR9); scientific periodicals; previous studies; text books, & publications, describing this subject, in addition to this a questionnaire was used to collect data, which was analyzed by using SPSS.

The questionnaire was distributed to the following: "credit managers; credit risk managers; branch managers, & business line employees", who are working in the local Palestinian banks & operating in the west bank totaling (7) banks, out of (248) questionnaire distributed, we received (189) completed questionnaires.

The results of the thesis found that the local Palestinian banks adhere to and follow all the instruments of credit analysis and credit risk in order to reduce credit risk which contributes to a strong credit local Palestinian banking sector & one of the reasons for this is that PMA has strict rules & regulations which the banks follow & adhere to.

These results are considered to be positive and of great importance; in providing the local Palestinian banks with an opportunity to grant credit expansion; and to participate in financing investment development and infrastructure long term projects, as a substitute to financing consumer retail products and short terms loans.

The most important recommendations of this thesis:

- 1. Make integration in qualitative and quantitative credit analysis tools for accurate evaluation of credit risk.
- **2.** Enter credit management models to determine the profit margin such as (Altman model) and others.
- **3.** Encourage joint participation by the banks in financing infrastructures projects in order to minimize the risk of default by diversification of capabilities.
- **4.** Open the banks for investment and development of large long term projects and industrial projects, to take their role in economic and social development by benefiting from the continuing development of the instruments of credit analysis and credit risk.
- **5.** The application of lending companies and microfinance of credit analysis instruments in order to minimize default rate.

Table of Contents

Declaration III
DedicationIV
AcknowledgmentsV
AbstractVI
Table of Contents
List of TablesXIV
List of Appendixes XVIII
1.1 Introduction
1.2 Problem Statement
1.3 Purpose statement
1.4 Significance of the study
1.6 Hypotheses7
1.7 Limitation of the study7
2.1 Theoretical background
2.1.1 The history of banking
2.1.2 Functions of Commercial banks9
2.1.3 The development of the Banking System in Palestine
2.1.4 Palestinian Monetary Authority and granting credit instructions

2.1.4.1 Instruction No. 6/2011 issued on 5th of Sep 2011 regarding Credit Risk
Management
2.1.4.2 Instructions No. (2) for the year 2015 regarding credit limits and controls, issued on
the 15th of Feb 2015
2.1.4.3 Instructions No. (6) for the year 2014 Dated 14th of May 2014, regarding Credit
granted to relevant stakeholders
2.1.4.4 In 2016, the PMA issued instructions No. (2) for the year 2016 Dated 20th of Mar
2016, about "Responsible Lending"
2.1.4.5 In 2018, the PMA issued instructions No. (2) for the year 2018, "Regarding the
requirements and guidance for the application of IFRS 9"14
2.1.5 Basel Committee in Banking Supervision (BCBS)14
2.1.5.1 Review of Basel Conventions
2.1.5.2 Capital Adequacy (CA)16
2.1.6 The International Financial Reports Standards (IFRS 9)16
2.1.7 Categories of Financial Institution Risks
2.1.7.1 Financial risks
2.1.7.2 Operational risk
2.1.7.3 Environmental risks
2.1.7.4 Credit risk
2.1.8 Uncertainty and Risk, Information and knowledge
2.1.9 Credit Bank Policy
2.1.10 Credit analysis and Assessment

2.1.11 The Credit Process	22
2.1.12 Models of credit Assessment	24
2.1.13 Credit Appraisal Techniques	25
2.1.13.1 The Traditional Methods	25
2.1.13.1.1 Credit Rating System	25
2.1.13.1.2 Credit score system	26
2.1.13.1.3 Expert system	26
2.1.13.1.4 External Credit risk	27
2.1.13.2 Popular modern models	28
2.1.13.2.1 B-Sherrod's Failure Prediction Model 1987	28
2.1.13.2.2 Stress testing	29
2.1.13.3 Structural models in assessing credit risk	29
2.1.13.3.1 Intensity-based Approach	30
2.1.13.3.2 Econometric factor risk models	30
2.1.13.3.3 A top-down actuarial model	30
2.1.13.4 Statistical Models	30
2.1.13.4.1 Multivariate Discriminant Analysis	31
2.1.13.4.2 Regression Models	31
2.1.13.4.3 Artificial Neural Networks	31
2.1.13.5 SWOT analysis	31
2.1.13.6 Causal models in credit assessment	

2.1.13.7 Financial Analysis	.32
2.1.14 Credit Risk Management	.34
2.1.15 Risk Assessment	.35
2.1.16 Credit classification,	.36
2.1.17 Types of bank Loans	.36
2.1.17.1 Credit Facilities & Loans	.36
2.1.17.6 None performing loans	.37
2.1.17.7 Definitions of None performing loans	.37
2.1.17.8 The reasons for none performing loan	.37
2.1.18 Stages of the borrower's default	.37
2.1.18.1 Performing loans which are divided into two parts	.37
2.1.18.2 None performing loans, which are divided into three parts	.38
2.2 Previous Studies	. 39
2.2.1 Arabic studies	. 39
2.2.2 Foreign Studies	.41
2.3 Comparison with the previous literature	. 52
3.1 Chapter Overview	.54
3.2 Research Design	.54
3.3 Target Population	.56
3.4 Sampling techniques	.57
3.5 Sample size	.57

3.5.1 Demographics Characteristics of Study Sample:
3.6 Variables of the study
3.6.1 Independent variables
3.6.2 Intermediary Variables
3.6.3 Dependent variables
3.7 Data Validity and Reliability
3.7.1 Data Validity
3.7.2 Data Reliability63
3.8 Data Collection Methods
3.8.1 Secondary data
3.8.2 Primary data
3.8.3 Illustration of Likert Scale
3.9 Statistical Approach
4.1 Chapter Overview
4.2 Data Analysis
4.2.1 Sample characteristics
4.2.1.1. Normal Operation of the banks
4.2.1.2 Employee Academics Specialty
4.2.1.3 The Job Title of the Operator
4.2.1.4 The Number of Courses Taken by the Operator
4.3 Examining Thesis Questions72

4.3.8 Question number (8) states that "To what extent the local Palestinian banks are	
Monitoring the Reputation and morals of the borrowers?"9	1
4.4 Examining Hypothesis Number One9	13
4.5 Examining Hypothesis Number two10	17
4.5 Examining Hypothesis Number Three11	5
4.6 Examining Hypothesis Number Four12	:3
CHAPTER FIVE	2
CONCLUSION, RECOMMENDATIONS AND SUGGESTION FOR FUTURE RESEARCH	2
5.1 Conclusions13	2
5.2 Recommendations	9
5.3 Suggestions for Future Research14	-0
Bibliography	-2
Arabic abstract	7

Table No.	Table Name	Page No.
Table No (1) Standardized rating scale		
Table No (2) Categories of Risk loan Degree		29
Table No (3) Financial Ratio		33
Table No (4) Some of common types of financial model	S	34
Table No (5) The structure of banks sector in Palestine	at year of 2016	56
Table No (6) local Palestinian banks operating in West	Bank – Palestine	57
Table No (7) Sample size by using stratified sampling		58
Table No (8) Distribution of the study sample according	to (demographics charac	cteristics)58
Table No (9) Coefficient of Cronbach Alpha for measur	ing the reliability of the c	questionnaire .63
Table No (10) The Likerts scale was used for the measure	rements of the responder	nts65
Table No (11) Weighted average		66
Table No (12) Stem I Adoption of Historical Credit		73
Table No (13) Stem II: Adoption of known models		75
Table No (14) Stem III: Adoption of Financial Analysis		78
Table No (15) Stem IV: focus on Profitability		81
Table No (16) Stem V: Adoption of known star	ndards and approaches	for borrower's
creditworthiness		85
Table No (17) Stem VI: Apply instructions of		88
Table No (18) Stem VII: adoption of market conditions	analysis	90
Table No (19) Stem VIII: Monitoring of reputation		

Table NO (20) Independent samples t-test for means of "adopt historical credit record analysis" Table No (21) Independent samples t-test for means of "adoption of known models of evaluating Table No (22) Independent samples t-test for means of "adopt financial analysis for the borrowers" due to the normal operations of the bank96 Table No (23) Independent samples t-test for means of "focusing on profitability" due to the Table No (26) Independent samples t-test for means of "adopt capacity analsis"100 Table No (27) Independent samples t-test for means of "capital analysis"101 Table No (28) Independent samples t-test for means of ADOPTS collateral analysis on the credit Table No (29) Independent samples t-test for means of "conditions analysis" due to the normal Table No (30) Independent samples t-test for means of "follow up and control" due to the normal Table No (31) Independent samples t-test for means of "apply PMA instructions" due to the Table No (32) Independent samples t-test for means of "the borrowers market condition

Table No (33) Independent samples t-test for means of "monitoring reputation and morals of the
borrowers" due to the normal operations of the bank106
Table No (34) the outcomes of one-way ANOVA of "adoption of historical credit record analysis
of the borrowers "due to job title108
Table No (35) the outcomes of one-way ANOVA of "adoption of known models of evaluating
credit risk" due to job titles108
Table No (36) the outcomes of one-way ANOVA of "adoption of financial analysis for the
borrowers" due to job titles109
Table No (37) the outcomes of one-way ANOVA of "profitability" due to job title110
Table No (38) the outcomes of one-way ANOVA "adopt known standards for creditworthiness
approachs "DUE to job titles
Table No (39) the outcomes of one-way ANOVA "apply the instructions of PMA"113
Table No (40) the outcomes of one-way ANOVA of "the borrower's market conditions analysis"
Table No (41) the outcomes of one-way ANOVA OF "monitor reputation & morals of the
borrowers" due to job title114
Table No (42) the outcomes of one-way ANOVA of "adoption of historical credit RECORD
ANALYSIS of the borrowers "due to bank employee's specialty115
Table No (43) the outcomes of one-way ANOVA of "adoption of credit risk assessment tools on
the credit risk" due to banks employee's specialty116
Table No (44) the outcomes of one-way ANOVA of "adoption of financial analysis for the
borrowers" due to bank employee's specialty117
Table No (45) the outcomes of one-way ANOVA of "focusing on profitability"118

Table No (46) the outcomes of one-way ANOVA "adoption of known standards for
creditworthiness approaches "due to bank employee's specialty119
Table No (47) the outcomes of one-way ANOVA "apply the instructions of PMA "
Table No (48) the outcomes of one-way ANOVA of "adopt the borrower's market conditions
analysis"
Table No (49) the outcomes of one-way ANOVA of "monitor reputation & morals of the
borrowers"
Table No (50) the outcomes of one-way ANOVA OF "adoption of historical analysis" due to the
number of courses taken by the operator
Table No. (51) the outcomes of one-way ANOVA of "adoption of known models" due to the
number of courses taken by the operator
Table No (52) the outcomes of one-way ANOVA of "adopt financial analysis of the borrowers"
due to the number of courses taken by the operator
Table No (53) the outcomes of one-way ANOVA of "focusing on profitability" due to the
number of courses taken by the operator
Table No (54) the outcomes of one-way ANOVA "adoption of known standards for
creditworthiness approaches "due to the number of courses taken by the operator
Table No (55) the outcomes of one-way ANOVA of "apply instructions of PMA "due to the
number of courses taken by the operator
Table No (56) The Outcomes Of One-Way ANOVA of "adopt the BORROWERS market
conditions analysis" due to the number of courses taken by the operator
Table No (57) the outcomes of one-way ANOVA of "monitor reputation & morals of the
borrowers" due to the number of courses taken by the operator

Figure No.	Subject	Page
		No.
Figure No (1) shows the dependent va	ariable and independent variables relat	ted to this thesis:6
Figure No (2) Systematic Overview of	of	25
Figure No (3) Structure of the Theore	tical Framework	
Figure No (4) The distribution of stud	ly sample according	68
Figure No (5) The distribution of stud	ly sample	69
Figure No (6) The distribution of the	study sample	
Figure No (7) The distribution of stu	dy sample according to the number of	f courses taken by the
operator		71

List of Appendixes

No.

Subject

Appendix No (1) Questionnaire in Arabic
Appendix No (2) Questionnaire in English
Appendix No (3) Questionnaire Referees

CHAPTER ONE: INTRODUCTORY CHAPTER

1.1 Introduction

The banking sector is an important part of any financial system, as an intermediary between the units in surplus and the units in deficits (Gatuhu, 2011). One of the MOST important services and facilities offered by traditional banks is Bank credit. Many studies and papers performed in order to find the role of credit analysis and its importance in credit grant decision (Purinsh et.al), (Aoshairy, 2001), (Aldogaim et. al, 2006), (Gan & Luo, 2008), (Al-khudairy, 1996).

The importance of credit analysis comes from: that it is considered as a tool to help banks to rationalize their decisions in granting loans; because it plays a vital role in protecting banks from the risk of loan troubles (Quweider and Zugheib, 2013). Several researchers focus on the main indicators that help to increase the effectivness of credit analysis and decrease the difficulties of credit grant, Altman developed a model to evaluate the financial position of the borrowers and their ability to produce adequate cash flows for loan repayment and interest in order to reduce risks exposed by losses of non-performing loans and default (Altman, 1986), and this model was improved later by Conan and Holder (Conan & Holde, 1979). For instance, a Paper by (Quweider and Zugheib, 2013), shows the importance of financial analysis and modern analysis tools for rationalizing the credit. Also, (Essa, 2004), examines the impact of global standards of the credit worthiness on the credit policy in the Palestinian banking sector. The findings show that the Palestinian banks have a high interest of these standards, but their effect was medium, and the factor "reputation and morals of the agent, collateral, economic sector, and bank liabil-ity" are very important factors as credit standards, while the intention to pay back the loan is not

of great importance. Moreover, the paper of (Altaher et al., 2007), comes to examine the main factors that affect the problem of loans difficulties at Palestinian banks. The paper divided these factors into three categories: bank's credit policy, client's behavior, and market conditions. The paper findings are: the most important factors for loan trouble were "inadequate credit analysis; lack of information; insufficient follow up of clients after the grant was given; the conditions of closures & occupation; and conflict between purpose of loan & the reason of the grant, besides unplanned expansion and an increase of debt, while the market conditions have no role in the troubles. Also, the paper of (Saleh et al., 2007), shows that the diversification of investments will minimize the risk of credit. For more explanations, the paper of (Anjro, 2007), shows that there is a vital role of credit analysis to ensure of creditworthiness of the borrower and his repayment ability. Also, the importance for a follow-up after the grant, & the paper indicates the important role of mathematical models in analysis (the accounting ratio) to avoid credit faltering.

There are many factors that influence credit analysis, the paper of (Khryosh et al., 2004), examines the impact of (bank size, capital adequacy ratio, the degree of employing deposits to loans, the average return of the loan portfolio, the rate of spending on advertising and the number of branches) on credit risk. The result revealed positive insignificant relationship between loan portfolio and number of bank branches, and significant relationship between loan portfolio and the other above mentioned variables. Also, the paper by (Al-jazrawi & Al-Nuaimi, 2010), shows that mutual trust is a key of the banking relationship between the banks & their clients.

Enhancing credit analysis relies on the following two models (Matar M., 2003), (1) the five P's of credit (5p's) approach, focus on (people, purpose, payment, protection, and perspective). This model works on the analysis of the client's internal and external environment: his (personality, and market sector). (2) The five C's of credit (5c's) approach focus on (character, capacity, capital, collateral, and conditions). These models also measure the client's creditworthiness and estimate his chances of default.

Based on the a afore mentioned discussion, this thesis comes to provide a live evidence from local Palestinian banks regarding the effectiveness of using credit analysis techniques to bridge credit risk.

1.2 Problem Statement

Granting the credit for the clients of the local Palestinian banks must be implemented based on a set of principles and rules of a stable, and the most important foundations in follow up, loans liquidity, profitability, security, and diversification (Quweider and Zugheib, 2013). Thus, there are some indicators that credit managers should examine to ensure the adequacy and effectiveness of credit grant procedures. In addition, using various techniques such as analyzing creditworthiness of prospective borrower's in order to make correct grant decision and to avoid the side effects of credit risk, and therefore bridging the risk gap.

Based on the previous explanations, this thesis comes to answer the following general question: <u>Are the local Palestinian banks using credit analysis techniques effectively to bridge</u> <u>credit risk.</u> This general question falls into eight sub-questions which are:

- 1- To what extent the local Palestinian banks adopt analysis of historical credit record of the borrowers for credit analysis?
- 2- To what extent the local Palestinian banks adopt known models of evaluating credit risk?
- 3- To what extent the local Palestinian banks adopt financial analysis for the borrowers? to make a correct grant decisions?

- 4- To what extent the local Palestinian banks focus on profitability for making credit grant decisions?
- 5- To what extent the local Palestinian banks adopt known standards and approaches for the borrower's creditworthiness?
- 6- To what extent the local Palestinian banks apply lending instructions of the Palestinian Monetary Authority?
- 7- To what extent the local Palestinian banks adopt market conditions analysis of the borrowers?
- 8- To what extent the local Palestinian banks are monitoring the reputation and morals of the borrowers?

1.3 Purpose statement

This thesis comes to achieve the following objectives:-

- Determine the extent of adopting the borrower's credit analysis by local Palestinian banks.
- Defining the most important factors they should take care of to bridge credit risk.

Explaining the credit analysis gap.

1.4 Significance of the study

According to Palestine Monetary Authority (PMA), there are fifteen banks operating in the Palestinian market, including six local banks and nine foreign banks (eight Jordanians and one Egyptian bank). Deposits reached in those banks until the end of the year 2016 (US \$ 10.5) billion, while the total of facilities were (\$ 6.5) billion and assets were (\$14.5) billion. There was an

increase in the volume of the credit facilities granted by banks operating in Palestine during the first half of the year 2016 by (10.7%), and about (6) billion and (405) million dollars. The volume of credit facilities granted, until the end of the second quarter of the year 2016; (507) million dollar for service and consumers sector & only for industrial sector (288) million dollar. Despite the rise of credit facilities portfolio, The proportion of default at the end of the year 2016 has declined by 2.2%, this percentage is too low and ranked Palestine as an advanced center within the regional countries after Qatar and Saudi Arabia in the bad debt ratio, even that, in Palestine there were some banks and specializing lending companies still suffer from high rate of defaults in their portfolio.

In addition to the above details; early at the beginning of the year 2018, Mr. Azzam Elshawa the governor of Palestine Monetary Authority announced that the PMA has developed a new criteria for issuing checks by banks in Palestine (PMA, 2018), despite this there has been a continued increase in the volume and number of returned cheques, where the total value of returned checks 1154 million dollar at end of the year 2017, while it was 831 million dollar by the end of the year 2016 and 664 million dollar by the end of the year 2015.

It is believed that the importance of this thesis has been identified based on the following points:

- There are some banks and specializing lending companies which suffer from high rate of defaults in their portfolio, so this thesis aims to focus on how to prevent the lending sector from reaching to this high rate of default.
- Palestinian financial and economic situation as a whole needs from the banking system to introduce scientific foundations for the help and support of long term projects, rather than re-lying on consumer loans that depend on salaries etc.

1.5 Study Model

Figure No (1) shows the dependent variable and independent variables related to this thesis:



Figure 1 Sources (The author).

1.6 Hypotheses

This thesis comes to examine the following hypotheses:

 H_{01} : There are no significant statistical differences in the influence of credit analysis on bridging the credit risk in the local Palestinian banks due to the normal operations of the bank.

 H_{02} : There are no significant statistical differences in the influence of credit analysis on bridging the credit risk in the local Palestinian banks due to the job title of the operator.

 H_{03} : There are no significant statistical differences in the influence of credit analysis on bridging the credit risk in the local Palestinian banks due to the banks employee's specialty.

 H_{04} : There are no significant statistical differences in the influence of credit analysis on bridging the credit risk in the local Palestinian banks due to the number of courses taken by the operator.

1.7 Limitation of the study

There are many limitation of this thesis:

- Due to the political circumstances and the lack of access to the Gaza Strip led us to exclude the Banks and the branches operating there.
- 2- A number of practical difficulties impeded the process of collecting data, due to the banks HR department imposing rules & restriction on the employees giving information directly to the researcher, this prolonged the collection time.
- 3- The questionnaire given to the conventional banks differed from the questionnaire given to the Islamic banks by minor modifications, to suit their Islamic rules.

CHAPTER TWO: LITERATURES REVIEW

2.1 Theoretical background

This chapter will present the theoretical background and review of the previous literatures.

2.1.1 The history of banking

The origin of the term "bank" goes back to ancient times, it was first mentioned in the Bible in historic Palestine, its meaning in Arabic is exchanging, which is linked to a place called bank; the temples were the first places to be designated as banks (Al-Hiti, 2013). While the origin of the European word comes from the Italian word "Banco"; a table or board in the ports of Italy in the middle ages used for trading in currencies, specifically cash from one currency to another (Al-qazweni, 2008).

After the collapse of the Roman Empire, the feudal system in Europe took over the role of banking in its simple means of currency exchange, the goldsmiths became the depositors of large amounts of money due to the lack of safety. This developed into the idea of bonds which were giving the depositors as the value of their deposits of money or gold, which were easier to carry, from this concept the idea of "cheques & paper notes" were born (Yasin, 2007), the goldsmith had accumulated large sums of money which was made available to borrowers to be lent for a certain interest rate as a result of lending, demand for capital increased (Salim & Ahmed, 1996). Accordingly accepting deposits transformed to a practice of lending and credit grant, which became the main function of banking services (Dr. Doghaim et al., 2006).

The industrial revolution was the main catalyst for the emergence of the banking system as we know it today; this has led to the development of huge projects and infrastructure requiring huge capital and finance, which transformed the banks into companies. Following "World War I" many governments became involved in the regulation of the banks activities, thus central banks were established (Al-qazweni, 2008), whose main function was the establishment of rules and regulations of the banking system (Al-Douri, 2000).

The first banking institution was established in Venice in 1157, Barcelona in 1401, de Rialto in Venice in 1587 followed by the Bank of Sweden; which introduced the paper note, & then other banks were established in Amsterdam to exchange currencies in 1609, the Bank of England was established in 1694 (Al-qazweni, 2008). However, the banks in their current form began in England between the periods of 1645-1664, when the basics of modern banking were formulated (Al-Hiti, 2013).

2.1.2 Functions of Commercial banks

Commercial banks operate as a special business, their products are not physical goods but credit and currencies (Somashekar, 2009.), at current day's two suppliers of money: the mone-tary authorities issuing money; and the banking system supply deposit money through credit creation. Banks main functions taking deposits, clearing of cheques, lending, financing international trade, creation of credit, and settling funds, banks customers are usually from commercial classes (Nabeel & Moustafa, 2011).

Bank credit Includes loans and facilities provided by banks to their clients in exchange for repayment in the future, These credits include many services offered by banks etc. credit cards, mortgages, loans, repayment of a loan can be done in full or lump sum or with the help of installments (Damodar, 2015). Banks offer two primary types of credit services which are based on customer categories: first of them is retail credit and the other is wholesale credit (Federal

savings associations in addition to national banks, 2012). Retail credit Classified by banking as personal Lending and subject to individuals and may fall under credit card, revolving loans, revolving credits (e.g. overdrafts), home mortgages, installment loans (e.g. consumer loans, educational loans...), on the other hand, wholesale lending, covers firms as the borrowers with much higher value, more complicated and expose more threats to the banks (Crouhy et al., 2006),.

2.1.3 The development of the Banking System in Palestine

In 1994, after the signing of the Paris Protocol on Trade Relations between the Palestinian National Authority and Israel, the PMA was established to regulate monetary policies in the Palestinian Authority (Gaza-Jericho Agreement Annex IV-Economic Protocol, 1994).

Looking at the history of the banking system in Palestine, we find that prior to 1948 during the British mandate (November 1917 - May 1948), there was a sophisticated banking system; the Arab Bank which was founded by Abdul Hamid Showman in Jerusalem in 1930 which had several Branches in Palestine, there were other Arab banks such as The Arab Real Estate Company which was founded by the Arab league in 1947 under the name of the rescue bank of Palestine to prevent the land from falling into the ownership of the Zionists, the British Barclay Bank was considered the government bank in Palestine., in addition it was considered the agent of the Palestinian Monetary Council, whose main mission was: to supervise the work of banks in Palestine and Jordan; issuing Palestinian currency "the Palestinian pound" (Karas, 2009),. While the period from 1948 - 1967 was characterized by an administrative separation between the West Bank and the Gaza Strip, each of them was administratively subordinate to a different state, The Gaza Strip was administered by Egypt and subject to its laws and policies. The Palestinian pound was the main currency, six banks which existed in the Gaza strip. While the banks that existed in the West Bank were subjected to the rules and regulations of the Central Bank of Jordan (Ashour, 1995). Following the Israeli occupation of the west bank and the Gaza strip in June 1967, all the banks were closed by Israel, six Israeli banks were opened in the occupied territories by an Israeli military order and started their operations in June 1968. In 1981 the Bank of Palestine was allowed to operate in the Gaza strip, & in 1986 the Bank of Cairo Amman in 1986 to operate in the city of Nablus and later branches in the Palestinian cities (Sharif, 2007), but there was no central bank to regulate their banking activities. The Israeli banks continued to operate in the West Bank and the Gaza strip until the outbreak of the first intifada 1987 (Jeremy, 2003).

After 1993; with the Oslo Agreement and the establishment of the Palestinian Authority in 1994, Decision No. 184 resulted in an agreement which was signed by Israel and the PLO, The Palestine monetary authority was established on the first of April 1994. Its main functions are that of a Central Bank except for the issuing of the Palestinian currency. The most important responsibility was to regulate the work of the Palestinian banking sector.

The Banking Law No. (9) For the year 2010, was issued in order to regulate the work of the banking sector in Palestine (PMA, 2010). The law defines banks as public shareholding companies licensed to work in Palestine by the Palestinian Monetary Authority (PMA); their categories as follows:

- 1- Local Bank: those banks who has its main headquarters in Palestine.
- 2- The Islamic Bank: the bank that is authorized to work in accordance with the principles of Islamic Sharia.
- 3- The foreign Bank: the bank which is headquartered outside Palestine.
- 4- Specialized Bank: A bank that provides specialized banking services in a particular field.
- 5- Specialized lending institution: institution of civil society licensed to practice lending

According to the (Annual Report of the Palestinian Monetary Authority, 2016), there is an acceleration in the growth rate of total assets of the banking system during the 2016, which reached 12.7% compared to 6.6% at the end of the 2015, of value \$ 14,196.4 million., The bank's direct credit facilities increased by 18.0% to reach US \$ 6,871.9 million, customer deposits increased to US \$ 10,604.7 million, and the banking sector's equity increased by 14.9% to reach US \$ 1,682.4 million.

2.1.4 Palestinian Monetary Authority and granting credit instructions

2.1.4.1 Instruction No. 6/2011 issued on 5th of Sep 2011 regarding Credit Risk Management (PMA, 2011),

These instructions were based on Articles No (40, 43 and 72) of the Banking Law No. (9) Of 2010 in order to comply with Basel Decisions for Foundation and management of Risk Management in Palestine which contained of the following four axes:

- 1- The provision of a credit risk management environment.
- 2- The procedures and controls for granting credit.
- **3-** Provides prudent management of credit with the need to control them through special procedures for measurement and follow-up.
- 4- The verification of this ability and effectiveness of these control measures, to control credit.

In this instruction the PMA imposed a set of principles on the Palestinian banks to use their available databases "credit location of the PMA" to reduce credit risk; and enforce them to focus on many aspects such as: there should be a credit policy with specific terms and conditions, set by the bank, credit portfolio should be distributed on the various economic sectors, due diligence

in collecting reliable information of credit customers and their projects such as: the legality of project, financial position of the customer....

2.1.4.2 Instructions No. (2) for the year 2015 regarding credit limits and controls, issued on the 15th of Feb 2015 (PMA, 2015),

Through these instructions, the PMA has set the rules and controls of contracting with customers for transparency and disclosure by establishing many credit determinants and defined the responsibility of the bank to make sure that the amount granted will be used for the purpose of the credit. In this instruction the PMA prohibit some practices on banks, managed process to invest in shares, and imposed lending limits for which the banks should adhere to.

2.1.4.3 Instructions No. (6) for the year 2014 Dated 14th of May 2014, regarding Credit granted to relevant stakeholders (PMA, 2014),

PMA in organizing the process of grants also issued many instructions, such as instruction no. (6) For the year 2014, on credit granted to the relevant stakeholders. The purpose of this instruction was to organize the grant process for all relevant parties that has a direct relationship with the bank, such as the legal auditor, members of the board of directors, department directors, branches, their assistants and their families; in order to achieve transparency and ensure impartiality and independence in the decision making process.

2.1.4.4 In 2016, the PMA issued instructions No. (2) for the year 2016 Dated 20th of Mar 2016, about "Responsible Lending" (PMA, 2016),

PMA issued clear instructions to conduct credit worthiness on the borrower by taking a full account of his income as related to his profession and the consistency and reliability of the income, place of residence rented or owned property & geographic location, expenditure, assets fixed and those generating income and previous credit history.

In addition to above the bank should make an inquiry about the purpose of the loan, the methods and time scale for repayment, credit alignment to the borrower's need and financial viability, borrower's ability to repay & fulfill its debt service obligations and the behavior of the borrower and the extent of his obligation to pay installments on time.

2.1.4.5 In 2018, the PMA issued instructions No. (2) for the year 2018, "Regarding the requirements and guidance for the application of IFRS 9" (PMA, 2018),

In line with keeping pace with global developments, The Monetary Authority (PMA) has issued an instruction to Palestinian banks to initiate compliance with the requirements of ISRF (9) instead of ISF (39); where the new IFS 9 relates directly to credit risk and how to calculate credit expected losses.

2.1.5 Basel Committee in Banking Supervision (BCBS)

The Basle Committee was established at the end of 1974 in the city of Basel in northern of Switzerland on the Rhine by (G-10); they assigned chairmanship to Mr. Cook "the Director of Bank of England", under the supervision of the Bank for International Settlements. This committee was established after the collapse of some international banks and the emergence of new risks not previously were known such as settlement risks and credit risks (Abu Rahmeh, 2007).

BCBS has organized banking sector through secure international convergence of supervisory regulations governing the capital adequacy of international banks (Basle Capital Accord, 1988).

Their aim was to strengthen the financial stability & harmonize national regulatory systems and practices, and act as technical advisory committee without any legal status, In 1997 they issued Basel Principles for Effective Banking Supervision, in 1999 Core principles methodology; their decisions are related to the founding of principles and standards for controlling banks and motivating countries to follow and benefit from these principles (Abu Rahmeh, 2007); However, over time, it has become very valuable and important, their most important achievement were Basel Accord.

2.1.5.1 Review of Basel Conventions (Magnus et. al, 2017),

2.1.5.1.1 Basel I Accord (1988),

Basel I Accord 1988, Covered bank capital risk, the bank must have (8%) capital of the total weighted risks; later in 1996 they added market risk to be covered.

2.1.5.1.2 Basel II Accord (2004),

In addition of capital risk requirement, covered integrated risk management, internal ratingsbased & advanced measurement approach for operational risk, supervisory review process (capital structure & capital adequacy), devised methods to avoid credit risk, market risk, operational risk and interest rate risk (Bank for International Settlements, 2014). The impact of Basel II on banks: Improved capital adequacy, banks' ability to assess risk, improved risk disclosure, Convergence between regulatory capital and economic capital, enhancing corporate governance among banks (Qasrawi, N D).

2.1.5.1.3 Basel III Accord 2012 (Magnus et. al, 2017),

Introduced non-risk based leverage ratio, the liquidity Coverage Ratio and the Net Stable Funding Ratio; they focused on the reform of regulatory capital. The objectives of this accord were to help strengthen the flexibility of the global banking system, sustain market confidence in regulatory ratios and provide fair share for banks operating internationally.

2.1.5.1.4 Basel IV Accord 2017 ('Basel IV': Big bang or the endgame of Basel III?, 2017),

This Accord has been published on December 7th of 2017 of its final documents on the Reform of Basel III which were referred to as "Basel IV"; to be implemented by 2022. The current state of the suggested changes is a mix of consultation papers and finalized standards to riskweighted assets (RWA), and possibly internal ratings of asset regulatory, capital floors (Credit risk, Securitization, Counter-party credit risk, Market risk, Operational risk, CVA risk (Credit valuation adjustments), Step-in risk, Interest rate risk in the banking book).

2.1.5.2 Capital Adequacy (CA)

Capital Adequacy is often referred as the required Regulatory Capital of a financial institution., It is a bank's capital expressed as a percentage ratio to absorb risks of a financial institutions exposures, measured by its risk weighted credit exposures; it is composed of two tires, the first tier indicates ability to maintain equity capital which is sufficient to pay depositors at any time they demand their money without ceasing trading, tier two indicates that it can absorb losses in the event of a termination of trade which provides a lesser degree of protection (Reserve Bank of Newzealand, 2007). According to the Bank for International Settlements; they set Capital Adequacy Standard banks that must have a primary capital base equal to at least 8% of their assets (Consultative paper issued by the Basel Committee on Banking Supervision, 1999).

2.1.6 The International Financial Reports Standards (IFRS 9) (Mohammad & Hamid, 2017) (IFRS, 2014) (PMA, 2018),

In Nov 2009, The International Financial Reports Standards (IFRS) issued IFRS 9 for implementation by the 1st of Jan 2018, which has a big impact on banks. The idea of IFRS 9 states that banks should make provisions for the possibility of default even for good debt to cover the possibility of default, IFRS 9 replaced IAS 39 which was financial instruments based on recognition and measurement, while (IFRS 9) is financial instruments work as forward-looking of probability of default because it's related directly to credit risk and how to calculate expected losses, which will harmonize accounting and risk management activities. A model has been developed for the expected credit losses (ECL); which required provision for debt based on future expectations of default or non-payment by the borrower (credit Impairment) & determines the expected credit loss; this would eliminate the fluctuations of profit or loss due to the changes in credit risk from liabilities that can be measured at fair value & the time value of money, in addition to taking into consideration past events or historical experience's & current situation, future expectations when the banks measures credit loss probability.

IFRS 9 put two models for the measurement and classification of financial assets:

- 1- The entity's business model for managing financial assets to avoid the main credit risks, including the risks of borrowing, liquidity and impact on the profit margin.
- 2- The contractual cash flow characteristics of financial assets that have been based on longterm financial flows.

The implementation of IFRS 9 is being done in three phases:

- Phase one: classification & measurement of financial instruments;
- 1- Amortized cost: a financial asset is measured at amortized cost if both of conditions are met:
- The asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows.
- The contractual terms of the financial asset give rise on specified dates to cash flows.
- 2- Fair Value (FVPL), determined how financial assets and liabilities are accounted for financial statements through profit & loss.
- 3- Phase two: impairment of financial assets through three stages:

- 1- Establish a loss allowance as soon as the financial instrument is originated for 12-month.
- 2- Full lifetime expected credit losses are recognized in profit or loss if it's risk increasing.
- 3- Interest revenue is calculated based on the amortized cost if the credit risk increases to the point considered credit-impaired.
- Phase three: hedge accounting: it's objective to represent in the financial statements as follows:
- 1. Fair value hedge of the exposure to changes in fair value of a recognized asset or liability.
- 2. Cash flow hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with all.
- 3. Hedge of a net investment.

2.1.7 Categories of Financial Institution Risks

Banks are competing with each other in order to maintain their customer base and satisfy customer demined. As a result of these banks is taking more risks, most of these risks are in the categories of: financial, operational and environmental risks (Carey & Stulz, 2007).

2.1.7.1 Financial risks

Related to the banks financial position, consider the greatest concern by banks, involve traditional banking risks which include balance sheet and income statement, credit, solvency risks, and treasury risks which include interest rate, liquidity, currency, and market (including counterparty) risks (Bratanovic & Hennie, 2009).

2.1.7.2 Operational risk
According to Basel Committee on Banking Supervision, October 2006 it is defined as "the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events." (Nationalbank, 2006).

2.1.7.3 Environmental risks

Including all types of external risks if they were realized, could jeopardize a bank's operations or undermine its financial condition and capital adequacy (Bratanovic & Hennie, 2009).

2.1.7.4 Credit risk

According to the Bank for International Settlements (BIS), credit risk is defined as the potential that a bank borrower or counterparty will fail to meet their obligations in accordance with agreed terms. It's most likely caused by loans, interbank transactions, foreign exchange transactions, acceptances, trade financing, swaps, financial futures, bonds, options, equities, the extension of commitments and guarantees, and the settlement of transactions (Crouhy et al., 2006), & it often does not occur in isolation but it occurs together with market risks (Monetary Authority of Singapore, 2013). All banks now have department in managing credit risk, by gathering accurate information on their clients, they can minimize credit loss to maintain a good financial performance, liquidity, cash flow, and profit to shareholders (dividends) (Greuning & Bratanovic, 2009)., Traditionally credit risk the greatest risk that lending institutions face and is usually the one for which the most regulatory capital is required (Hull, 2010).

2.1.8 Uncertainty and Risk, Information and knowledge (Mu, 2007),

Uncertainty and risk are interchangeably used, to distinguish them depends on the calculated of the repeatable events and unrepeatable events, the treatment of those two kinds of 'risk' cannot be at the same way, that uncertainty means unquantifiable risk while quantifiable risk is limited to the repeatable events frequency distributions from which probabilities can be calculated.

The asymmetric distribution of information is adopted to explain the inability to quantify risk (Stiglitz & Weiss, 1981), the information term refers to a set of knowable in principle data, and it is assumed to be past activities of full information. So based on these assumptions the accuracy of prediction just depends on the quality of the data set. Making credit decisions usually based on four types of information:

- Information of a commercial nature this is related to the history of bank-client's relationship.
- Information of a financial nature, through some indicators.
- Information related to the business's management.
- Information that mitigates credit risk such as collateral and other guarantees.

There is a requirement to distinguish between knowing how and knowing that. Knowing that is never sufficient for knowing how and must be accomplish by knowing how which is based on experience and cannot be exactly translated (Dow, 2004).

Credit risk is working in an uncertain environment that the risk is unquantifiable and depends on knowledge about the current situation and past information's for making the expectation for current and future decisions, which makes evidence from the past irrelevant for rational business expectations in the present. Therefore Uncertainty in banking system variously different during of the banking credit grants and types, volume, sectors and the importance of grant, while the specialization of banks supports them to have more knowledge associated with the credit market among developing contracts with various customers (Mu, 2007).

2.1.9 Credit Bank Policy

Credit policies and standards should define the credit approval process; this approval process should include a clear indication of how it matches the entity's target market, and how an cultured understanding obtained of the borrower (Credit Risk Management, 2013), acceptable, purposes, types and structures of loans, to which industries the bank is willing to lend, also types of information the lender is required to obtain and analyze (USAID-Funded Economic Governance II Project, 2006) . So they determined the lending process that should cover: analysis and approval process, disbursement, monitoring, collection, and other various function related to credit handling procedures for the various credit functions provided by the bank of (Office of the Comptroller of the Currency, 2017).

The objective of the policy and standards is to create the framework, requirements and tolerance limits for lending, in which all bank credit staff will engage (USAID-Funded Economic Governance II Project, 2006).

2.1.10 Credit analysis and Assessment

Credit analysis has significant role, its indicators for all interested; that the banks management is directing their functions with high efficiency, those stakeholders are (Central Bank, Bank management, depositor, shareholders) (Ramdan & Jodeh, 2006), cited in (Al-Nuaimi & Aljazrawi, 2010),. Credit analysis in simple word is seeking to provide a fundamental view of financial ability of the borrowers to repay their obligations.

The Credit analysis process based on both objective and subjective evaluation, objective evaluation depends on analysis of numerical data in financial reports of customers, and its variables are actual numbers and financial ratios, while subjective evaluations depends on non-numerical, invisible data, such as the ability of managers, industry trends, position of a firm on the market, etc., but it is reliable analysis and contains no bias. However, subjective factors are much more difficult to measure accurately because the evaluation can be affected by analyst's personal perspectives and feelings (Hempel & Simonson, 1999).

"In practice, two types of credits are commonly analyzed using credit risk models. The first type is basic debt instruments, such as loans or securities. The second type is the expected future exposures arising from derivative positions; i.e. forecasts of the expected size of the credit exposure" (Lopez & Saidenberg, Evaluating Credit Risk Models, 1999, p. 10).

Most important questions credit analysis needs to be answered to evaluate credit (Koch & MacDonald, 2010):

- What are the risks it faces in the business of borrower?
- What has the borrower done so far to control those risks?
- Did the borrowers succeed or fail, and why?
- What can the bank do within the organization to limit potential losses when it grants credit?

According to (Svatá & Fleischmann, 2011), the evolving discipline of risk management that goes at disparate maturity levels across organizational disciplines such as internal audit, business operations, and information technology and finance.

The examiner Risk assessment should answer the following questions (McCuaig, 2008), quoted in (Svatá & Fleischmann, 2011): What can go wrong & how can it go wrong? What is the potential harm? What can be done about it? & how can we stop it from happening again?

2.1.11 The Credit Process

The objective of credit decisions is to ensure an acceptable risk level related to the expected return, before making a grant or credit facilities; the banks make a thorough analysis of the bor-

rowers situation that supports the assessment process to make a decision; the quantity and cost of bank credit largely rests on factors of the borrower's creditworthiness, past relationships, current income and the use of funds (Bank Credit).

According to Credit Risk Workshop - Intermediate (USAID-Funded Economic Governance II Project, 2006), the full process begins with the collection, analysis and evaluation of previous information, financial status, and basic information of the borrower's to determine his creditworthiness which balances his strengths and weaknesses to determine acceptable risk, it also includes forms of loan application, internal credit summary, internal credit manuals, and Criteria for approving loans, determination of loan pricing policy and lending limits, collateral policy for all types of loans, with emphases on monitoring procedures, which includes responsibilities, compliance, controls and exceptions (Greuning & Bratanovic, 2009). The credit officer suggests a loan structure for approval, the process ends with the decision of loan approval or rejection depending on the bank's credit policy & standards, procedures and the bank's appetite for risk (Office of the Comptroller of the Currency, 2017).



FIGURE NO (2) OPERATIONAL PROCEDURES OF CREDIT IMITATION & ANALYSIS PROCESS

Figure 2 Sources (The author)

2.1.12 Models of credit Assessment

There are different types for credit risk analysis; (Hempel & Simonson G. a., 1999) divided into subjective and objective analysis; objective assessments is numerical data (actual numbers and financial ratios) which depends on financial reports of customers analysis, therefore, it is reliable and contains no bias, while subjective assessments is concerned with non-numerical and invisible data using information about borrowers such as industry trends, position of a firm on the market. Subjective factors are more difficult to quantify accurately because it could be affected by analyst's personal perspectives and feelings.

FIGURE NO (2) SYSTEMATIC OVERVIEW OF



CREDIT ASSESSMENT MODELS

Figure 3 Sources (Christl et al, 2004),

2.1.13 Credit Appraisal Techniques

2.1.13.1 The Traditional Methods

Those methods are based on the principle which gives appropriate weights to identify the factors that exposes default risk (MU, 2007),

2.1.13.1.1 Credit Rating System

Is a series of graduated categories of increasing risk, designed to provide information about quality of credit (Hull 2010, 289) for assisting in the underwriting of new loans. Its classic rating questionnaires designed by experience of credit experts on the clear basis; defines answerable questions regarding factors related to creditworthiness and specify fixed numbers of points to every specific factor values; the higher total number of points is the better the credit rating will

be. In practice as (Christl et al, 2004), it is most commonly applied to all loans other than personal and residential mortgage/bridge loans to assess the credit worthiness.

2.1.13.1.2 Credit score system

The idea of these tools is essentially the same as the previous system: by identifying key factors that determine the probability of default, and then weigh them into a quantitative score. Altman's (1968) developed Z-score model to classify model for corporate borrowers by using linear discrimination analysis and matched the result to sample by (year, size and industry) of failed and solvent firms. The best fitting scoring model takes the form:

$$(Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5)$$
; Where

X1=working capital / total assets ratio;

X2=retained earnings / total assets ratio;

X3=earnings before interest and taxes / total assets ratio;

X4=market value of equity / book value of total liabilities ratio;

X5=sales / total assets ratio

Higher "Z" value indicates to the safety of the financial position, while the low value indicates the possibility of failure (Al-shaikh, 2008).

Companies can be classified into three categories based on their ability to continue as follows:

- Groups of companies are able to continue: when Z value is ≥ 2.99 .
- Groups of companies threatened by the risk of failures: when Z value is ≤ 1.81 .
- Group of companies that are difficult to take a decision on them without detailed study: When Z <1.81 and > 2.99, this area called "Gray Area".

2.1.13.1.3 Expert system

Is the most used traditional method in assessing credit risk, it's about when the banks organize a committee consistent of experts to make a decision for credit offer based on qualitative and quantitative information. Take on this method that judgments of the experts expertise and subjective will play an important role in this process, its attempt to solve complex, poorly structured problems by making conclusions on the basis of intelligent behavior (Christl et al, 2004, p. 36).

"Five Cs" system which is considered the most popular expert system (Sinkey J., 2002), quoted in Heffernan (2005), singled out (Character, Cash flow, Capital, (Collateral or security) and Conditions). The experts system analyzes those five factors and based on the subjective balance between them for making decisions.

2.1.13.1.4 External Credit risk

Is an independent opinion of the creditworthiness of financial institutions, it's about the capability and willingness to repay its debts (Reserve Bank of New Zealand Bulletin, 2008), Standard & Poor's, Fitch Ratings and Moody's Investors Services are the most known credit rating agencies, the principle of their rating system when assessing an institution's financial strength, by calculate the probability of a failure arising over a given time period; and is expressed in an alphabetical rating, the higher rating for e.g. (AAA)' having a lower chance of default and a lower rating e.g. (C)' a higher risk of default (Reserve Bank of New Zealand Bulletin, 2008).

Description	S&P	Moody's	Fitch	Approx. Probability of
Description	Scale	scale	Scale	defaults over 5 years
Extremely strong	AAA	Aaa	AAA	1 in 600
Very strong	AA	Aa	AA	1 in 300
Strong	А	А	А	1 in 150
Adequate	BBB	Baa	BBB	1 in 30
Less vulnerable	BB	Ba	BB	1 in 10
More Vulnerable	В	В	В	1 in 5
Currently Vulnerable	CCC		CCC	
Currently Highly vulnerable	CC	Caa	CC	1 in 2
Default	D	С	D	

Table No (1) Standardized rating scale

The approximately: median like hood that will not receive payment in 5 years, this based on historical scale.

Table 1 Source (Reserve Bank of New Zealand Bulletin, 2008),

2.1.13.2 Popular modern models

2.1.13.2.1 B-Sherrod's Failure Prediction Model 1987: (Matar M., 2003),

This model is an extension of the efforts of researchers who preceded him in this field, its

considered one of the most important models detecting financial failure; this model used to

1-Aassess credit risk when funding economic projects.

2- To determine the extent of the company's ability to carry out its activities in the future.

Its feature has created a kind of relationship between the degrees of risk of loans and its quality; this relation is used as a basis for pricing loans then evaluating the quality of bank credit portfolios or loan quality depending on six independent financial indicators, giving the liquidity ratio the highest weight which indicates the customer's ability to repay the credit facilities:

$$Z = 17X1 + 9X2 + 3.5X3 + 20X4 + 1.2X5 + 0.01X6$$

Where:

- X₁= Networking Capital/ Total Assets Ratio.
- X₂= Liquidity Assets / Total Assets Ratio.

X₃= Equity/ Liabilities Ratio.

X₄= EBT/ Assets Ratio.

 X_5 = Assets/ Liabilities Ratio.

 X_6 = Net Equity/ Fixed Assets Ratio.

The loan will be classified by multiplying each of the six ratios in its coefficients. The sum of the gross proceeds of the points representing the weights of this ratio is considered a quality indicator. Accordingly, to measure the ability to continue according to the degree of risk, the loans categories will be classified as follows:

Category	Risk degree	Z score
level 1	Risk Free	Z≥25
level 2	Risk Low	$20 \le Z < 25$
Level 3	Intermediate Risk	$5 \le Z < 20$
Level 4	Risk High	-5 ≤ Z < 5
Level 5	Bad Debt	-5 > Z

Table 2 Source (Matar M., 2003)

2.1.13.2.2 Stress testing (Baxter & Lyons, Summer 2012),

This test is a looking forward evaluation of stress scenarios that could impact the financial condition and capital adequacy of banking institutions to withstand an economic downturn or unexpected event.

2.1.13.3 Structural models in assessing credit risk (Wang, 2009), is known as the firm-value approach

Inability of firm to meet the contractual debt, its assumed to determine firm value by its asset value, aims to provide a frank relationship between default risk and capital structure, their main models (Federal Housing Finance Agency, 2013),

- KMV-Merton model "Moody's KMV":
- Credit Metrics

All of those models based on the Merton model for individual businesses default when their asset value falls under the value of their liabilities.

- McKinsey model
- Credit Risk+ model: based on credit migration analysis when moving one credit quality to another.

2.1.13.3.1 Intensity-based Approach (Federal Housing Finance Agency, 2013),

Also Called the reduced-form approach, not like the structural approach, it assumed the default to be completely determined by the asset value which subjected to a barrier, the default event reduced- by an externally specified intensity process that probably be related to the asset value. It's treated with default is as an unexpected event.

2.1.13.3.2 Econometric factor risk models (MU, 2007),

McKinsey's Credit Portfolio View: this model based on discrete time multi-period measures only default risk.

2.1.13.3.3 A top-down actuarial model (Crouhy et. al, 2007),

- Credit Suisse's.

- Credit Risk+.

2.1.13.4 Statistical Models (Christl et al, 2004),

2.1.13.4.1 Multivariate Discriminant Analysis

Is a credit assessment procedure used to distinguish between solvent and insolvent borrowers, based on using a function which contains several independent creditworthiness criteria (Angelidis & Degiannakis).

2.1.13.4.2 Regression Models

Is using a certain creditworthiness characteristics to determine if the borrowers are classified as solvent or insolvent.

2.1.13.4.3 Artificial Neural Networks

This model attempt to simulate model of the biological process "the way in which the human brain processes information" thus build an artificial neural network: consists of an input layer, the inner layers and an output layer. The input layer taking in information and passing it via the connections to the downstream neurons, which gives weight in an artificial neural network which lead to control the flow of information in the neurons, all incoming information linked with assigned value. Each piece of information is then takes a connection weight. The compressed value is transformed into value by nonlinear function.

2.1.13.5 SWOT analysis

This analysis is a comprehensive appraisal for a business and borrower to establish its assets and liabilities and evaluate its commercial potential prior in acquisitions (Valera, 2013), it begins by identifying a borrower potential areas for building value and making better revenues & identifying his potential risks when a borrower reports every year the same weaknesses, take the advantage of an opportunity which could increase value and revenues, and keep clear of unfavorable conditions that can stop a borrower from achieving certain goals.

2.1.13.6 Causal models in credit assessment (Christl et al, 2004),

These models are directly analytical links to creditworthiness on the basis of financial theory:

2.1.13.6.1 Option Pricing Models: supports theory approach for the valuation of default risk based on individual transactions regardless of comprehensive default history.

2.1.13.6.2 Cash Flow Models: a simulation models are especially suited to credit assessment for specialized lending transactions, focusing the assessment explicitly on the transaction itself not on a specific borrower.

2.1.13.7 Financial Analysis

Applies analytical tools to financial statements and other financial data" in order to interpret relationships and trends in a consistent and disciplined methods to assist the analyst in making forward-looking planning. Although they are extremely useful tools, but ratios must be used with caution; they do not provide complete answers about the bottom-line performance of a business (Greuning & Bratanovic, 2009).

Financial Analysis "is a process to convert the vast amount of historical data and financial figures recorded in the financial statements to a lesser amount of information and more useful for the decision-making process. its provide important and useful information such as the ability to meet the obligations and profitability of the institution and the ability to assess the importance of a performance for future profits (Zubaidi, N D), Cited in (Bin Taryyah, 2010).

2.1.13.7.1 Financial analysis tools (Double Click Inter Brize, 2018),

The most important tools for financial analysis used by financial analysts are:

2.1.13.7.1.1 Trends analysis: It analyzes the movement of the account or the financial ratios according to a particular trend: vertical analysis or horizontal analysis.

2.1.13.7.2 Financial Ratios (Bin Taryyah, 2010),

Financial ratios are tools of financial analysis that shows the relationship between budget items, income statement and other financial statement (Hasoun, 2000), cited in (Shahin & Matar, 2011), discloses indicator for the strengths and weaknesses of the financial aspects of an entity, but these percentages don't provide sufficient information unless they are compared to other ratios, by taking into consideration the link between each other to make appropriate decision (Bernstein, 1993) cited in (Shahin & Matar, 2011), In general; the ratios of financial analysis can be summarized in the following five groups:

TABLE NO (3) FINANCIAL RATIO				
Liquidity Ratios	Shows the institution's ability to pay short-term liabilities.			
Activity	Measures to which extent the success of the company in managing its assets and			
Ratios	liabilities.			
Profitability	Measuring the company's ability to generate profits from its operating activities			
Ratios				
Leverage	Measures the extent to which the company relies on financing its investments on			
Ratios	debt through borrowing or using any financial instrument.			
Market	As (Double Click Inter Brize, 2018), this Ratio measures the impact of the compa- ny's performance on the prices of ordinary shares in the market based on the over-			
Ratios	all objective to maximize the wealth of shareholders by maximizing the market			
	share.			

TABLE NO (3) SOURCES (THE AUTHOR).

2.1.13.7.3 Financial models are based on the company's historical performance and requires preparing the income statement, balance sheet, cash flow statement and supporting schedules (CFI, 2018),

Table No (4) Some of common types of financial models

Three State-	One dynamically connected model consist income statement, balance sheet, and cash
ment Model	flow statement.
Discounted	Builds on the three statement model based on the Net Present Value (NPV) of the busi-
Cash Flow	ness' future cash flow, used in equity research.
Model	
Budget Model	Used for professionals financial planning & analysis to get the budget together for the
	future year(s). This model is based on monthly or quarterly numbers and focus heavily on
	the income statement.
Forecasting Model	Used in financial planning and analysis to build a forecast that compares to the budget
	model, sometime the budget and forecast models are combined workbook and sometimes
	they are totally separate.

TABLE NO 4, SOURCES (CFI, 2018)

2.1.14 Credit Risk Management

Credit management as (Myers & Brealey, 2003) quoted in (Gatuhu R. N., 2011); describe the strategies and methods adopted by a firm to make sure the effectiveness of its management by maintaining an ideal level of credit. & according to (Sinkey J., 1989) cited in (Abu karash,

2005), the main purpose of credit management; is to increase profitable sales and adding additional value for the company by making grant decision to trusted customers; thus credit management considered as a safe guarding for the banks against their investments.

The lender must understand the role of credit risk management system in the bank's as it engages in lending activities (analysis, underwriting and monitoring) (USAID-Funded Economic Governance II Project, 2006).

According to (Monetary Authority of Singapore, 2013), every institution should adopt a structure for credit risk management and policy, which should cover many areas of credit such as strategy, approval, review of the credit portfolio.

Figure No (3) Structure of the Theoretical Framework



Figure No 4 Sources (Nguyen, 2016),

2.1.15 Risk Assessment

The overall discipline of risk management involves various levels of organizational disciplines such as; business operations, internal audit and information of technology and finance (ISF, 2010). It is related to financial management aspect which involves credit analysis, rating, classification and reporting.

2.1.16 Credit classification (Al-Mamlouk, 2014),

Types of credit can be classified as follows (Al-Zubaidi, 2002), cited in (Al-Mamlouk, 2014):

- 1- Direct cash credit: the Bank grants direct cash to the credit applicant to be used to finance specific operations with a credit contract, it's most common and most profitable, and the most common types of cash credit are: revolving credit, cash loans and advances, discounted Bills.
- 2- Indirect cash credit: A type of credit does not give the credit applicant the right to use cash directly and does not represent an obligation on the client towards the bank, unless the customer uses the credit granted in this case becomes a direct obligation to the bank; the most common types are: bank guarantees, letter of credit, international Bank Credit, joint banking credit, leasing finance.

2.1.17 Types of bank Loans (Commercial Loans, 1997),

2.1.17.1 Credit Facilities & Loans

Commercial loans are divided into secured or unsecured based on its purposes, terms, and maturities; however the types of those loans can vary depending on the purpose of them, most commercial and industrial loans are made primarily for working capital loan, term loan, or loan to an individual for a business purpose.

2.1.17.6 None performing loans

This Issue is considered a major problem for banking system management, which hurts banks and leads to the freezing of an important part of depositor money and force them to give up part of its profits.

2.1.17.7 Definitions of None performing loans

Means the lack or discontinuation of returns and the inability to pay obligations on time (Shahin Matar, 2010, p. 859), it also means the last stage of several stages; which starts with a lack of liquidity and develops until it reaches default.

2.1.17.8 The reasons for none performing loan are (Abish, 2015),

- Reasons related to the bank such as; inadequate study of granting credit facilities, lack of analysis of credit risk.
- Reasons related to the customer such as; providing inadequate information, lack of technical and managerial competencies of the client.
- External causes such as; economic stages of the downturn and the slowdown.

2.1.18 Stages of the borrower's default

According to the instructions of the PMA, bank debt can be classified as follows (Al-Thaher et al., 2006):

2.1.18.1 Performing loans which are divided into two parts

- Typical Credit: the bank has no problems with its recovery and these debts are usually called good debts or regular.

- Special Mention: credit for which installment, interest or commission has not been paid for a period of 30-90 days; it needs to be kept under observation.

2.1.18.2 None performing loans, which are divided into three parts

- Sub-standard Credit: credit for which installment, interest or commission has not been paid for 91-180 days.
- Doubtful credit: credit for which installment, interest or commission has not been paid for 181-360 days.
- Credit classified as a loss: credit for which installment, interest or commission has not been paid for more than 360 days.

2.2 Previous Studies

The granting of credit must be based on accepted known rules and principles (Aldogaim et. al, 2006); a credit analysis is the method by which one calculates the creditworthiness of an individual or organization (Aoshairy, 2001).

2.2.1 Arabic studies

- A comparative study between conventional and Islamic banks in Jordan conducted by (Shatnawi & El Momani, 2017), to examine the impact of financial analysis tools to predict and to reduce banks credit risk in both conventional and Islamic banks. The study was based on descriptive analytical methods in order to identify traditional and modern financial analysis tools which could be used to measure bank credit risk. The study revealed that small Islamic banks are more exposed to credit risks than traditional small banks; because they don't require the same guarantees as the traditional small banks. The study recommended banks should insert financial instruments for credit analysis and prediction of credit risk & offer training for credit staff in financial analysis,.
- Study from Jordan titled as "Determinants of Non-Performing Loans: Evidence from the Jordanian Banking Sector" covering period of 2008 2012, carried out by (Rajha, 2016), to determine the macroeconomic factors of (Economic growth, Lending rate, Inflation rate, Global Financial Crisis) and bank specific factors of (the lagged NPLs, Loans to total assets ratio, Bank size), affected nonperforming Loans in Jordan., Panel data regression approach applied on historical data which was collected from 12 banks., The result of study showed that economic growth and inflation rate have negative significant effect on non-performing loans.,

Rajha recommends that Jordanian banks should increase their attention to the various factors when granting loans.

- A study by (Alammar & Kousayri, 2015), comes to investigate the importance of the creditworthiness models in the evaluation future potential customer of credit bank in Syrian commercial banks by comparing the creditworthiness models, historical data analysis based on descriptive approach., The most important result of the study recommended adoption of 18C's creditworthiness model which fits with the application environment, familiar with client borrower financial and personal factors.
- A study by (Al Fawaz et.al, 2015), aims to compare credit risk management processes between conventional and Islamic banks in Jordan; they used descriptive analysis to identify differences in various credit risk management processes by investigating credit risk assessment for (13) commercial banks and (3) Islamic banks. The result of the study found that Islamic banks are more sensitive to the process of Credit risk management in terms of understanding, managing, evaluating and analyzing credit risk. The recommendations of the study were the need to create an appropriate risks management environment in banks, & to ensure the integrity of the process of providing and granting credit through the establishment of clears criteria for granting credit.
- In a study by (PMA, 2011), focusing on the influence played by the banking sector through studying channels of liquidity, direct & indirect credit, the mobilization of savings, and linking it to the Palestine Stock Exchange. The study showed an increase in domestic investments due to close supervision of PMA on the banking sector.

- A case study (Bin Taryyah, 2010), performed on the national bank of Algeria aimed to identify the extent of adoption & uses of financial ratios in the banking institution to predict the default of bank loans and making credit decision. Data analyzed by statistical regression The main results of the study were banks did not apply statistical models to predict credit defaulting, & inventory turnover ratio & the age of the bank considered to be the main factors to predict a NPL.
- A study of (Abu Kamal, 2007), aimed to evaluate the reality of credit risk management strategies and systems applied in the banks operating in Palestine, in accordance with international banking standards and guidelines "Basel II", The researcher used analytical methodology by designing a questionnaire which was distributed to all the credit risk officers. The main results were; high efficiency of credit risk management which was due to compliance with Basel II directions and guidelines to mitigate credit risk, banks prefer to use the credit uniform approaches (standardized approach) than the internal rating based approach (IRB).

2.2.2 Foreign Studies

- A study by (Zebiri & Beladjouz, 2017), to identify the advance mathematical models developed in the analysis and measurement of optimization of credit risk used by credit decisionmaking to improve profitability and reduce credit risks, the result of the study was credit risk cannot be fully determined, there are many modern models which could be used to accurately predict credit risk by the use of advanced mathematical models such as discrimination analysis and Artificial network, which leads to reduced time and effort of credit risk.
- A study by (ChidoMakomeke et al., 2016), comes to study the relationship between Credit Appraisal Techniques (stress testing, credit scoring, SWOT analysis as well as traditional ex-

pert systems 5Cs, papers, and Campari), and Internal Rating System (loan pricing, loan origination, loan trading, capital allocation, reserve determination, profitability analysis, credit portfolio and monitoring management reporting) on improving Asset Quality. They gathered data from risk management department and corporate bankers, credit analysts, credit committee members, risk managers, and account relationship managers. The study showed a direct relationship between credit appraisal techniques & internal rating system on improving asset quality., They recommended that banks should ensure they have efficient and effective credit appraisal techniques integrated with credit risk management systems, and matching these techniques with international standards.

- An empirical study on commercial banks operating in Lahore (Pakistan) by (Ikram et.al, 2016), on factors affecting the size of non-performing loans (NPLs) of (SMEs) sector for the period (2014-2015), by studying microeconomic factors of: nature and valuation of collateral, credit policy, loan repayment capacity, age of the branch, and term of the loan., Data collected from credit banker's analysts of (42) branches from (9) commercial banks by using Stratified sampling technique, & analyzed by elective descriptive analysis and chi-square techniques. The study found significant impact of credit policy, term of the loan and age of the bank on NPLs and repayment capacity, while there was insignificant associations of NPLs with the nature and valuation of collateral.
- "A credit risk control for loan products in commercial banks", a case study performed by (Nguyen L., 2016), on the Bank for Investment and Development of Vietnam (BIDV), focused on the effective implementation of credit risk and control in commercial banks by discussing the methods the bank applied to minimize credit risk before loan grant, control credit risk during the life cycle of loans, mitigate credit risk of Non-per-forming loans and bad

debts. Data collected from (3) employees from (BIDV) and (2) supervisors from the State Bank of Vietnam. The thesis showed that (BIDV) using old regulations for assets classification process, lack of a transparent information system, lack of supervision and monitor of borrower's. His recommendation to BIDV to establish a transparent information technology system, offer more training programs for employees, & establish official internal instructions for fulfillment of loan covenants.

- A paper of (Pashkova, 2016), aimed to measure the financial health and current condition of Company Y to identify credit risks they exposed, and how they can prepare themself for the influence of these risks for preparedness to expand into international markets., by examining the financial ratio analysis and the Altman Z-Score. The study used a mixed-method approach to analyze and calculate different financial ratios from financial statements data which was obtained from the CEO of the company for the years 2010 - 2014. The study conclusion demonstrated that SMEs are considered to be more risky than larger companies and risk management tools used for large enterprises are not effective as the same for small and medium-sized companies.
- Italian study by (Cucinelli, 2015), aimed to understand the behavior of Italian lending sector during the financial crisis, by investigating whether credit risk leads banks to reduce their lending activity during this period, Data collected from the Italian Bank database, and from macroeconomic data based on the annual observed 2007-2013. The study showed a negative impact of credit risk factors (the non-performing loans and the loan loss provision ratio) on the bank's lending behavior; some of them started to take less risk by reducing their credit lines and a slower growth rate in gross loans.

- A case study performed by (Li & McMahan, 2015), on the community bank located in Midwestern state of the United states, to examine empirically the historical aspects of loan losses and loan quality rating system, this study focused on how the bank could improve credit risk management process., data collected was historical structure of the loan loss distributions, loan quality, rating system loan losses through the years 2007-2014., The study showed that the bank using quality rating system to: classify loans; develop strong process to calculate loan loss reserve, initiate stress test from study statistical valuations, showing cumulative default rate and actual loan loss, illustrate the dual credit rating system.
- A descriptive study case by (Mutua J., 2015) performed on six commercial banks operating in Chukka Town in Tharaka Nithi County in Kenya, aimed to investigate the impact of the mitigation of credit risk on banks performance by examining variables (the effect of credit risk identification, monitoring, and assessing the effect of credit approvals) on the performance of commercial banks, data collected from those banks credit department employees The study found that there is direct significant relationship between bank performance (return on asset) and credit risk management in terms of risk identification, Monitoring and credit sanction.
- A Uni-Variate and multivariate non-parametric analysis is a paper of (Noman et al., 2015), comes to investigate the difference between credit analysis aspects in conventional and Islamic banks in Bangladesh. They collected data from credit officers (17 conventional and 5 Islamic banks), and analyzed them by using nonparametric uni-variate and multivariate approach analysis techniques. The results showed that there is significant difference between Islamic and conventional banks; that Islamic banks are more specific in credit risk identifi-

cation, monitoring and controlling process while conventional banks are more careful and sensitive in understanding overall risk management control and risk management practices.

- In a study of (Njeru et al., 2015), comes to examine the effects of credit risk appraisal on loan performance of commercial banks in Kenya, they collected data from credit manager and credit officer of 43 commercial banks working in Kenya at year 2015, data was analyzed by using means; frequencies; and percentages; & correlation to compute the degree of relation-ship between variables. They found an influence between credit appraisal and performance of commercial banks which disclosed that lending process much depends on the use of past information to choose good quality borrowers. They recommended appraisal process should be carried out by people with credit experience and involve expert credit officers & using a multivariate approach in credit risk appraisal process.
- A study by (Viswanadham & Nahid, 2015), conducted on the main branch of NBC Bank at Dodoma -Tanzania in an attempt to understand the determinants of NPLs in National Bank of Commerce, by examining the relationships between the variables of: Interest rate, concentration of lending activities, GDP, economic condition and bank's loan supervision capacity on the level of non-performing loans,. The result of the study showed a significant impact between bank's loan supervision capacity on the level of NPLs, which results in lower nonperforming loans. Based on the study finding, they recommended that commercial banks should take into consideration: banks supervision, capacity when extending loans, and apply effective management of loan credit by monitoring the risk in individual loans.
- In a paper of (Adamu et al. A. I., 2014), comes to study conceptual of credit risk portfolio management in microfinance banks and practical insights; conducted on the microfinance banks in Nigeria, by reviewing their practical approaches which control loan default. The

study showed that the most common risks found in microfinance banks are: liquidity, market, and operational Risks., & they avoid loan default risk by: building relationships, engaging in group lending, total borrower verification, product standardization, regular reporting., According to (Oguntoyinbo, 2011), microfinance banks used risk models to mitigate the risk by daily collection board, collections in group meetings, rotation of Loan Accounts, periodic review of passbooks, disbursements made from branch offices, and internal and external audits.

- A paper of (Afande, 2014), titled as "Credit Risk Management Practices of Commercial Banks in Kenya", came to assess the factors that influence the effectiveness of credit risk management systems and measure the internal performance by "checking the credit history of the borrowers, used loan appraisal, collateral, credit rationing, covenants, loan securitization, and loan syndication" used by commercial bank,. Data collected from the credit manager of (45) commercials bank in Kenya. The study showed that the factors which influenced the effectiveness of credit systems are: establishing an appropriate credit policy based on Basel II criteria, bank profitability, return on equity, return on investment and return on assets, also the need to offer high quality staff with depth of knowledge and judgment, monitoring and control borrowers after grants.
- In a thesis of (Stevenson, 2014), devoted to study the factors which influence bank lending practices and the effect of loan officers behavior on the SMEs market for period from (2004-2007) in the context of a social sitting. Data obtained from loan officers employed and representation of the mutual banks from the four main commercial banks in the UK and five German banks; four based in central Leverkusen the fifth based in Koln., also British and German retail banks contributes in the body of literature by comparing the lending practices of SMEs and how they managed the ambiguous nature of external pressures and risk affecting

their lending practices. The researcher employed both qualitative approach and an interpretive study., The study showed that: SMEs credit history and creditworthiness have in both UK and German banks greater weighting; German banks preferred initial assessment for loans while UK banks prefer to use the credit scoring technology; German banks are concerned about the management background of the firms and assess them on an individual basis, while UK banks are used to assess firms.

- A paper of (Ogboi & Unuafe, 2013), comes to study the relationship between the capital adequacy and credit risk management to increase the profitability and reduce the risk exposure by examining the variables of "loan loss, Provisions, loans and advances, non-performing loans, capital adequacy and return on asset" at Nigerian banks., The study used empirical data collected from six banks in Nigeria for the period from 2005-2009, and analyzed it by using time series and cross sectional data, Panel data model,. The result showed that credit risk management and capital adequacy impacted positively on financial performance, while loans and advances banks' have impacted negatively on profitability and capital adequacy, The recommendation formulated upon the above results that Nigerian banks need to apply rigorous credit appraisal before loan grant and drawdown based on appropriate credit risk management strategies.
- A study by (Boahene et.al., 2012) on credit risk and profitability; reveals how credit risk factors (net charge-off rate, rate the pre-provision profit, and non-performing loan) effects profitability in some selected banks in Ghana. Purposive sampling technique data was obtained from the Annual Report of six commercial banks covering the period (2005-2009). The paper showed that there is a positive significant relationship between profitability and credit risk & the high prices of fees and commission; which indicates that banks enjoy high profitability in

spite of high credit risk (the average lending interest rate in GHANA about 30% - 35%)., This result was in spite of the fact that previous studies have shown that there is a negative relationship between profitability and credit risk.

- In a paper of (Cibulskiene & Rumuskkaite, 2012), performed on Lithuanian banks; comes to investigate credit risk management models of commercial banks and their importance for banking activity, by comparing models of the credit risk management: (probability default: Actuary, Option, Scoring, and Credit margin), Models of credit position: (Credit equivalent position, Loss given default), and models of portfolio loss: (Probability of default, market value), and to examine the indicators that influences changes in the quality of the credit loan portfolio they used the coefficient correlation to find out the relation between macroeconomic indicators and the different kinds of loans. The result showed that there is absence of a solid credit risk management, absence of credit risk policies in Lithuanian banks system, the role of Central Bank of Lithuania is to prevent possibility of default by tightened loaning, and establishing solid policy for credit management.
- A paper by (Gakure et al., 2012), comes to examine the effects of the factors of (risk identification and assessment, risk analysis & appraisal, risk monitoring, credit-approval/Sanctions) on the performance of unsecured bank loans., Data was collected from a sample of (39); including management staff working in various level of commercial banks, top, middle and low level,. This study concludes that the performance of unsecured bank loans have been strongly affected by credit approval guidelines; monitoring of borrowers and inspection by branch managers, whereas risk identification; risk analysis and assessment and risk monitoring moderately affected the performance of unsecured loans.

- An empirical study of credit risk efficiency of banking industry in Taiwan by (Chen & Kao, 2011), comes to investigate the using of output-oriented data in development analysis model with the financial ratio in evaluating credit risk technical efficiency; credit risk a locative efficiency and efficiency of credit risk cost. Data collected from (34) Taiwanese commercial banks over the period of 2005- 2008, in addition to the database of Taiwan Economic Journal and banks annual report., The study classified banks into four groups 'high competitiveness with high profitability, high competitiveness but low profitability, low competitiveness with high profitability, and low competitiveness with low profitability, then they applied individual mean of credit risk technical efficiency for the measurement of the competitiveness and also individual mean of EPS to measure the profitability for each bank., The results showed inefficient of credit risk AL locative efficiency and credit risk cost efficiency over evaluated periods,. The recommendation of the study was banks should have different strategies for credit risk such as banks with low competitiveness and profitability should be merged with other banks.
- A study by (Gatuhu R. N., 2011), to determine how credit management affect the financial performance of microfinance institution in KENYA, by examining variables of "collection policy, client appraisal, and credit risk control" by surveying (59) Microfinance Institutions by a questionnaire., The study showed strong positive relationship between the above variables and financial performance of MFIs in Kenya; that credit risk control would lead to a significant increase in performance. They recommended a requirement of enhancing: collection policy and adopting a stringent policy for effective debt recovery; client appraisal techniques to define creditworthiness in order to reduce non-performing loans.

- (Muriithi, 2011), tried to clarify the effects of factors of (Interest rates, loans Inflation growth) on Non-Performing Loans in commercial banks in Kenya, by analyzing data for period 2008-2012 of (43) commercial banks. Descriptive design & multiple regression where applied., The conclusion of the study that non-performing loans have positive correlation to inflation rate, but have negative correlation with real interest rate and growth rate in loans, Based on the above results, the recommendation suggested the government of Kenya initiate measures to control the real interest rate.
- A paper surveys "Quantitative vs. Qualitative Criteria for Credit Risk Assessment" by (Soares et al., 2011), aim to focus on the loans officers practice in Portuguese banks and the extent of using multi-criteria decision analysis (MCDA) models: financial criteria (ratios), market criteria (Conditions), the firms positioning and its adaptability, and management criteria (Managements experience and behavior), in credit risk assessment process. They used an *a la* Delphi methodology to Survey a panel of six loan officers from the six main Portuguese banks. The results of the surveys showed that there is high negative correlation between the importance of qualitative criteria and the performance of credit overdue, while there are integration between qualitative and quantitative analysis.
- In a study case performed on the transaction office at Vietnamese joint- stock commercial banks (JSCBs) by (Dam, 2010), comes to evaluate the effectiveness of credit risk management framework and credit conditions "culture, policies, organization & personnel and practices & performance". Data collected from two relationship managers and one credit assessment officer, by using questionnaire all of the above, and interviews with two out of three of the staff. The study showed that JSCBs adopted credit risk management framework close-to-standard, a complete lending procedure and standard internal credit rating system-symbols.

The study recommended to overcome credit risk; the bank should diversify its loan portfolios.

- An exploratory Case study by (Gan et al., 2008), conducted on one of the big four banks in china "Chinese Commercial Bank", comes to develop a classification model to provide banks with best possible practices for credit decision-making., data collected was a real database consisting of 641,988 observations obtained from a Chinese commercial bank with actual clients, information showed that default applicants data was collected didn't include indicators in the database to show that those customers were previously granted loans or not, with no indicators to their economic development status. Two models of classification used to analyze data: un-weighted and weighted model, data analyzed was by using two steps: first of them focused on data required from the customer which provide favorable information that can be used in the model to make decisions, the other is profit oriented, focusing on the changes regarding the profit matrix. The study showed that data quality is relevant to the efficiency of the data collection system used by banks which have great effects on decision making.
- In a paper of (Misman & Bhatti, 2008), empirical analysis was performed on Bank Islam Malaysia Berhad, to understand types of credit risk and market risk Islamic banks face by examining the risk and return; two approaches were used, financial ratio analysis through variables of (Return on assets, return on equity and non-performing loan to total loan ratio) and stock analysis (standard deviation, average annual return and coefficient of variations), also conduct to predicts the amount of total financing for year 2010., The sample of study was (22) commercial banks and (11) Islamic banks and (28) stocks which listed at Bursa Malaysia, data collected for financial ratio and stock analysis was gathered for the period from 1999-2008

from annual report of BIMB, Banks scope database, and Malaysia Central Bank Bulletin, & data collected for stock analysis was from the Data stream advance 4.0. The empirical result gave indicators to other Islamic banks not only to BIMB about the risk they face in the future in particular because Islamic banks are constrained by sharia law, they cannot use hedging and derivatives as risk management tools, which means that Islamic banks need proper risk management to face the increase in demand.

A study case by (Koumanakos & Al-Khazali, 2007), to explore how projections influenced bank lending decisions, and how financial statements (PAPERBASIS' S.A. historical performance) used to interpret the mechanical process for identification of a prospective borrower actual borrowing needs, benchmarking: liquidity and solvency., historical information's data gathered and analyzed the implications of the future operating performance. Study showed that projections are one of the most difficult areas in the financial analysis and credit assessment, the rationale approaches are behind typical lending decision.

2.3 Comparison with the previous literature

By comparing this thesis with the previous studies, present below the following differences:

- This thesis is directed at businesses & financing investment development and infrastructure long term projects.
- The first study Performed solely on the local Palestinian banks and excluded local Palestinian banks operating in the Gaza Strip.

- The target population is a mix of many levels of employees at their various functional levels (low, medium, high).
- The Model of the study: is a Comprehensive Model; this combination between credit analysis tools and credit risk tools to improve quality of credit portfolio, & bridge credit risk.
- This research aims to address the adoption of Palestinian banks by global credit risk tools, and to determine the best practices of credit risk management.
- Full representation of credit & risk manager's in the sample.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Chapter Overview

This chapter sets out the various phases that were followed to accomplish the study by describing the procedures and techniques used for the collection and classification of data, describe the population & sample, and determination of the variables of the study, examine validity and reliability of the data, and finally define the statistical approach used for analyzing and presenting of data.

Thus this chapter is an overall plan performed to answer the raised research question by explaining the research design, data collection instruments, data collection procedures and finally data analysis.

3.2 Research Design

The present study follows the analytical descriptive approach (quantitative approach); which is employed to provide information concerning the current subject to give better and clear understanding of the research problem, as the study comes to compare; interpret; evaluate and identify characteristics of various credit risk techniques; also to define the effect of the intermediary factors (career status, normal operation of the banks , the job title of the operator , and employee's specialty) in influencing credit grant quality, as well as how to mitigate or reduce credit risk by using credit analysis, it's an aspiration of reaching generalizations with a meaning that increases the knowledge of our subject.

Causal quantitative research design approach was also considered an appropriate approach in this research; as it is sought to identify the effect of using one or other following factors "histori-
cal analysis, known models of credit analysis, financial methods of analysis, the modern tools of analysis, PMA instructions, market condition, profitability, and the morals and reputation of client" on taking a rational grant decision of credit facilities to improve credit grant and to avoid default. Causal research involves the determination of factors and explores the relationship to the variables to be examined and analyzed in order to establish the cause of the connection between or among variables.

This research will evaluate the effectiveness of the different methods of credit analysis and credit evaluation on credit risk.

<u>Below is a summary of the procedure intended to approach the research questions and the</u> <u>techniques used to address the methodology of the study:</u>

Step one: identifying the research problem and generating the research questions in order to set up the required data about the effectiveness of using credit analysis techniques to limit defaulting borrowers at local banks.

Step two: developing the theoretical basis of the study by reviewing the previous literatures that related to the research study this includes; writing a paragraph that summarizes scholarly article's contribution, surveys, books, and any other sources that are relevant to credit analysis and credit evaluation of credit risk.

Step three: developing the research design to identify and analyze the relations between the variables of the study, and selecting the data collection instrument which are suitable for quantitative data.

Step four: collecting and analyzing the data, to find out the main findings of the study.

Step five: the anticipated outcomes from the previous stages, will be interpreted to answer the research questions.

Step six: obtaining the results and the recommendations of the study, and if there are any suggestions to be addressed.

3.3 Target Population

According to the (Association of Banks in Palestine, 2016), on 31st of December the structure of the banking sector in Palestine consists of fifteen banks operating in Palestine; out of which eight are of none Palestinian origin (Arab Banks), the remaining seven are local Palestinian banks; three of them are Islamic Banks.

Bank Name	Number of Offices and Branches	Nationality
Cairo Amman Bank	22	Jordanian
Housing Bank for Finance & Trade	16	Jordanian
Egyptian Arab Land Bank	8	Egyptian
Jordan Kuwait Bank	5	Jordanian
Bank of Jordan	32	Jordanian
Arab Bank	32	Jordanian
Jordan Ahli Bank	9	Jordanian
Jordan Commercial Bank	6	Jordanian
The National Bank	22	Palestinian
Palestine Investment Bank	20	Palestinian
Quds Banks	38	Palestinian
Bank of Palestine	72	Palestinian
Arab Islamic Bank	20	Palestinian
Safa Bank	2	Palestinian
Palestine Islamic Bank	38	Palestinian

Table No (5) The structure of banks sector in Palestine at year of 2016

Table No. (5) Sources (Association of Banks in Palestine, 2016),

Due to the political circumstances the Gaza Strip banks were excluded from the study. Therefore the population of our study consisted of Seven local Palestinian banks operating in the West Bank – Palestine, as follows:-

Bank Name	Number of Offices and Branches
The National Bank	22
Palestine Investment Bank	18
Quads Banks	29
Bank of Palestine	52
Arab Islamic Bank	18
Safa Bank	3
Palestine Islamic Bank	27
Total	169

Table No (6) local Palestinian banks operating in West Bank – Palestine

Table no. (6) Sources (Association of Banks in Palestine, 2016),

3.4 Sampling techniques

Stratified random sample was the main sampling technique used by the researcher to represent population without bias in terms of demographics variables: (Normal Operation of the banks, the job title of the operator, employee's specialty, the number of courses taken by the operator) drawn up from (676) banks operators (credit manager, risk manager, branch manager, businesses line)., Within the sample all the credit & risk managers & their deputies were included, because each bank employs only one credit manger & only one risk manager & their deputy.

3.5 Sample size

The sample size was chosen according to the table of the sample size described in the research methods for business "A Skills Building Approach by (Sekaran, 2003)". The sample represented

approximately (37%) from the selected population, and the percentage of respondents was 75%, this represent 189 out of a total 248.

Bank Name	Number of Offices and Branches + head office	Population size	Sample Percentage	Sample Size	Retrieved questionnaires
The National Bank	22	88	13%	32	18
Palestine Investment Bank	18	72	11%	27	19
Quads Banks	29	116	17%	42	26
Bank of Palestine	52	208	31%	77	77
Arab Islamic Bank	18	72	11%	27	16
Safa Bank	3	12	1%	3	3
Palestine Islamic Bank	27	108	16%	40	30
Total	169	676	100%	248	189

Table No (7) Sample size by using stratified sampling

Table no. (7) Sources (The auther),

3.5.1 Demographics Characteristics of Study Sample:

Table No (8) Distribution of the study sample according to (demographics characteristics)

Variable	Class	Frequency	Percentages %
N		140	74.1%
Normal Operation of the	Commercial	49	
	Islamic		25.9%
	Accountant	72	38.1%
	Business administration	34	18%
Employee's Academic Specialty	Banking & financial sci-	51	27%
Specialty	ences		
	Economics	14	7.4%
	Others	18	9.5%
	Credit Manager	13	6.9 %
Job title of the energies	Risk manger	13	6.9%
Job title of the operator	Branch Manager	83	43.9%
	Business line	80	42.3%

The number of courses	Less than 5 courses From 5-10 courses	126 46	66.7% 24.3%		
taken by the operator	11-15 courses	11	5.8%%		
	More than 15 courses				
	Missing	1	.5%		
Total		189	100		

Table 8 Sources (The Auther),

The above mentioned table showed the background distribution of the sample study respondents. This study focused on two banking sectors traditional & Islamic banks; since there are no other known banking sectors in Palestine. It considered the employee's academic's specialty because they have educational background skills, knowledge & experience of the economy and commercial management. Their job titles (occupation) reflect their capabilities & developments in the field of the study, while the number of courses reflects the concerns of employee & the banks at improving their qualifications.

3.6 Variables of the study

This study will examine the effectiveness of using credit analysis techniques (independent variable) for Bridging credit risk (dependent variable) in the local Palestinian banks. Presented below are details of the study variables.

3.6.1 Independent variables

Borrower credit record history analysis: in order to determine the borrower credit worthiness & his intention for repayment; a variety of information sources were obtained such as: the investigation of his historical credit information, any information on whether he has suffered from any bankruptcy, privilege or judgment, the extent to which his previous commit-

ments have been met, the number and types of his credit accounts, his classification as (borrower or guarantor), his classification on PMA check returned system, previous credit facilities and the due date and amounts, whether the payment is made on time, if there is any standing commitments and debts.

- *Adoption of known models of evaluating credit Risk:* there is a wide variety of credit risk models, each of them differ in their fundamental assumptions, but the common purpose and function is to predict the probability distribution of losses that may arise from a bank's credit portfolio.
- 1- Credit rating system: an assessment of the creditworthiness of the borrower, it could be internally prepared by the bank or externally as Moody's or the location of the Monetary Authority for credit rating.
- 2- *Credit scoring system:* the identification of the main factors that determine the probability of default, and then weight to a degree, the guarantee source of payment, suppliers, competition.
- 3- *Expert system:* banks organized committee of experts to decide the grant decision based on qualitative and quantitative information gathered upon the borrower.
- 4- Stress Testing: is a forward-looking assessment of stress scenarios that may affect the financial position and capital adequacy of banking institutions that applied at the overall credit level; which takes into account both interest rates, liquidity, probability of default, concentration of risk and risk Playback.
- Adoption of financial analysis: one of the most important sources of information about the financial situation of the client, focusing on detailed analytical study of financial statements for the years past to reveal the financial situation of the borrower and to clarify financial strengths and weaknesses in the granting of credit, using a set of appropriate financial indica-

tors, its objective is to assess the borrower's financial situation and to examine the borrower's ability to generate a cash flow in a manner to serve the loan repayment and interest.

- **Profitability:** the bank's revenue from investments in credit; its importance is to cover the operating expenses incurred by the bank; it also enables the bank to pay interest on deposits, and to achieve a net return on capital invested by shareholders.
- *Adoption of creditworthiness approaches*: globally considered the most important axis of the credit study; which is a set of criteria a lender usually looks at to make the right granting decision "borrower credit evaluation" while maintaining a certain percentage of risk, e.g. the five C's of Credit (5c's) approaches includes a set of those criteria.
- Lending instructions of PMA: PMA are working to regulate banks credit grant operations by issuing and updating instructions to safeguard the rights of both creditors and lenders and control credit risk based on the global Rules and regulations.
- *Analysis of borrower's market condition:* concerns the analysis of borrower working sector to meet his financing needs and fit it with his income and monthly repayment.
- *Monitoring of borrower's reputation and morals:* related to the extent to which a credit analyst is convinced of dealing with the borrower, while keeping bank secrecy.

3.6.2 Intermediary Variables

- *The normal operations of the bank:* this study has considered two types of banks operations
 "Traditional and Islamic bank".
- *Traditional Banks:* This offers a broad range of accounts which includes: checking accounts, savings; time deposits and granting loans to either individuals or business, and charge of fees and interest return for its services (Financial Glossary, 2011).

- *Islamic Banks*: A bank that only offers products that conform to the sharia or Islamic law (Farlex Financial Dictionary, 2009).
- 2- The Job Title of the Operator: it's the job description of the banks employee, which this study takes into consideration: director of credit department; director of risk department; branch manager; and business line.
- 3- The banks employee's specialty: the bank employee academic qualifications at university, which this study takes into consideration: accountant; business administration; banking & financial sciences; economics or others.
- 4- The number of courses taken by the operator: number of training courses undergone by the employee: (Less than 5 courses; from (5) to (10) courses; from (10) to (15) courses; more than (15) courses).

3.6.3 Dependent variables

- *Bridge credit risk:* to mitigate or reduce the credit risk by using appropriate credit analysis and credit risk techniques.

3.7 Data Validity and Reliability

3.7.1 Data Validity

Validity is defined as the extent to which the instrument measures or what it purports to measure (Allen & Yen, 1979), this will be done in order to enhance its validity and accuracy of data to be collected for the study.

The researcher relied on the judgment of the editor to ascertain the validity of the instrument employed by the study; whereas the questionnaire was carefully designed after viewing of previous studies, then reviewed and revised by 15 editors with expertise and experience (see appendix number 3)., The response of the editors on the paragraphs indicates that the paragraphs are valid and actually measure what was prepared for measurement.

3.7.2 Data Reliability

The tendency toward consistency found in repeated measurements is referred to as reliability (Carmines and Zeller, 1979); Thus to examine the internal reliability of the measurement scales of the study; the researcher used Cronbach's Alpha coefficient and the extracted result was (0.975) which is sufficiently high to ensure reliability of the results.

Table No (9) Coefficient of Cronbach Alpha for measuring the reliability of the questionnaire

Cronbach's	Part 1	Value	.922
Alpha		N of Items	36 ^a
	Part 2	Value N of Items	.960 35 ^b
	Total N of It	ems	71
Correlation Between Forms	F 11 4		.951
Spearman- Brown Coefficient	Equal Length	n	.975
	Unequal Len	gth	
			.975
Guttman Split-Half Coefficient			.965

Table 9 Sources (Spss)

3.8 Data Collection Methods

3.8.1 Secondary data

In order to complement primary data, enrich the research and add credibility; the theoretical aspects of our research has been addressed through revised PMA credit instructions and regulations and annual reports, Basel accords, in addition to review and analyze data based on a number of references represented in the internet, books, university letters, periodicals, articles, magazines, journals, and any special publications related to our research problem "Investigating the Effectiveness of Using Credit Analysis Techniques To Bridge Credit Risk "Empirical Evidence from the local Palestinian Banking Sector".

3.8.2 Primary data

Data collected by means of a questionnaire distributed to each of the credit managers, credit risk managers' branch managers and business lines who are working in the banks under study.

The questioner was chosen based on the fact that the data being used is quantitative data and is characterized by being collected directly from first-hand experience, produce great quantities of highly structured and standardized data from the research community, whereas the participants did not have to declare their identity, which maintain their privacy, thus being more able to answer all the questions, especially embarrassing ones.

A well-structured questionnaire constructed based on previous literature review and the latest global and local developments instruction in credit analysis and credit risk, consists of two main parts:

- *The first part:* includes the demographic data related to the intermediary variables related to the sample of the study, which are:
 - a. The normal operations of the bank.
 - b. The job title of the operator.
 - c. The banks employee's specialty.
 - d. The number of courses taken by the operator.
- *The second part:* is the areas of the study which consist of eight stems; each stem contained eight questions (except the fifth stem which contained of 18 questions), representing its importance and the total number of questions 67 questions focused on the following:

- I. The first stem: Borrowers credit record history analysis.
- II. The second stem: Adoption of known models of evaluating credit Risk.
- III. The third stem: Adoption of financial analysis.
- IV. The fourth stem: Profitability.
- V. The fifth stem: Adoption of creditworthiness approaches.
- VI. The sixth stem: Lending instructions of Palestine Monetary Authority (PMA).
- VII. The seventh stem: Analysis of borrower's market condition.
- VIII. The eighth stem: Monitoring of borrowers reputation and morals.

Table No (10) The Likerts scale was used for the measurements of the respondents

Respondent	Strongly	Agreed	Neutral	Disagreed	Strongly
	agreed				disagreed
Grade	5	4	3	2	1



3.8.3 Illustration of Likert Scale

Since the variable that reflects the options (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree) is an ordinal scale, the numbers entered into the program are express weights (strongly agree = 5, agree = 4, neutral = 3, disagree=2, strongly disagree=1), then the arithmetic average (weighted average) calculated, this is done by calculating the length of the first period, which represents 4 out of 5. Where 4 represents the number of spaces (1 to 2 first, 2 to 3, 3 to 4, and 4 to 5); and 5 represents the number of choices. When dividing 4 by 5, the length of the period is equal to 0.80 and the distribution becomes (Likert, 1932) as follows:

Table No (11) Weighted average

Strongly disagree	1 - 1.79
Disagree	1.8 - 2.59
Neutral	2.6 - 3.39
Agree	3.4 - 4.19
Strongly agree	4.2 - 5

Table 11 Sources (Likert, 1932)

The questionnaire passed through several phases before distributing it in its final form to the target sample, that it had been reviewed and verified by a panel of expert arbitrators in credit and credit risk in banking sector, in addition to academics in the field to evaluate each item of questionnaire, to ascertain the wording and clarity of the paragraphs, then sent for linguistic scrutiny, then examined in a pilot study which was distributed randomly to a sample of 9 respondents from the population under study.

3.9 Statistical Approach

To achieve the objectives of the study and analyze the collecting data, the researcher employed Statistical Package for Social Sciences (SPSS) for data to be analyzed, as follows:

- Descriptive statistics test:
- Percentages frequencies: used to find out the distributions' of respondent occurrences for each data items and groups of the study, in order to define the percentages of the respondents of the study sample and the tendency of their answers.
- 2. Mean: this test is used to determine the location of the distribution value for the respondents.

- 3. *Standard Deviation:* a test used to measure the extent of spread out of the study member's respondent for each items and for the groups axis of the study.
- 4. *Cronbach's Alpha* a test used to determine the reliability of the questionnaire.
- The differences between items and the groups of the study
- 1. One sample *T* tests; a test provides statistical differences between the sample mean and the sample midpoint of the test variable.
- 2. *T-Test of independent sample*; a test provides statistically compared differences between two mean score of the study.
- 3. *One Way-ANOVA;* a test provides statistically compared of the quality of more than two independent means of the groups of the study.

CHAPTER FOUR: THE FINDINGS

4.1 Chapter Overview

This chapter comes to answer the questions and examine the four hypotheses of this thesis. Shown below the results of this thesis.

4.2 Data Analysis

4.2.1 Sample characteristics

Presented below are the outcomes of the statistical analyses of demographics data:

4.2.1.1. Normal Operation of the banks

FIGURE NO (4) THE DISTRIBUTION OF STUDY SAMPLE ACCORDING

TO NORMAL OPERATION OF BANKS



Figure 5 Sources (The Author)

Figure (5), stated the distribution of the respondents answered according to the normal operation of the banks, as we mentioned before this thesis considered two banks categories; the first one is traditional banks which represented the overwhelming majority of the sample, the other is the Islamic banks represented quarter of the sample. This indicated that the central tendency of the sample representation of this thesis is in favor of the traditional banks which reflect the nature of the local Palestinian banking sector.

4.2.1.2 Employee Academics Specialty

FIGURE NO (5) THE DISTRIBUTION OF STUDY SAMPLE



ACCORDING EMPLOYEE ACADEMICS SPECIALTY

Figure no (6), stated the respondents answered distribution according to their academic backgrounds; divided into five groups: this to provide more accurate data., The results presented that the percentage attaining accounting specialists were the highest percentage in the sample at 38.1%; followed by banking and financial sciences with 27%; business administration minority with 18%, while the economics & others specializations were very few.

This revealed that most banks concentrate in the process of choosing employee of accounting; banking and financial sciences specialization rather than the other specialization, & still far away from economics & other scientific specialization, so there is a need to increase the number of employees with a background in business administration and economics specialties in their staff to create a balanced of knowledge base if they want to enhance their role in economic development participation.

Figure 6 Sources (The Author)

4.2.1.3 The Job Title of the Operator



FIGURE NO (6) THE DISTRIBUTION OF THE STUDY SAMPLE ACCORDING TO THE JOB TITLE

Figure 7 Sources (The Author)

The figure (7) stated the distribution of respondents answered according to the job title, which showed that the respondents reflected the patterns of responsibility determined by the type of occupation the employee is engaged in. The largest categories of the sample were both of branches mangers & the business lines category which represented approximately 86% & both of credit managers and risk managers had less representation due to their limited numbers.

This indicated that the majority responsible in accepting and raising credit applications returned to both of branches managers & business lines, that the business line is considered the first contact with the applicant & the first line of evaluation., The decision making lies solely with the credit managers with some exceptions, while risk managers are responsible for the functions of control and has no role in the final decision; but their role is to plan & determine the outlines of credit risks. So all branches managers; business line & credit managers need to increase their skills in credit analysis to be selective in accepting credit requests, and risk managers need to improve their skills in credit risk evaluations.

4.2.1.4 The Number of Courses Taken by the Operator

FIGURE NO (7) THE DISTRIBUTION OF STUDY SAMPLE ACCORDING TO THE NUMBER OF



COURSES TAKEN BY THE OPERATOR

Figure (7) Sources (The Author)

Figure no (8), this table stated the distribution of respondents according to the number of courses taken by the operator, which showed clearly that the bank's employees are not receiving continuing professional development courses as shown above that the vast majority (less than 5 courses).

This result revealed shortage in training courses; so there is a need to improve staff qualifications by adopting training courses programs at the point of employment & maintaining a continuous professional development plan for them to address the subject of credit analysis in order to raise the quality of credit decisions.

4.3 Examining Thesis Questions

To test the research questions, One Sample T Test was used as the follows:

4.3.1 Question number (1) states that "To what extent the local Palestinian banks adopt analysis of historical credit record of the borrowers?"

Table no (12) showed adoption of local banks by the historical credit record analysis of the borrowers for making the correct credit decision ". What is more, the statistical result shows that the respondents of this stem agree strongly.

Based on table 12 outcomes, the banks are making deep analysis of the historical situation of the prospective borrowers, which includes any judgment, bankruptcies, default, credit troubles... The highest respondents pointed that most banks experience "Collect information about size & nature of standing obligations towards banks and others", while the less respondents pointed "collect information about the borrower's previous ability in dealing with financial difficulties".

The thesis showed that local Palestinian banks are applying "historical credit record analysis of the borrowers "correctly and in organized manner to get the knowledge and understanding required information to make effective grant decisions, this result addressed in Credit Risk Workshop – Intermediate (USAID-Funded Economic Governance II Project, 2006), which contain that credit officers should investigate the borrower's information about current and expected financial condition, the ability to withstand stress, the credit history, the optimal loan structure, collateral, and qualitative factors, and consistent with study of (Mu, 2007), who assumes that accuracy of prediction just depends on the quality of the data set, and making credit decisions usually based on types of information related to the history of bank-client's relationship. In a study of (Stevenson, 2014), applied on both of UK and German banks revealed that UK banks prefer the use of credit scoring technology, while German banks are already adopting its use, German banks are concern more about the management background of firms, that German banks continue to assess firms by individual case, while UK banks used to assess firms by class.

This thesis results is consistent with the Palestine Monetary Authority (PMA) orientation to continue developing electronic systems for Credit information and returned cheques which reflect significant improvement in banking services in various areas especially granting credit sector, either consistent with their many regulated instructions related to credit grant, (Njeru et al., 2015), also showed an influence between credit appraisals and performance of commercial banks which disclosed that lending process much depends on the use of past information, and credit appraisal applied more to credit referencing and credit history to choose good quality borrowers.

 TABLE NO (12) STEM I ADOPTION OF HISTORICAL CREDIT

#	Item	[\] strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation	T-value	sig	Result
1.	Collect information about size & na- ture of standing obligations towards banks and others.	60.3	36.0	3.20	0.0	0.50	4.56	0.6131	34.881	0.000	SA
2.	Collect information about his previous ability to meet his lending obligations.	58.8	37. 0	3.7 0	0.5	0.0	4.53	0.5968	35.470	0.000	SA
3.	Collect information about his previous ability in dealing with financial diffi- culties.	31.8	45. 0	19. 0	4.2	0.0	4.04	0.824	17.389	0.000	A
4.	Evaluate previous lending record to assess how successful it was.	45.0	43. 4	9.0 0	2.1	0.5 0	4.30	0.7643	23.413	0.000	SA
5.	Obtaining any other incomplete infor- mation that affects the lending deci- sion.	48.1	45. 5	4.8 0	1.6	0.0	4.40	0.6582	29.287	0.000	SA
6.	Evaluate credit risk of the required loan.	49.2	43. 4	6.9 0	0.5	0.0	4.41	0.6433	30.189	0.000	SA
7.	Determine the probability of default.	40.3	44. 4	11. 1	4.2	0.0	4.21	0.80210	20.676	0.000	SA
Aver	age: adoption of historical credit	47.64	42.1	8.24	1.87	0.15	4.35	0.51	36.52	0.000	SA

RECORD ANALYSIS OF THE BORROWERS

record analysis of the borrowers.										
Panel (1): The test value of the One-Sample T test is 3.0. Ho: μ = 3 H1: $\mu \neq$ 3, If Sig. >0.05, Ho must be accepted; which										
mean banks adopt the analysis of the borrower's credit history. Where: SA: Strongly Agree, A: Agree; N: Neutral, D:										
Disagree, SD: Strongly Disagree.										

4.3.2 Question number (2) states that "To what extent the local Palestinian banks adopt known models of evaluating credit risk?

Table no (13) showed that the computed T-value of one sample T test is equal to 29.136 at Sig (0.00). This result verifies that the local Palestinian banks adopt known models for evaluating credit risk. In addition, the statistical result shows that the respondents of this stem are agree.

Based on table 13 outcomes, the banks adopt known models for evaluating credit risk in order to create accurate comprehensive predictions to mitigate credit risk resulting in non-payment or default.

Both of Federal Reserve System Task Force on Internal Credit Risk Models and the Basle Committee on Banking Supervision, gave a brief statement on many instances that there are a wide variety of credit risk models which vary in their fundamental assumptions, in addition to the Palestine Monetary Authority instructions they have instructed the banks on establishing credit risk management; in the instructions No. 6/2011 issued on 5/9/2011; in order to comply with Basel Decisions for Foundation and management of Risk Management in Palestine.

The thesis result is consistent with a study by (Abu Kamal, 2007), who found high efficiency of the credit risk management practices by banks in Palestine; & a study by (Mutua, 2015), who indicated a direct significant relationship between bank performance and credit risk management., also (Lopez & Saidenberg, 1999), in his study found that qualitative methods as "stress-

testing and sensitivity analysis" will always be important in assessing credit risk models & qualitative methods are important in the evaluation of credit risk models; such as stress-testing and sensitivity analysis, and (Zebiri & Beladjouz, 2017), in their study state that many modern models could be used for accurate credit risk such as discrimination analysis and artificial network, in addition to using advanced mathematical models which lead to reduced time and effort in assessing credit risk, but the Italian (Cucinelli, 2015), showed a negative impact of credit risk factors (the non-performing loans and the loan loss provision ratio) on bank lending behavior.

Many studies confirmed the important role of credit risk management; a study by (ChidoMakomeke et al., 2016) indicated the direct relationship between credit appraisal techniques including internal rating system and asset quality in commercial banks, another a study by (Gakure et al., 2012), conclude the great extents on the performance of unsecured bank loans by credit approval guidelines, monitoring of the borrowers, risk measurement, and risk identification, and there are very important point to establish clear credit process during managing credit risks in banks, in another study by (Gatuhu, 2011), showed strong positive relationship between variables of credit management "collection policy; client appraisal; and credit risk control" on financial performance of MFIs in Kenya.

TABLE NO (13) STEM II: ADOPTION OF KNOWN MODELS

#	Item	strongly [†] Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard	T-value	Sig	Result
1.	The existence of a specialized depart- ment to manage credit risk.	66.6	27	4.8	0.5	1.1	4.58	0.71	30.633	0.000	SA
2.	There is certified Internal Credit Rating System.	42.8	38.6	13.8	3.7	1.1	4.19	0.88	18.457	0.000	Α

OF EVALUATING CREDIT RISK

3.	There is external credit rating system.	40.2	40.2	14.3	3.7	1.6	4.14	0.91	17.256	0.000	Α
4.	Relying on a committee of experts.	47.1	43.4	8.5	1.1	0.0	4.37	0.68	27.460	0.000	SA
5.	Using pricing models to determine the profit margin such as (Altman model) and others.	22.2	41.3	20.6	7.4	7.9	3.63	1.15	7.504	0.000	Α
6.	Periodic review of the borrower credit rating (bad, doubtful, substandard, and good).	37.6	42.9	16.4	2.6	0.5 0	4.14	0.82	19.105	0.000	A
7.	Use of different financial methods for determining credit risk.	32.8	47.6	16.4	3.2	0.0	4.10	0.78	19.337	0.000	A
Avera evalu	age: Adoption of known models of ating credit risk.	41.36	40.14	13.54	3.17	1.74	4.16	0.55	29.136	0.000	A
Panel	Panel (2): The test value of the One-Sample T test is 3.0. Ho: μ = 3 H1: μ ≠3, If Sig. >0.05, Ho must be accepted;										
which	mean banks adopt known models of eval	luating	credit r	isk. Wh	iere: S.	A: Stro	ngly A	Agree, A	A: Agree	»; N: Ne	utral,
D: Di	sagree, SD: Strongly Disagree.										

4.3.3 Question number (3) states that "To what extent the local Palestinian banks adopt financial analysis for the borrowers to make a correct grant decision?"

Table no (14) showed that the computed T-value of one sample T test is equal to 32.255 at Sig (0.00). This result verifies that the local Palestinian banks adopt financial analysis of the borrowers to make a correct grant decision. In addition, the statistical result shows that the respondents of this stem are agree strongly.

Based on table 14 outcomes, the local Palestinian banks are adopting financial analysis as stem of credit analysis, in order to find financial indicators for the borrowers to anticipate his future performance, in which the researcher has observation opinion on relying on it, that it may include many risks because financial data is historical data and may mislead the lender, also despite the result it showed that they have low concern for determination of the size of the leverage with regard to the other items in which its mean degree is (4.18), this requires the banks to pay more attention to leverages which carries many risks and may lead to collapse of the business if it increases the set limit of the borrower's capital.

A case study by (Koumanakos & Al-Khazali, 2007), showed that credit assessment upon financial analysis are one of the most difficult areas in the financial analysis and the rationale approaches are behind typical lending decision, and (Bin Taryyah, 2010), in his case study confirmed that financial ratios supported by World Bank, (Al-jazrawi & Al-Nuaimi, 2010, p. 10), revealed in his study that financial analysis process is an approach to approve the granting of credit, also paper of (Ogboi & Unuafe, 2013), showed that credit risk management and capital adequacy impacted positively on financial performance, & study by (Quweider and Zugheib, 2013), focused on the importance of financial analysis, to assess the financial position of the borrower's and the ability to produce adequate cash flows for settlement and interest in order to reduce the risk of default. While (Alistair & Parboteeah, 2016), criticized financial criteria that they are less important relatively to qualitative criteria as management criteria.

A paper by (Abu karash, 2005), stated that A-SCORE model, KIDA model, Z-SCORE are appropriate methods to predict financial failure of the borrower, and (Ogboi & Unuafe, 2013), showed in their study that credit risk management and capital adequacy impacted positively on financial performance, also a survey paper addresses "Quantitative vs. Qualitative Criteria for Credit Risk Assessment" by (Soares et al., 2011), their main finding was a high negative correlation between the relative importance of qualitative criteria and the performance of credit overdue, and there are integration between qualitative and quantitative aspects whereas banks used a wide range of criteria in their credit analysis grouped as: Market competitive/ environment, financial performance, and the management's experience reliability; and considered qualitative criteria (especially management criteria) more important than quantitative criteria (financial criteria). (Atieh, 1990), didn't agree with the results of the study, who concludes that credit decision cannot be made just on the basis of using analytical techniques of financial statements, but subjected to Limitations of another factors like "commitment with the policy of bank credit, economic conditions and the banking control laws and international credit regulations".

#	Item	\strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Stand- ard De- viction	T-value	Sig	Result
1.	To determine strengths and weak- nesses of his financial position.	42.9	48.1	8.5	0.0	0.5 0	4.33	0.68	27.048	0.000	SA
2.	To determine the financial lever- age.	32.3	54.0	12.2	0.50	0.50	4.18	0.70	23.079	0.000	A
3.	Evaluating transactions methods used by him.	37.0	49.7	11.6	1.1	0.50	4.22	0.73	22.927	0.000	SA
4.	To determine his ability to collect and repayment.	42.9	48.7	7.9	0.50	0.0	4.34	0.65	28.511	0.000	SA
5.	To calculate turnover rates and management efficiency of his fi- nancial assets.	39.7	48.1	9.5	2.1	0.50	4.24	0.75	22.679	0.000	SA
6.	To evaluate his ability to meet short and long term commitments.	46.0	47.1	5.8	0.50	0.50	4.38	0.67	28.238	0.000	SA

TABLE NO (14) STEM III: ADOPTION OF FINANCIAL ANALYSIS

OF THE BORROWERS

7. To determine his cash flows in operation activities and to match the maturity with repayment dates	45.5	43.9	7.9	1.6	1.1	4.31	0.77	23.311	0.000	SA
Average: Adoption of Financial Analy- sis of the borrowers	34.77	41.64	7.84	0.90	0.44	4.28	0.60	32.255	0.000	SA
Panel (3): The test value of the One-Sample T test is 3.0. Ho: $\mu = 3$ H1: $\mu \neq 3$, If Sig. >0.05, Ho must be accepted; which mean banks adopt the financial analysis of borrowers. Where: SA: Strongly Agree, A: Agree; N: Neutral, D: Disagree, SD: Strongly Disagree.										

4.3.4 Question number (4) states that "To what extent the local Palestinian bank focus on profitability?"

Table no (15) showed that the computed T-value of one sample T test is equal to 17.197 at Sig (0.00). This result proves that the local Palestinian banks focus on profitability when making grant decisions. What is more, the statistical result showed that the respondents of this stem agree.

Based on table 15 outcomes, profitability have a role of credit decision in local Palestinian banks as a means to determine efficiently the utilization of bank's assets, and whether credit grant is a good investment or not, despite their respondent was "neutral" towards each item of "the level of risk taken is in accordance of profit margin, lenient grantor for higher profit taking", which means that they have no clear position regarding achieving high profitability at the expense of higher credit risk, and regards taking higher level of guarantees in order to achieve high profit.

This result is confirmed by a study of (Boahene et.al., 2012), who measured the effects of credit risk factors on profitability of the banks in Ghana and showed a positive significant rela-

tionship between profitability and credit risk, beside the high prices of fees and commission, which indicates that banks enjoy high profitability despite high credit risk, this is in spite of that previous studies in Ghana which showed a negative relationship between profitability and credit risk, also paper of (Afande, 2014) indicated that profitability is one of the factors which influence the effectiveness of credit systems . While (Chinoda, 2014), in his study disagrees with our findings, when he studied the determination of internal factors on bank profitability and showed a negative relationship between commercial bank profitability and internal determinants and a strong positive relationship between profitability and inflation determinants, (Ogboi & Unuafe, 2013), in his paper revealed that loans and bank advances have negatively impacted on profitability.

#	Item	^l strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation	T-value	Sig	Result		
1.	Analyze lending opportunities and choose the least risky one.	36	50.3	11.1	1.6	0.50	4.20	0.74	22.283	0.000	SA		
2.	Diversify lending product and ad- vantages offered to increase profits.	38.6	47.6	12.2	0.50	0.50	4.24	0.72	23.447	0.000	SA		
3.	Link the level of profit to the level of risk taken.	31.7	38.6	16.9	5.8	6.3	3.84	1.13	10.188	0.000	Α		
4.	The level of risk taken is in accord- ance of profit margin.	12.2	33.3	20.6	17.5	15.9	3.09	1.28	0.911	0.363	N		
5.	Credit insurance is useful as a hedge against credit risk.	28.0	44.4	24.3	1.6	1.1	3.97	0.83	16.078	0.000	Α		
6.	The cost elements of the credit pro- cess are taken.	21.7	52.4	19.0	5.3	1.1	3.89	0.84	14.461	0.000	A		
7.	Lenient grantor for higher profit taking.	16.9	27.0	23.3	11.6	20.6	3.08	1.38	0.793	0.429	N		
Avera	ge: focus on profitability	26.4 4	41.9 4	18. 2	6.2 7	6.5 7	3.76	0.60	17.197	0.000	Α		
Panel which Strong	Panel (4): The test value of the One-Sample T test is 3.0. Ho: μ = 3 H1: $\mu \neq$ 3, If Sig. >0.05, Ho must be accepted; which mean banks focus on profitability. Where: SA: Strongly Agree, A: Agree; N: Neutral, D: Disagree, SD: Strongly Disagree.												

TABLE NO (15) STEM IV: FOCUS ON PROFITABILITY

4.3.5 Question number (5) states that "To what extent the local Palestinian banks adopt known standards and approaches for borrower's creditworthiness?"

Table no 16 shows that the computed T-values of one sample T test for all set of criteria of this stem is equal to 36.956 at Sig (0.00). This result tells us that the local Palestinian banks adopt known standards & approaches for evaluating creditworthiness of clients. What is more, the statistical result showed that the respondents of this stem are agreeing strongly.

When we break down these standards into factors that may contribute to how lenders view the prospective borrower, the results indicated that:

- 1- The statistical result shows that the respondents of character factors are strongly agree, banks highly focusing on "determine eligibility of the borrower".
- 2- The statistical result shows that the respondents of capacity factors are strongly agree, banks highly considering both of "determine whether the borrowers have other income to meet in difficult situations, to ensure that required loan is appropriate to the size and nature of the intended activity".
- 3- The statistical result shows that the respondents of capital factors are strongly agree, banks highly focusing on "to ensure the borrower's ability to contribute a certain percentage of the required loan".
- 4- The statistical result shows that the respondents of collateral factors are strongly agree, banks highly focusing on "legally document the collateral".
- 5- The statistical result shows that the respondents of Conditions factors are strongly agree, banks highly focusing on "the evaluation is based on a field visit to the project to be financed".

6- The statistical result shows that the respondents of Control and Follow up after Grant factors are strongly agree; with high focusing on "Is there a delay or postponement of the required payments?"

Based on table 16 outcomes, the banks adopt known standards credit approaches for creditworthiness; on the basis of sufficient information attained from the borrowers, in order to take a reasonable step to gauge his affordability; assess his ability to make repayments on time in a sustainable manner, with regards to the relevant circumstances, without suffering financial difficulties or having to borrow furthermore.

The thesis reveal the adoption of local Palestinian banks by "Known standards credit approaches", these approaches considered globally the most important methods to measure client or prospective borrower creditworthiness to evaluate the risk chance of default and thus the bank will suffer from a loss of revenue; this explained in a study by (Gan et al., 2008), who stated that the best possible practices for credit decision-making resulted that models of creditworthiness also showed that the data quality is relevant to the efficiency of the data collection system used by banks, either (Abu karash, 2005), stated in his paper for the first scientific conference there are many methods and criteria used for evaluating credit risk as SC's credit, 5Cs Credit method, P's of Credit, LAPP method (Liquidity, Activity, Profitability) and previous experiment with the borrower, also (Alammar & Kousayri, 2015), showed the importance of adoption of 18C's creditworthiness model to fits borrower financial and personal factors, & (Maya et. al, 2014) also indicated to another models of creditworthiness called "PRISM" reflect the power side of borrower "P: Perspective, R: Repayment, I: Purpose of credit, S: Safeguards, M: Management" ., (Aldogaim et. al, 2006) also concludes that using "credit analysis" considered as an important tool to reach the accuracy in making credit decisions; Loan guarantees are only to enhance the

credit decision; the need for analyzing financial data of the borrowers to develop many of the indicators of customer financial situations, also the need for supervision of customers by followup, i.e. field assessment of the borrower business, either (Altaher et al., 2007), found in his study that the most important factors for loan trouble in Palestine was "inadequate credit analysis, lack of information, insufficient follow up of clients after granting, the conditions of closures & occupation, conflict between purpose of loan and the reason of grant, unplanned expansion, an increase of debt", while the market conditions have no difference of those trouble, also (Anjro, 2007), indicates to the role of credit analysis to ensure of creditworthiness of the borrower's and his ability of repayment of installment to making the credit decision, while A case study by (Aljazrawi & Al-Nuaimi, 2010), conclude that five C's of Credit (5c's) approaches which focus on (character, capacity, capital, collateral, conditions) measure the client creditworthiness and estimate his chance of defaults. (Ikram et.al, 2016), found in his study insignificant relationship between None-performing loans (NPLs) nature and valuation of collateral, & at the same time the importance of factors related to collateral should be given considerable weight on the level of None-performing loans.

New approaches applied on the microfinance banks by (Cusmano L. C., 2015), defined the techniques used to mitigate credit risk in traditional lending are: alert risk-sharing mechanism to align incentives between lenders and borrowers include (OECD, 2013b): High equity contributions by potential borrowers, collateral, credit guarantees, loan covenants which include (hazard insurance, key-man life insurance, payment of taxes –fees - licenses, provision to provide financial information to the borrower, which prevent the borrower from taking any actions without prior approval from lender).

TABLE NO (16) STEM V: ADOPTION OF KNOWN STANDARDS AND APPROACHES FOR BOR-

#	Item	ⁱ strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation	T-value	Sig	Result		
1- Character													
8.	Determine eligibility of the borrow- er.	63.5	29.1	6.9	0.0	0.50	4.55	0.67	31.739	0.000	SA		
9.	Verify that management is not the sole responsibility of the borrower.	36.5	43.4	18.0	1.6	0.50	4.14	0.80	19.540	0.000	А		
10.	Verify reputation of the borrower in his business filed.	49.7	43.4	4.8	1.1	1.1	4.40	0.73	26.431	0.000	SA		
Average: Character		49.9	38.63	24.3	1.3 5	0.7	4.36	0.57	32.576	0.000	SA		
2- Capacity													
11.	Determine whether the borrower have other income to meet in diffi- cult situations.	54.0	40.7	3.7	0.0	1.6	4.46	0.72	27.867	0.000	SA		
12.	Determine the borrower has suffi- cient competencies with competitive edge.	38.6	45.5	11.1	3.7	1.1	4.17	0.85	19.000	0.000	A		
13.	To ensure that required loan is ap- propriate to the size and nature of the intended activity.	52.4	40.7	6.9	0.0	0.0	4.46	0.62	32.130	0.000	SA		
Avera	ge: Capacity	48.33	42.3	7.23	3.7	1.35	4.37	0.61	30.544	0.000	SA		
		3.	- Capit	al									
14.	To ensure the borrower's ability to	56.1	37.6	5.3	0.50	0.50	4.48	0.67	30.257	0.000	SA		

ROWER'S CREDITWORTHINESS

	contribute a certain percentage of the										
	required loan.										
15.	Impose on the borrower certain con-										Α
	dition not to exceed his indebtedness	36.5	48.7	11.1	1.6	2.1	4.16	0.84	18.922	0.000	
	of certain set of his equity.										
16.	Determine the borrower's ability to	39.7	50.3	79	11	11	4 26	0 74	23 513	0.000	SA
	generate income and make profit.	5711	00.0	1.5				0.71	20.010	0.000	
Avera	age: Capital	44.1	45.53	20.63	1.07	1.23	4.3	0.61	29.318	0.000	SA
		4-	Collat	eral							I
17.	The value of the guarantee must										
	equal the total of the loan value;	47.6	38.6	10.6	1.1	2.1	4.29	0.86	20.588	0.000	SA
	interest and commission.										
18.	To ensure value of the collateral	50.0	40.7	5.0	1.6	1 1	4.20	0.76	25.051	0.000	C.A.
	given and the ability to dispose of it.	50.8	40.7	5.8	1.0	1.1	4.39	0.76	25.051	0.000	SA
19.	To legally document the collateral.	65.6	27.5	4.8	1.1	1.1	4.56	0.73	29.225	0.000	SA
Avera	age: Collateral	54.67	35.6	7.06	1.27	1.27	4.41	0.66	29.310	0.000	SA
		5-	Condit	ions				<u> </u>			1
	The provailing aconomic and securi				1		T	1			
20.	The prevaining economic and securi-	38.1	48.7	10.6	0.50	1.6	4.22	0.78	21.385	0.000	SA
	ty situation.										
	The business sector of the borrower										
21.	or the institution in which it oper-	37.6	48.1	10.1	3.2	0.50	4.20	0.79	20.860	0.000	SA
	ates.										
	The evaluation is based on a field										
22.	visit to the project to be financed.	50.3	40.2	6.9	1.1	1.1	4.38	0.75	25.136	0.000	SA
Avera	age: Conditions	42	45.67	9.2	1.6	1.07	4.27	0.65	26.756	0.000	SA
	6- Cor	ntrol and	d Follow	Up Af	ter Gra	nt	•	•		•	

22	Is there a delay or postponement of	40.1	22.0	14.0	2.7	0.5	4.04	0.00	10 477	0.000	a.
23.	the required payments?	48.1	32.8	14.8	3.7	0.5	4.24	0.88	19.477	0.000	SA
	Does the borrower requests to in-										
24.	crease the value of the loan without	35.4	38.1	17.5	6.9	2.1	3.98	1.00	13.460	0.000	А
	any justification?										
25	Dose the borrower use the loan for	20.7	20.7	175	2.1	1 1	4.15	0.00	10 422	0.000	
25.	its intended purposes?	39.7	39.7	17.5	2.1	1.1	4.15	0.86	18.433	0.000	A
		44.05	36.8	10.0	4.2	1.2			20 721	0.000	
Average: Control & follow up after grant		AL 07		12.9			4.12	0.74	20.721	0.000	A
Avera	ge: Control & lonow up after grant	41.07	7		3	3					
Avera Avera	ge: Adoption of known standards	41.07	7		3	3		0.40			SA
Avera Avera approa	ge: Adoption of known standards aches for creditworthiness	46.68	7 40.77	13.55	3 2.20	3	4.3	0.48	36.956	0.000	SA
Avera Avera approa Panel	ge: Adoption of known standards aches for creditworthiness (5): The test value of the One-Sample	46.68	7 40.77 s 3.0. H	13.55 ο: μ= 3	3 2.20 Η1:μ	3 1.14 ≠3, If \$	4.3 Sig. >(0.48 0.05, H	36.956 Ho must	0.000 be acce	SA pted;
Avera Avera approa Panel which	ge: Adoption of known standards aches for creditworthiness (5): The test value of the One-Sample n mean banks adopt known standards ar	46.68 • T test is nd approa	7 40.77 s 3.0. H aches for	13.55 ο: μ= 3	3 2.20 H1:μ rrower'	3 1.14 ≠3, If \$ s credi	4.3 Sig. >(0.48 0.05, F	36.956 To must Where: S	0.000 be acce	SA pted;

4.3.6 Question number (6) states that "To what extent the local Palestinian banks apply lending instructions of the Palestinian Monetary Authority?

Table no (17) show that the computed T-value of one sample T-test is equal to 50.149 at Sig (0.00). This result proves that the local Palestinian banks are applying Palestine Monetary Authority (PMA) lending instructions. What is more, the statistical result shows that the respondents of this stem agree strongly and each item of this stem also agree strongly.

Based on table 17 outcomes, the result insures the certainty that all banks are applying PMA lending instructions, and the functions of Palestine Monetary Authority (all banks operating in Palestine must follow the instructions of the Palestine Monetary Authority; as its considered the

supervisory and regulatory body for all banks operating in Palestine and have the power to enforce banks to apply their instructions).

TABLE NO (17) STEM VI: APPLY INSTRUCTIONS OF

PALESTINIAN MONETARY AUTHORITY ABOUT LENDING

#	Item	[\] strongly Agree	Agree	Neutral	Disagree	Strongly Disa- gree	Mean	Standard Devi- ation	T-value	Sig	Result		
1.	The Bank's management keen to comply with the PMA's instructions.	78.8	20.6	0.50	0.0	0.0	4.78	0.43	57.552	0.000	SA		
2.	To conduct an Inquire about clients and guarantor from PMA's credit sites.	79.9	19.0	1.1	0.0	0.0	4.79	0.43	56.551	0.000	Sa		
3.	Adherence to credit limits and re- strictions.	73.0	24.3	2.1	0.0	0.50	4.7	0.57	41.134	0.000	Sa		
4.	Adherence to sartorial concentration percentage rates.	42.3	42.3	9.5	1.6	1.1	4.30	0.80	22.551	0.000	SA		
5.	Conduct field visits to credit customers and their projects.	58.7	36.0	4.2	1.1	0.0	4.51	0.68	30.543	0.000	SA		
6.	Transparency in all terms of contracting credit.	61.4	32.8	3.7	2.1	0.0	4.53	0.67	31.367	0.000	SA		
7.	Availability of a clear lending policy as agreed by the Board of Directors.	65.6	27.5	5.3	0.50	1.1	4.56	0.72	29.943	0.000	SA		
Avera	age: Apply instructions of PMA	65.6 7	28.9 3	4.4 1	1.3 3	0.9	4.6	0.44	50.149	0.000	SA		
Pane which Stron	Panel (6): The test value of the One-Sample T test is 3.0. Ho: μ = 3 H1: μ ≠3, If Sig. >0.05, Ho must be accepted; which mean banks apply instructions of PMA. Where: SA: Strongly Agree, A: Agree; N: Neutral, D: Disagree, SD: Strongly Disagree.												

4.3.7 Question number (7) states that "To what extent the local Palestinian banks adopt market conditions analysis of the borrowers?"

Table no (18) showed that the computed T-value of one sample T-test is equal to 21.41 at Sig (0.00). This result proves that the local Palestinian banks are focus on the borrower's market condition. What is more, the statistical result showed that the respondents of this stem are agree.

Based on table 18 outcomes, the banks focus on the borrowers market condition for making a credit decision; so that the banks concern about economic changes of the borrower's sector market, analyzing his working practices in an attempts to identify favorable conditions, i.e. market condition solidity, size and growth rate; competitors and channels; to avoid credit risk, and to meet his financial needs; to suit his time of income payments with monthly repayment.

This result is not confirmed by a study of (Altaher et al., 2007), which showed that market conditions have no impact on loans trouble, either by a study of (Viswanadham & Nahid, 2015), who showed significant negative relationship between NPL and economic condition and GDP, which means that nonperforming loans decreased by strong performance in economy, and the concentration of lending activities have a negative relationship with None-performing loans.

While (Afande, 2014), referred in his paper to "the monitoring and control of the borrowers after grants besides using supportive technologies and equipment in credit analysis" are factors which influence the effectiveness of credit systems, and a result study by (Gakure et al., 2012), concludes great extents of credit approval guidelines, monitoring of the borrowers, risk measurement, and risk identification on the performance of unsecured bank loans.

TABLE NO (18) STEM VII: ADOPTION OF MARKET CONDITIONS ANALYSIS

#	Item	ⁱ strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation	T-value	Sig	Result
1.	Evaluation of borrower business; market share: size: and the nature of	44.4	42.3	11.1	1.1	1.1	4.28	0.79	22.396	0.000	SA
	his market.										
2.	The size of demands of his products.	36.5	42.9	16.9	2.1	1.6	4.11	0.87	17.500	0.000	A
3.	The extent of the diversity and quality of the borrower products and its com- petitiveness with similar market products.	34.4	48.7	13.8	2.1	1.1	4.13	0.80	19.348	0.000	A
4.	Distribution channels used by the borrower.	28.0	49.2	18.0	4.2	0.50	4.00	0.83	16.661	0.000	A
5.	Risk analysis of his industrial sector.	34.4	45.5	12.7	3.7	3.7	4.03	0.98	14.504	0.000	Α
6.	The impact of laws and regulations on the borrower's activity.	31.2	46.6	13.2	6.9	2.1	3.98	0.96	14.072	0.000	A
7.	Follow-up of the borrower activity										
	after granting the loan to monitor the success of his activities.	46.0	38.6	10.1	2.1	3.2	4.22	0.94	17.846	0.000	SA
Averag	ge: adoption of borrower's mar-	36.4	44.8	13.6	3.1	2.4	1 10	0.71	21 /1	0.000	٨
ket cor	nditions analysis.	1	3	9	7	3	4.10	0.71	21.41	0.000	A
Panel	(7): The test value of the One-Samp	le T test	is 3.0. I	Ho: μ= 3	H1:µ 7	∉3, If Si	ig. >0.0	05, Ho r	nust be ac	ccepted; v	vhich
mean Strong	banks adopt market conditions ana gly Disagree.	lysis. W	here: SA	A: Stron	gly Agı	ree, A:	Agree	; N: Ne	eutral, D:	Disagree	, SD:

OF THE BORROWERS
4.3.8 Question number (8) states that "To what extent the local Palestinian banks are Monitoring the Reputation and morals of the borrowers?"

Table no (19) show that the computed T-value of one sample T-test is equal to 25.757 at Sig (0.00). This result proves that the local Palestinian banks monitor borrower's reputation and morals for credit analysis. What is more, the statistical result shows that the respondents of this stem are agree.

Based on table 19 outcomes, the banks investigate and monitor the borrower's reputation and morals. To make sure of the accuracy of the information collected on the prospective borrower, and insures that the bank is making the correct credit decision, based on this information which is considered as a form of soft collateral the borrower's would want to maintain a good reputation and credit worthiness in keeping with bank secrecy.

Monitoring the borrowers reputations and morals is a prominent issue of credit risk management worldwide, and local Palestinian banks take it into consideration when making credit decision; this result confirmed by a study of (Essa, 2004), who indicates the high effects of reputation and morals of the agent, also the thesis result is consistent with the results of a study by (Li et. al, 2014), who showed that credit risk and morals hazard of personal loan strongly affected by bank loan rates also the relationship between the probability of morals hazard occurrence of individuals and the default rate is non-linear.

TABLE NO (19) STEM VIII: MONITORING OF REPUTATION

#	Item	ⁱ strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Standard Deviation	T-value	Sig	Result
1.	An important factor in granting bor- rower application.	47.6	42.9	8.5	1.1	0.0	4.37	0.68	27.525	0.000	SA
2.	Reveals borrower repayment inten- tions.	41.3	45.5	11.1	1.6	0.50	4.25	0.76	22.765	0.000	SA
3.	Affects the size of the required guar- antees.	32.3	50.8	11.6	3.2	2.1	4.08	0.87	17.085	0.000	A
4.	Affects the grant decision by person- al bail.	41.3	46.0	9.0	2.1	1.6	4.23	0.82	20.559	0.000	SA
5.	Affects the size of the required fund- ing.	35.4	47.1	10.1	5.8	1.6	4.09	0.91	16.477	0.000	A
6.	Affects the interest rate.	29.1	46.0	15.3	5.8	3.2	4.13	3.01	12.975	0.000	Α
7.	Affects the probability expansion of size of the loan.	37.0	50.3	8.5	3.2	1.1	4.19	0.80	20.388	0.000	SA
Aver	age: monitoring of reputation &	37.7	46.9	10.5	3.2	1.6	4.16	0.62	25.757	0.000	Α
mora	als of the borrowers.	1	4	9	6	8		0.02			
Pan mea Disa	el (8): The test value of the One-Samp in banks monitoring of reputation & m agree, SD: Strongly Disagree.	le T test orals of	is 3.0. I	Ho: μ= 3 owers. V	H1:μ	≠3, If S SA: Str	ig. >0.0	05, Ho n Agree, A	nust be ac	ccepted; v N: Neutr	which al, D:

& MORALS OF THE BORROWERS

4.4 Examining Hypothesis Number One

H₁: There are statistically significant differences regarding the influence of credit analysis on the credit risk in the bank that reflects the normal operations of the bank (traditional and Islamic).

Hypothesis 1 states the following; the disclosure requirements states that the banks operations (Traditional and Islamic):

H₁₋₁: There are statistically significant differences of adopt historical credit record analysis of the borrowers for credit analysis on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (20) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in adopting historical credit record analysis of the borrowers for credit analysis by all local Palestinians banks due to the normal operations of the bank. The computed *t* -value (0.491) and its significant level is (0.624), (see table 20, panel A) which is much greater than $\alpha = 0.05$.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of credit analysis on the credit risk in the banks that reflects the normal operations of the bank".

Bank Normal	Ν	Mean	SD	Computed	Degrees of	Sig.			
Operation				Т	Freedom				
Traditional	140	4.36	0.518	0.491	187	0.624			
Islamic	49	4.32	0.485						
Panel (A): The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is									

TABLE NO (2	20) INDEPENDE	NT SAMPLES	T-TEST FOR	MEANS OF	"ADOPT HIST	ORICAL	CREDIT
R	RECORD ANALY	SIS" DUE TO	THE NORMA	L OPERATI	IONS OF THE	BANK	

Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this result shows clearly that both "traditional and Islamic" local Palestinian banks are the same in adopting historical credit record analysis of the borrowers for credit analysis in due normal operation of the bank.

H₁₋₂: There are statistically significant differences of adopt known models of evaluating credit risk on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (21) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in adopt known models of evaluating credit risk by all local Palestinians banks. The computed t -value (0.956) and its significant level (.340), (see table 21, and panel B); which is much greater than $\alpha = 0.05$.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of to "using credit risk assessment tools of evaluating credit risk in due to the normal operations of the bank.

Bank Normal Operation	N	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	139	4.18	0.563	0.956	186	0. 340
Islamic	49	4.1	0.5			
Missing	1					

TABLE NO (21) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "ADOPTION OF KNOWN MOD-ELS OF EVALUATING CREDIT RISK" DUE TO THE NORMAL OPERATIONS OF THE BANK

Panel B: The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" local Palestinian banks are the same in adopting of credit risk assessment tools of evaluating credit risk in due normal operation of the bank.

This is on the contrary of the findings of study by (Al Fawaz et.al, 2015), which found a significant difference between conventional and Islamic banks in many areas related to credit risk identification; credit evaluation; risk interpretations; and risk management practices; as well the study found that conventional banks respondents are more sensitive in general risk management controlling system while Islamic banks are more cautious in credit risk identification, oversight and controlling processes

H₁₋₃: There are statistically significant differences of adopt financial analysis for the borrowers on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences due to adopt financial analysis for the borrowers. What's more, table (22) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in adopt financial analysis for the borrowers by all local Palestinians banks. The computed *t* -value (0.596) and its significant level is (0.552), (see table 22, and panel C); which is much greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of adopt financial analysis for the borrowers on the credit risk in due the normal operations of the bank.

TABLE NO (22) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "ADOPT FINANCIAL ANALYSIS FOR THE BORROW-ERS" DUE TO THE NORMAL OPERATIONS OF THE BANK

Bank Normal Operation	N	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	139	4.29	0.55	0.596	186	0. 552
Islamic	49	4.24	0.54			
Missing	1					

Panel C: The test value of the Independent sample T-test is (H₀: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both traditional and Islamic are the same in adopt financial analysis for the borrowers in due normal operation of the bank; that they need financial analysis of the borrowers data to develop many of the indicators for his current financial situations, and to provide important and useful information about his future financial performance.

- H₁₋₄: There are statistically significant differences of focusing on profitability when making grant decision on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic). To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (23) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in focusing on profitability by all local Palestinians banks. The computed *t* -value (0.592) and its significant level is (0.554), (see table 23, and panel D); which is much greater than $\alpha = 0.05$.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of focusing on profitability on the credit risk in due to the normal operations of the bank.

Bank Normal	Ν	Moon	SD	Computed	Degrees of	Sig
Operation		Witcuit		Т	Freedom	olg.
Traditional	139	3.77	0.64	0.592	186	0. 554
Islamic	49	3.71	0.50			
Missing	1					

Table No (23) Independent samples t-test for means of "focusing on profitability"

Due to the normal operations of the bank

Panel D: The test value of the Independent sample T-test is (H₀: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t(sig)>($\alpha = 0.05$) means that they are equal

The conclusion of this result shows clearly that both "traditional and Islamic are the same in focus on profitability when making grant decision due to normal operation of the bank.

H₁₋₅: There are statistically significant differences of adopt known standards creditworthiness approaches on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic).

98

To test this hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (24) illustrates T-test outcomes. T-test outcomes introduce the following reality.

- There are no differences in adopting the using known standards credit approaches by all local Palestinians banks. The computed *t* -value (0.666) and its significant level is (0.506), (see table 24, and panel E); which is much greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of credit analysis on the credit risk in the bank that reflects the normal operations of the bank in due to "using known standards credit approaches".

TABLE NO (24) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "ADOPTION OF KNOWN STANDARDS FOR CREDITWORTHINESS" DUE TO THE NORMAL OPERATIONS OF THE BANK

Bank Normal	N	Mean	SD	Computed	Degrees of	Sig
Operation			50	Т	Freedom	Sig.
Traditional	139	4.62	0.431	0.666	187	0.506
Islamic	49	4.54	0.430			
Missing	1					

Panel E: The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig)/($\alpha = 0.05$) means that they are equal

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopt known standards credit approaches" of creditworthiness due to the normal operation of the bank.

This result is consistent with common believes that credit analysis is the method by which one calculates the creditworthiness of an individual or organization (Aoshairy, 2001).

The following Independent t-test analysis for each criteria of creditworthiness which included "character, capacity, capital, collator, conditions, and follow up and control" H₁₋₅₋₁: There are statistically significant differences of adopt character analysis on the credit risk in the bank due to the normal operations of the bank (traditional and Islamic).

Table 25 showed the following outcomes:

- There are no differences in adopt character analysis for the borrowers by all local Palestinians banks. The computed *t* -value (-0.852) and its significant level is (0.395), (see table 25, and panel F); which is greater than $\alpha = 0.05$.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of adopt character analysis on the credit risk the due to the normal operations of the bank.

Bank Normal Operation	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.341	0.60	-0.852	187	0. 395
Islamic	49	4.421	0.48			

Table No (25) Independent samples t-test for means of "adopt character analysis" Due to the normal operations of the bank

Panel F: The test value of the Independent sample T-test is (H_o: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopts character analysis due to the normal operation of the bank.

H₁₋₅₋₂: There are statistically significant differences of adopt capacity analysis on the credit risk due to the normal operations of the bank (traditional and Islamic).

- There are no differences in adopt capacity analyses of the borrowers by all local Palestinians banks. The computed *t*-value (0.08) and its significant level is (0.936), (see table 26, and panel G); which is much greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of capacity analysis on the credit risk in the bank that reflects the normal operations of the bank.

TABLE NO (26) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "ADOPT CAPACITY ANALSIS" DUE TO THE NORMAL OPERATIONS OF THE BANK

Bank Normal Operation	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.			
Traditional	140	4.361	0.65	0.08	187	0. 936			
Islamic	49	4.354	0.47						
Panel G: The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is									

Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopts capacity analysis due to the normal operation of the bank.

H₁₋₅₋₃: There are statistically significant differences of adopt capital analysis on the credit risk due to the normal operations of the bank (traditional and Islamic).

There are no differences in adopt capital analysis of the borrowers by all local Palestinians banks. The computed *t* -value (1.119) and its significant level is (0.265), (see table 27, and panel H); which is greater than α = 0.05.

- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of capital analysis on the credit risk in the bank that reflects the normal operations of the bank.

TABLE NO (27) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "CAPITAL ANALYS	SIS
DUE TO THE NORMAL OPERATIONS OF THE BANK	

Bank Normal Operation	N	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.331	0.64	1.119	187	0.265
Islamic	49	4.218	0.51			
	6.4 7		1	1 0) (111		

Panel H: The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopts capital analysis due to the normal operation of the bank.

H₁₋₅₋₄: There are statistically significant differences of adopt collateral analysis on the credit

risk due to the normal operations of the bank (traditional and Islamic).

- There are no differences in adopt collateral analysis of the borrowers by all local Palestinians banks. The computed *t* -value (-0.155) and its significant level is (0.877), (see table 28, and panel I); which is much greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of adopt collateral analysis on the credit risk in the bank that reflects the normal operations of the bank.

Bank Normal Op- eration	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.41	.71	155	187	.877
Islamic	49	4.42	.51			

TABLE NO (28) INDEPENDENT SAMPLES T-TEST FOR MEANS OF ADOPTS COLLATERAL ANALYSIS ON

CREDIT RISK DUE TO THE NORMAL OPERATIONS OF THE BANK

Panel I: The test value of the Independent sample T-test is (H₀: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopts collateral analysis due to the normal operation of the bank.

H₁₋₅₋₅: There are statistically significant differences of adopt conditions analysis on the credit risk due to the normal operations of the bank (traditional and Islamic).

- There are no differences in adopting conditions analysis by all local Palestinians banks. The computed *t* –value (1.119) and its significant level is (0.265), (see table 29, and panel J); which is greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of conditions analysis on the credit risk in the bank that reflects the normal operations of the bank.

TABLE NO (29) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "CONDITIONS ANALYSIS"

Bank Normal Op- eration	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	139	4.3	0.66	1.119	187	0.265
Islamic	49	4.18	0.60			
Missing	1					

DUE TO THE NORMAL OPERATIONS OF THE BANK

Panel J: The test value of the Independent sample T-test is (H_0 : $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" are the same in adopts conditions analysis due to the normal operation of the bank.

H₁₋₅₋₆: There are statistically significant differences of adopt follow up and control analysis on the credit risk due to the normal operations of the bank (traditional and Islamic).

- There are no differences in adopting follow up and control analysis by all local Palestinians banks. The computed *t* -value (1.425) and its significant level is (0.156), (see table 30, and panel K); which is greater than $\alpha = 0.05$.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of follow up and control analysis on the credit risk in the bank that reflects the normal operations of the bank.

TABLE NO (30) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "FOLLOW UP AND CONTROL" DUE TO THE NORMAL OPERATIONS OF THE BANK

Bank Normal Operation	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.17	0.76	1.425	187	0.156
Islamic	49	4.00	0.70			

Panel K: The test value of the Independent sample T-test is (H₀: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that due to the normal operation of the bank, that both traditional and Islamic bank:

- Adopt known standards credit approaches in credit analysis.
- Adopt character analysis of the borrowers in credit analysis.
- Adopt capacity analysis of the borrowers in credit analysis.

- Adopt capital analysis of the borrowers in credit analysis.
- Adopt collateral analysis of the borrowers in credit analysis.
- Adopt conditions analysis of the borrowers in credit analysis.
- Adopt Follow up and control analysis of the borrowers in credit analysis.

H₁₋₆: There are statistically significant differences of applying PMA lending instructions on the credit risk due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (31) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in applying PMA instructions by all local Palestinians banks. The computed *t* -value (1.046) and its significant level is (0.297), (see table 31, and panel L); which is greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of applying PMA instructions on the credit risk in the bank that reflects the normal operations of the bank.

Bank Normal Operation	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.62	0.43	1.046	187	0. 297
Islamic	49	4.54	0.45			
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TABLE NO (31) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "APPLY PMA INSTRUCTIONS" DUE TO THE NORMAL OPERATIONS OF THE BANK

Panel M: The test value of the Independent sample T-test is (H₀: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" apply the PMA lending instructions due to the normal operation of the bank.

H₁₋₇: There are statistically significant differences of the borrower's market condition analysis for credit decision on the credit risk due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances not assumed) for differences. What's more, table (32) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in focusing on the borrower's market condition for credit decision by all local Palestinians banks. The computed *t* -value (0.526) and its significant level is (0.599), (see table 32, and panel N); which is much greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of focusing on the borrower's market condition for credit decision on the credit risk in the bank that reflects the normal operations of the bank.

Bank Normal	NI	Maan	CD	Computed	Degrees of	Sia
Operation	1	Ivican	50	Т	Freedom	51g.
Traditional	140	4.12	0.76	0.526	187	0. 599
Islamic	49	4.06	0.54	0.618		0.538
Panel N: The test v	value o	f the Indepen	dent sample T-	-test is (Ho: µ1	$1 = \mu 2$), vs. (H	H1: μ 1 \neq μ 2),
the decision rule is H	ło mus	t be accepted	if t (sig) > ($\alpha =$	0.05) means th	at they are equ	ıal.

TABLE NO (32) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "THE BORROWERS MARKET CONDITION ANALYSIS" DUE TO THE NORMAL OPERATIONS OF THE BANK

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" analysis of the borrower's market condition for credit decision" due to the normal operation of the bank.

H₁₋₈: There are statistically significant differences in monitoring the reputation and morals of the borrowers on the credit risk due to the normal operations of the bank (traditional and Islamic).

To test this sub hypothesis we exploited T-Test of Independent samples (equal variances assumed) for differences. What's more, table (33) illustrates T-test outcomes. T-test outcomes introduce the following reality:

- There are no differences in monitoring the reputation and morals of the borrowers by all local Palestinians banks. The computed *t* -value (1.301) and its significant level is (0.195), (see table 33, and panel O); which is greater than α = 0.05.
- This thesis will accept the null hypothesis, which says there are no statistically significant differences regarding the influence of monitoring the borrower's reputation and morals on the credit risk in the bank that reflects the normal operations of the bank.

TABLE NO (33) INDEPENDENT SAMPLES T-TEST FOR MEANS OF "MONITORING REPUTATION AND MORALS OF THE BORROWERS" DUE TO THE NORMAL OPERATIONS OF THE BANK

Bank Normal Operation	Ν	Mean	SD	Computed T	Degrees of Freedom	Sig.
Traditional	140	4.20	0.63	1.301	187	0. 195
Islamic	49	4.06	0.58			

Panel O: The test value of the Independent sample T-test is (Ho: $\mu 1 = \mu 2$), vs. (H1: $\mu 1 \neq \mu 2$), the decision rule is Ho must be accepted if t (sig) > ($\alpha = 0.05$) means that they are equal.

The conclusion of this sub hypothesis showed clearly that both "traditional and Islamic" monitoring the borrower's reputation and morals due to the normal operation of the bank. Since reputation effects has important role in monitoring the borrowers status to mitigate morals hazard troubles.

4.5 Examining Hypothesis Number two

H₂: There are statistically significant differences regarding the influence of credit analysis on the credit risk in the bank that reflects the job title of the operator.

Hypothesis 2 states the following; the disclosure requirements states that the banks job title of the operator are: (director of credit department; director of risk department; branch manager; business line):

H₂₋₁: There are statistically significant differences regarding the influence of historical credit record analysis of the borrowers on the credit risk in the bank that reflects the job title of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (34) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since the computed F-value 1.389 and its level of sig. $(0.247) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in historical credit record analysis of the borrowers due to job title (see table 34, panel A).

Sources of Varia- tion	S.S	D.F	M.S.S	F-Value	Sig.	
Between Groups	1.072	3	0.357	1.389	0.247	
Within Groups	47.600	185	0.257			
Total	48.672	188				

TABLE NO (34) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPTION OF HISTORICAL CREDIT RECORD ANALYSIS OF THE BORROWERS "DUE TO JOB TITLE.

Panel A: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₂: There are statistically significant differences regarding the influence of adopt known models of evaluating credit risk on the credit risk in the bank due to the job title of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (35) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.09 and its level of sig. $(0.354) > (\alpha = 5\%)$; we accepted the null hypothesis that says there is no statistically significant evidence differences in adopting credit risk assessment tools due to job titles (see table 35, panel B).

TABLE NO (35) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPTION OF KNOWN MODELS OF EVALUATING CREDIT RISK" DUE TO JOB TITLES

Sources of Varia- tion	S.S	D.F	M.S.S	F-Value	Sig
Between Groups	0.974	3	0.325	1.090	0.354
Within Groups	54.785	184	0.298		
Total	55.759	187			

Panel B: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₃: There are statistically significant differences regarding the influence of adopt financial analysis for the borrowers on the credit risk in the bank that reflects the job titles.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (36) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 2.439 and its level of sig. $(0.066) > (\alpha = 5\%)$; we accepted the null hypothesis that says there is no statistically significant evidence differences in adopt financial analysis for the borrowers due to job title (see table 36, panel C).

Table No (36) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPTION OF FINANCIAL ANALYSIS FOR THE BORROWERS" DUE TO JOB TITLES

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig
Between Groups	2.123	3	0.708	2.439	0.066
Within Groups	53.405	184	0.290		
Total	55.528	187			

Panel C: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₄: There are statistically significant differences regarding the influence of focusing on profitability when making grant decision on the credit risk in the bank due to job titles of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (37) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality: - Since F-value 0.720 and its level of sig. $(0.541) > (\alpha = 5\%)$; we accepted the null hypothesis that says there is no statistically significant evidence differences in focusing on profitability when making grant decision due to the job titles (see table 37, panel D).

Sources of Vari-S.S D.F M.S.S **F-Value** Sig. ation 3 0.794 0.265 0.720 **Between Groups** 0.541 Within Groups 67.576 184 0.367 68.370 187 Total

Table No (37) THE OUTCOMES OF ONE-WAY ANOVA OF "PROFITABILITY" DUE TO JOB TITLE

Panel D: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₅: There are statistically significant differences regarding the influence of adopt known standards and approaches for the borrower's creditworthiness on the credit risk in the bank due to the job title of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (38) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 3.44 and its level of sig. $(0.03) < (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences in adopting known standards creditworthiness approach due to job titles (see table 38, panel E).
- The aforesaid analysis will be illustrated by the results for each criteria of known standards of credit approach as follows:

- 1. Since F-value 0.762 and its level of sig. $(0.517) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting characters analysis for borrowers due to job titles (see table 38, panel E).
- 2. Since F-value 1.781 and its level of sig. $(0.152) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting capacity analysis for borrowers due to job titles (see table 38, panel E).
- 3. Since F-value 2.006 and its level of sig. $(0.115) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting capital analysis for borrowers due to job titles (see table 38, panel E).
- 4. Since F-value 3.745 and its level of sig. $(0.012) < (\alpha = 5\%)$; we reject the null hypothesis that says there are no statistically significant evidence differences in collateral analysis for borrowers due to job titles (see table 38, panel E).
- 5. Since F-value 0.832 and its level of sig. $(0.478) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences adopting conditions analysis for borrowers due to job titles (see table 38, panel E).
- 6. Since F-value 2.967 and its level of sig. $(0.033) < (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences adopting follow up and control for the borrowers due to job titles (see table 38, panel E).

Sources of	0.0	DE	MGG		G!
Variation	5.5	D.F	W1.5.5	F-Value	Sig.
Between Groups	2.069	3	0.690	3.044	0.030
Within Groups	41.687	184	0.227		
Total	43.756	187			
		Charact	er analysis		
Between Groups	0.758	3	0.253	0.762	0.517
Within Groups	61.314	185	0.331		
Total	62.072	188			
		Capacit	y analysis		
Between Groups	1.977	3	0.659	1.781	0.152
Within Groups	68.446	185	0.370		
Total	70.423	188			
		Capital	l analysis		
Between Groups	2.206	3	0.735	2.006	0.115
Within Groups	67.825	185	0.367		
Total	70.032	188			
		Collater	al analysis		
Between Groups	4.703	3	1.568	3.745	0.012
Within Groups	77.433	185	0.419		
Total	82.135	188			
		Conditio	on analysis		
Between Groups	1.054	3	0.351	0.832	0.478
Within Groups	77.648	184	0.422		
Total	78.702	187			
		Control a	nd follow up		
Between Groups	4.796	3	1.599	2.967	0.033
Within Groups	99.657	185	0.539		
Total	104.453	188			

Table No (38) THE OUTCOMES OF ONE-WAY ANOVA "ADOPT KNOWN STANDARDS FOR CRE-

DITWORTHINESS APPROACHS "DUE TO JOB TITLES

Panel E: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is H0 must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₆: There are statistically significant differences regarding the influence of applying PMA instructions on the credit risk in the bank due to the job title of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (39) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 3.251 and its level of sig. $(0.023) < (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences in apply PMA instructions due to job titles (see table 39, panel F).

Table No (39) THE OUTCOMES OF ONE-WAY ANOVA "APPLY THE INSTRUCTIONS OF PMA"

DOE TO JOB TITLE							
Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.		
Between Groups	1.801	3	0.600	3.251	0.023		
Within Groups	34.170	185	0.185				
Total	35.971	188					

Panel F: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₇: There are statistically significant differences regarding the influence of adopt market conditions analysis of the borrowers on the credit risk in the bank due to job titles of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (40) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 2.883 and its level of sig. $(0.037) < (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences in focusing on the borrowers market conditions for credit decision due to job titles (see table 40, panel G).

Sources of Varia- tion	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	4.245	3	1.415	2.883	0.037
Within Groups	90.802	185	0.491		
Total	95.047	188			
Panel G: The test va	llue of One-way	ANOVA is (He	D: $\mu 1 = \mu 2 = \mu 3 =$	μ4), vs. (H1: at l	east one of the

Table No (40) the outcomes of one-way ANOVA of "the borrower's market conditions analysis"

Due to job title

Panel G: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₂₋₈: There are statistically significant differences regarding the influence of monitoring the reputation and morals of the borrowers on the credit risk in the bank that reflects the job title of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (41) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.495 and its level of sig. $(0.686) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in monitoring the reputation and morals of the borrowers due to job title (see table 41, panel H).

TABLE NO (41) THE OUTCOMES OF ONE-WAY ANOVA OF "MONITOR REPUTATION & MORALSOF THE BORROWERS" DUE TO JOB TITLE

Sources of Variation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.577	3	0.192	0.495	0.686
Within Groups	71.895	185	0.389		
Total	72.472	188			

Panel H: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is H0 must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

4.5 Examining Hypothesis Number Three

H₃: There is no influence of credit analysis on the credit risk in the bank that reflects the banks employee's specialty.

Hypothesis 3 states that the disclosure requirements states that the banks employee's specialty (Accountant, Business administration, Banking & financial sciences, Economics, Others).

H₃₋₁: There are statistically significant differences regarding the influence of historical credit record analysis of the borrowers on the credit risk in the bank due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (42) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.964 and its level of sig. $(0.102) > (\alpha = 5\%)$; we accepted the null hypothesis that says there is no statistically significant evidence differences in historical credit record analysis of the borrowers due to the banks employee's specialty (see table 42, panel I).

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	1.993	4	0.498	1.964	0.102
Within Groups	46.680	184	0.254		
Total	48.672	188			

Table No (42) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPTION OF HISTORICAL CREDIT RECORD ANALYSIS OF THE BORROWERS "DUE TO BANK EMPLOYEE'S SPECIALTY

Panel I: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₂: There are statistically significant differences regarding the influence of adopt known models of evaluating credit risk on credit risk in the bank due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (43) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.845 and its level of sig. $(0.122) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in using credit risk assessment tools due to banks employee's specialty (see table 43, panel G).

Table No (43) the outcomes of one-way ANOVA of "adoption of credit risk assessment tools on the credit

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	2.162	4	0.540	1.845	0.122
Within Groups	53.597	183	0.293		
Total	55.759	187			

risk" due to banks employee's specialty

Panel G: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₃: There are statistically significant differences regarding the influence of adopting financial analysis for the borrowers on credit risk in the bank due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (44) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality: - Since F-value 0.845 and it level of sig. $(0.498) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adoption of financial analysis of the borrowers due the banks employee's specialty (see table 44, panel K).

 Table No (44) the outcomes of one-way ANOVA of "adoption of financial analysis for the borrowers" due to bank employee's specialty

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	1.007	4	0.252	0.845	0.498
Within Groups	54.521	183	0.298		
Total	55.528	187			

Panel K: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₄: There are statistically significant differences regarding the influence of focusing on the profitability when making grant decision on credit risk in the bank due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (45) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 2.548 and its level of sig. $(0.041) > (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences in focusing on profitability due to the banks employee's specialty. (See table 45, panel L).

Table No (45) the outcomes of one-way ANOVA of "focusing on profitability"

Sources of Varia- tion	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	3.607	4	0.902	2.548	0.041
Within Groups	64.763	183	0.354		
Total	68.370	187			
Papal I · The test w	ulua of One we		$U_{0}, 1 = 2 = 2$	= u(1) vs (U1) at	losst one of the

Due to bank employee's specialty

Panel L: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₅: There are statistically significant differences regarding the influence in adopt known standards and approaches for borrower's creditworthiness on the credit risk due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (46) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- 1- Since F-value 0.938 and its level of sig. $(0.443) < (\alpha = 5\%)$; we reject the null hypothesis that says there is no statistically significant evidence differences in using known standards credit approaches for the banks employee's specialty (see table 46, panel M).
- The aforesaid analysis result will be illustrated below for each criteria of known standards credit approaches:
- 2- Since F-value 0.497 and its level of sig. $(0.738) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting characters analysis for the borrowers due to the banks employee's specialty (see table 46, panel M).

- 3- Since F-value 1.192 and its level of sig. $(0.316) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in capacity analysis due to the banks employee's specialty (see table 46, panel M).
- 4- Since F-value 0.239 and its level of sig. $(0.916) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in capital analysis due to the banks employee's specialty (see table 46, panel M).
- 5- Since F-value 2.579 and its level of sig. $(0.039) < (\alpha = 5\%)$; we reject the null hypothesis that says there are no statistically significant evidence differences in collateral analysis due the banks employee's specialty (see table 46, panel M).
- 6- Since F-value 1.313 and its level of sig. $(0.267) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in conditions analysis due to job title (see table 46, panel M).
- 7- Since F-value 0.683 and its level of sig. $(0.605) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in follow up and control due the banks employee's specialty (see table 46, panel M).

Sources of S.S D.F M.S.S **F-Value** Sig. Variation **Between Groups** 0.879 4 0.220 0.938 0.443 Within Groups 42.876 183 0.234 187 Total 43.756 **Character analysis Between Groups** 0.664 4 0.166 0.497 0.738

Table No (46) the outcomes of one-way ANOVA "adoption of known standards for creditworthiness approaches "due to bank employee's specialty

Within Groups	61.408	184	0.334		
Total	62.072	188			
		Capacity a	nalysis		
Between Groups	1.778	4	0.445	1.192	0.316
Within Groups	68.645	184	0.373		
Total	70.423	188			
		Capital an	alysis		
Between Groups	0.363	4	0.091	0.239	0.916
Within Groups	69.669	184	0.379		
Total	70.032	188			
		Collateral a	nalysis		
Between Groups	4.360	4	1.090	2.579	0.039
Within Groups	77.776	184	0.423		
Total	82.135	188			
		Condition a	nalysis		
Between Groups	2.196	4	0.549	1.313	0.267
Within Groups	76.506	183	0.418		
Total	78.702	187			
		Control and f	follow up		
Between Groups	1.527	4	0.382	0.683	0.605
Within Groups	102.925	184	0.559		
Total	104.453	188			
Den al Mr. The test wel	and of Ore a survey ANI	$\Delta V A := (II0,1 =$	2 = 2 = 4 (11)	1 1	h

Panel M: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is H0 must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₆: There are statistically significant differences regarding the influence of apply PMA instructions on credit risk in the bank due to the banks employee's specialty of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (47) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality: - Since F-value 1.504 and its level of sig. $(0.203) < (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in apply PMA instructions due to the banks employee's specialty (see table 47, panel N).

Table No (47) the outcomes of one-way ANOVA "apply the instructions of PMA "

Sources of Variation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	1.139	4	0.285	1.504	0.203
Within Groups	93.746	184	0.509		
Total	95.047	188			

Due to bank employee's specialty

Panel N: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different), the decision rule is Ho must be accepted if F (sig)>($\alpha = 0.05$) means that they are equal.

H₃₋₇: There are statistically significant differences regarding the influence of adopt market conditions analysis of the borrowers on the credit risk in the bank due to the banks employee's specialty of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (48) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.639 and its level of sig. $(0.636) < (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopt the borrowers market conditions analysis for credit decision due to the banks employee's specialty of the operator (see table 48, panel O).

Table No (48) the outcomes of one-way ANOVA of "adopt the borrower's market conditions analysis"

Sources of Variation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	1.302	4	0.325	0.639	0.636
Within Groups	93.746	184	0.509		
Total	95.047	188			

Due to bank employee's specialty

Panel O: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₃₋₈: There are statistically significant differences regarding the influence of monitoring the reputation and morals of the borrowers on the credit risk in the bank due to the banks employee's specialty of the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (49) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.478 and its level of sig. $(0.211) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in monitoring the reputation and morals analysis of the borrowers due the banks employee's specialty of the operator (see table 49, panel P).

Table No (49) the outcomes of one-way ANOVA of "monitor reputation & morals of the borrowers"

Due to	bank	employee	's specialty
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Sources of Variation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	2.256	4	0.564	1.478	0.211
Within Groups	70.217	184	0.382		
Total	72.472	188			

Panel P: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

4.6 Examining Hypothesis Number Four

H₄: There is influence of credit analysis on the credit risk in the bank that reflects the number of courses taken by the operator.

Hypothesis 4 states the following; the disclosure requirements states that the banks employee's specialty (less than 5 courses, from 5-10 courses, 11-15 courses, more than 15 courses).

H₄₋₁: There are statistically significant differences regarding the influence of adopt analysis of historical credit record of the borrowers for credit analysis on the credit risk in the bank due to the banks employee's specialty.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (50) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.829 and its level of sig. $(0.143) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in historical credit record analysis of the borrowers due to the number of courses taken by the operator (see table 50, panel A).

TABLE NO (50) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPTION OF HISTORICAL ANALY-SIS" DUE TO THE NUMBER OF COURSES TAKEN BY THE OPERATOR

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	1.409	3	0.470	1.829	0.143
Within Groups	47.258	184	0.257		
Total	48.667	187			

Panel A: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₄₋₂: There are statistically significant differences regarding the influence in "adopt known models of evaluating credit risk on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (51) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.877 and its level of sig. $(0.454) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in using credit risk assessment tools due to the number of courses taken by the operator (see table 51, panel A).

TABLE NO. (51)	THE OUTCOMES OI	F ONE-WAY ANC	OVA OF "ADOPTI	ION OF KNOWN	MODELS"
D	UE TO THE NUMBE	R OF COURSES	TAKEN BY THE	OPERATOR	

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.783	3	0.261	0.877	0.454
Within Groups	54.487	183	0.298		
Total	55.271	186			

Panel A: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is H0 must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₄₋₃: There are statistically significant differences regarding the influence of "adopt financial analysis for the borrowers" on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (52) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality: - Since F-value 1.114 and its level of sig. $(0.345) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopt financial analysis for the borrowers due to the number of courses taken by the operator (see table 52, panel B).

TABLE NO (52) THE OUTCOMES	OF ONE-WAY ANOVA OF	"ADOPT FINANCIAL	ANALYSIS OF T	THE BORROWERS"	DUE
то	THE NUMBER OF COURS	ES TAKEN BY THE O	PERATOR		

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.996	3	0.332	1.114	0.345
Within Groups	54.532	183	0.298		
Total	55.528	186			

Panel B: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

 $H_{4-4:}$ There are statistically significant differences regarding the influence of focus on profitability for making credit decision on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (53) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.956 and its level of sig. $(0.956) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in focusing on the profitability when making grant decision due to the number of courses taken by the operator (see table 53 , panel C).

Sources of Vari-	S.S	D.F	M.S.S	F-Value	Sig.	
ation						
Between Groups	0.118	3	0.039	0.107	0.956	
Within Groups	67.587	183	0.369			
Total	67.705	186				
Panel C: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of						
the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that						

Table No (53) the outcomes of one-way ANOVA of "focusing on profitability"

due to the number of courses taken by the operator

they are equal. H₄₋₅: There are statistically significant differences regarding the influence of adopt known

standards and approaches for the borrower's creditworthiness due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (55) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.434 and its level of sig. $(0.729) < (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in using known standards credit approaches for borrowers due to the number of courses taken by the operator (see table 55, panel D).

The aforesaid analysis result will be illustrated for each factor of known standards credit approaches as follows:

1. Since F-value 1.634 and its level of sig. $(0.183) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting characters
analysis for borrowers due to the number of courses taken by the operator (see table 55, panel D).

- 2. F-value 0.615 and its level of sig. $(0.606) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in adopting capacity analysis for borrowers due to the number of courses taken by the operator (see table 55, panel D).
- 3. Since F-value 0.133 and its level of sig. (0.941) > (α =5%); we accept the null hypothesis that says there is no statistically significant evidence differences in adopting capital analysis for borrowers due to the number of courses taken by the operator (see table 55, panel D).
- 4. Since F-value 0.267 and its level of sig. $(0.849) < (\alpha = 5\%)$; we accept the null hypothesis that says there are no statistically significant evidence differences in adopting collateral analysis for borrowers due the number of courses taken by the operator (see table 55, panel D).
- 5. Since F-value 0.198 and its level of sig. $(0.897) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences adopting conditions analysis for borrowers due to the number of courses taken by the operator (see table 55, panel D).
- 6. Since F-value 1.332 and its level of sig. $(0.265) > (\alpha = 5\%)$; we rejected the null hypothesis that says there is no statistically significant evidence differences adopting follow up and control for borrowers due to the number of courses taken by the operator (see table 55, panel D).

Sources of	C C	DE	MCC	E Value	Ci a
Variation	3.3	D.F	IVI.5.5	F-value	Sig.
v ur iution					
Between Groups	0.308	3	0.103	0.434	0.729
Within Groups	43.272	183	0.236		
Total	43.580	186			
		Charact	er analysis		
Between Groups	1.600	3	0.533	1.634	0.183
Within Groups	60.062	184	0.326		
Total	61.662	187			
		Capacit	y analysis		
Between Groups	0.695	3	0.232	0.615	0.606
Within Groups	69.316	184	0.377		
Total	70.011	187			
		Capital	l analysis		
Between Groups	0.151	3	0.050	0.133	0.941
Within Groups	69.747	184	0.379		
Total	69.898	187			
		Collater	al analysis		
Between Groups	0.354	3	0.118	0.267	0.849
Within Groups	81.430	184	0.443		
Total	81.784	187			
		Conditio	on analysis		
Between Groups	0.255	3	0.085	0.198	0.897
Within Groups	78.286	183	0.428		
Total	78.541	186			
		Follow up	and control		
Between Groups	2.220	3	0.740	1.332	0.265
Within Groups	102.217	184	0.556		
Total	104.437	187			

Table No (54) the outcomes of one-way ANOVA "adoption of known standards for creditworthiness ap-

proaches "due to the number of courses taken by the operator

Panel D: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is H0 must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₄₋₆: There are statistically significant differences regarding the influence of applying instructions of PMA on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (55) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 1.013 and its level of sig. $(0.388) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in apply instructions of PMA due the number of courses taken by the operator (see table 55, panel E).

Table No (55) the outcomes of one-way ANOVA of "apply instructions of PMA "due to the number of courses

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.583	3	0.194	1.013	0.388
Within Groups	35.319	184	0.192		
Total	35.902	187			

taken by the operator

Panel E: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₄₋₇: There are statistically significant differences regarding the influence of adopt market conditions analysis of the borrowers on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (56) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality: - Since F-value 0.355 and it level of sig. $(0.786) < (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in focusing on the borrowers market conditions for credit decision due the number of courses taken by the operator (see table 56, panel F).

CONDITIONS ANALYSIS" DUE TO THE NUMBER OF COURSES TAKEN BY THE OPERATOR					
Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.546	3	0.182	0.355	0.786
Within Groups	94.397	184	0.513		
Total	94.943	187			

TABLE NO (56) THE OUTCOMES OF ONE-WAY ANOVA OF "ADOPT THE BORROWERS MARKETCONDITIONS ANALYSIS" DUE TO THE NUMBER OF COURSES TAKEN BY THE OPERATOR

Panel F: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that they are equal.

H₄₋₈: There are statistically significant differences regarding the influence of monitoring the reputation and morals of client when taking credit decision on the credit risk in the bank due to the number of courses taken by the operator.

To test this sub hypothesis we exploited One-way ANOVA. What's more; table (57) illustrates One-way ANOVA outcomes. One-way ANOVA outcomes introduce the following reality:

- Since F-value 0.644 and its level of sig. $(0.588) > (\alpha = 5\%)$; we accept the null hypothesis that says there is no statistically significant evidence differences in monitoring the reputation and morals of client when taking credit decision due the number of courses taken by the operator (see table 57, panel G).

Sources of Vari- ation	S.S	D.F	M.S.S	F-Value	Sig.
Between Groups	0.746	3	0.249	0.644	0.588
Within Groups	71.023	184	0.386		
Total	71.768	187			
Panel G: The test value of One-way ANOVA is (H0: $\mu 1 = \mu 2 = \mu 3 = \mu 4$), vs. (H1: at least one of					
the means is different.), the decision rule is Ho must be accepted if F (sig) > ($\alpha = 0.05$) means that					
they are equal.					

Table No (57) the outcomes of one-way ANOVA of "monitor reputation & morals of the borrowers" due

to the number of courses taken by the operator

CHAPTER FIVE

CONCLUSION, RECOMMENDATIONS AND SUGGESTION FOR FUTURE RESEARCH

5.1 Conclusions

This chapter provides a debate on the results of the thesis about the effectiveness of using credit analysis techniques to bridge credit risk in the local Palestinian banks; this thesis mainly aims to provide an empirical proof from the Banking sector to determine the extent of adopting various global practices regarding credit analysis and credit risk by local Palestinian banks in order to mitigate credit risk by recognizing and measuring "negative or positive" factors that affect credit risk.

This thesis showed clearly that the central tendency of sample representation is in favor of the traditional banks, which reflects the nature of the banking sector; & the majority who are responsible in accepting and raising credit applications returned to both branch managers and business lines, the business lines are considered to be the first contact with the applicant & the first line of evaluation., The decision making lies solely with the credit managers with some exceptions, while the risk managers are responsible for the control of functions and has no role in the final decision; but their role is to plan & determine the outlines of credit risks. So all of branches managers, business line & credit managers need to increase their skills in credit analysis & risk evaluations, to be selective in accepting credit requests, while risk managers need to increase their knowledge & be aware of emerging daily risks to reevaluate credit risks.

The result revealed a shortage in training courses for the employees of the Local Palestinian Banks; so there is a need to improve their qualifications by adopting training courses programs to address the subject of credit analysis at the point of employment & maintaining a continuous professional development plan for them to address the subject of credit analysis in order to raise the quality of credit decisions, especially for the entire business lines and intermediate staff levels.,

Despite the above result & lack of training courses the employees in Local Palestinian Banks follow strict instructions by the banks & the PMA.

The thesis showed that the majority of the banks employees have accounting; banking and financial sciences specialties; this revealed the need to increase the number of employees with a background in business administration and economics specialties in their staff to create a balanced knowledge base if they want to develop and improve credit analysis, & enhance their role in economic development participation.

The thesis revealed the adoptions of all local Palestinian banks by many and various tools for credit analysis and credit risk for prospective borrowers.

Clearly the thesis manifested that local Palestinian banks are applying PMA to regulate lending instructions, as it is considered the supervisory and regulatory body for all banks operating in Palestine and have the power to enforce banks to apply their instructions. The findings showed the adoption of local Palestinian banks historical credit record analysis of the borrowers; especially they focus on collecting information about size and nature of standing obligations towards banks and others, collect information about the borrowers previous ability to meet their lending obligations, evaluate credit risk of the required loan, this provides a better clarification of prospective borrowers credit situation and better assessment of their historical performance and credit risk as indicated by IFRS 9 & Basel accords.

The thesis showed the adoption of local Palestinian banks known models of evaluating credit risk especially; they focus on the existence of a specialized department to manage credit risk, relying on a committee of experts", While the lower concerns is in using pricing models to determine the profit margin such as (Altman model) and others. This provides the potential to improve banks credit risk management capabilities; manage credit risk portfolio; forecast of credit loss distribution, thus bridge credit risks.

The thesis showed the adoption of local Palestinian banks by financial analysis in credit analysis; that they most focus on "evaluating the borrower's ability to meet short and long term commitments, to determine their ability to collect and repayment, to determine strengths and weaknesses of their financial position". This provides banks with insight into the borrower ability to repay, better forecast of expected future financial performance, risk faced by business depends on how borrowers strategy of finance and any likely leverage issues that may arise; evaluate the quality of management by considering activity and profitability ratios. The outcome of this thesis revealed that the financial analysis in local Palestinian banks play an important part in credit analysis, for the past years have been managed to introduce financial indicators in order to anticipate future performance of prospective borrowers and to calculate their probability of default.

The findings showed that the local Palestinian banks are focusing on profitability, their most concern is to analyze lending opportunities and choose the least risky one, diversify lending product and the advantages offered to increase profits, and they have less concern to the level of credit risk according to profit margin., This provides an important evidence of efficient utilization of bank assets, because profitability is inversely affected by credit risk, the good credit portfolio with lower credit risk will improve profitability.

The thesis showed the adoption of local Palestinian banks by known standards approaches of creditworthiness; this provides a comprehensive and clear vision of the ability of borrower's to pay back money owed. When we break down factors of these standards, the respondents focus on the criteria of "character; capacity; collateral" as a whole, and they focus on item of "determine eligibility of the borrower, determine whether the borrower have other income to meet in difficult situations, ensure that required loan is appropriate to the size and nature of the intended activity" in very high level, while they are less concerned of the "does the borrower requests to increase the value of the loan without any justification?". As a whole, which character provides: subjective impression of the borrower, capacity provides: contingent sources of payment, collateral provides: guarantee by another entity to pay credit in case of the primary default.

The findings showed that the local Palestinian banks comply with PMA instructions with regard to lending, and they most focus on; the Bank's management keen to comply with the PMA's instructions, conduct an Inquiry about borrower and guarantor from PMA's credit sites, adherence to credit limits and restrictions. This provides strong evidence that the banks are interested in complying with PMA lending instructions.

Also the thesis showed the adoption of local Palestinian banks by making deep analysis of market conditions of the borrower; in spite of this, the result is inconsistent with a study result by (Altaher et al., 2007), performed on local Palestinian banks which found that market conditions have no difference of loan trouble.

The thesis showed the adoption of local Palestinian banks by the market conditions analysis especially; they focus on "studying of the borrower's business; market share; size; nature of his market, follow-up after grant to ensure his proper operation and to ensure the success of his project", this will provide the borrower's strength in the market, and on the basis of this a lending decision is made and his ability to repay the loan is determined.

The findings showed that the local Palestinian banks concerned on reputation and morals monitoring of the client; especially they take in consideration as important factors "an important factor in accepting or rejecting credit application, reveals borrower's intention to repay, affect grant decision by personal bail", this provide competitive advantages of enhancing the business of the bank, by obtaining trusted customers.

Presented below are the findings that related to the thesis hypotheses:

- 1. The thesis found that all local Palestinian banks are adopting all variables of the thesis "historical credit record analysis, adoption of credit risk tools of evaluating credit risk, adoption of financial analysis, focusing on profitability, adoption of known standards credit approaches of creditworthiness: character, capacity, capital, collateral, conditions, follow up and control monitoring, applying PMA instructions " due to the normal operation of the bank, and this result is inconsistent with a study by (Al Fawaz et.al, 2015), who compared the credit risk management processes between conventional and Islamic banks in Jordan and found that Islamic banks are more sensitive to the process of credit risk management and a significant difference between Islamic and conventional banks in understanding, managing, evaluating and analyzing credit risk, as well as in credit risk management practices to reduce credit risk.
- 2. The thesis showed that the job title of the operator have no influence on the credit analysis regarding the variables of "historical credit record analysis of the borrowers, adoption of credit risk evaluating tools, focusing on profitability, monitor reputation and morals of the borrowers", except that the branch managers have more influence on the adoption of "known standards of creditworthiness approaches & taking collateral, follow up and control, applying instructions of PMA" than credit managers, also branch managers are more interested in focusing on borrowers market conditions than the business lines who are less interested, and no other differences within the other job titles. In the light of this finding; it's worth mentioning that branch managers are more careful in adopting "known standards creditworthiness approaches & making collateral analysis, follow up and control analysis, applying instructions."

tions of PMA"; and subjected to management issues; since managers have to comply either with the administrative management or PMA instruction to prevent exposure to sanctions or irregularities. In addition they have to grant more secure loans to increase their profit; ranking of their branches; and to achieve their target.

- **3.** The thesis showed that the specialty of banks employees have no influence on the credit analysis regarding the variables of "historical credit record analysis of the borrowers, adoption of known models of evaluating credit risk, financial analysis, adoption of known standards approaches of creditworthiness, applying PMA lending instructions, borrowers market condition, and monitoring borrowers reputation and morals", except of that accountings specialists are more concerned to achieve high profitability than banking and financial specialists who are less concerned, also economics specialists are more rigorous in seeking collaterals as opposed banking & financial sciences specialists.
- 4. The thesis showed there is no statistically significant evidence in differences of credit analysis on the credit risk in the banks that reflects the number of courses taken by the operator. Which indicate that the number of courses taken by the operator has no influence on the credit analysis for all variables of the thesis (historical analysis; known models of evaluating credit risk; financial analysis; profitability; known standard for creditworthiness, applying PMA credit instruction; focusing on market conditions, and monitoring reputation and morals); this means that all banks employees respondent at their various functional levels are implementing administrative instructions for all variables of credit analysis, which reflected high Commitment to instructions which has had a positive impact on risk reduction.

5.2 Recommendations

Depending on the previous results; this thesis suggests some recommendations for the interested parties as follows:

Recommendation for the banking sector:

- 1. Open the banks for investment and development of large long term projects and industrial projects to take their role in economic and social development by benefiting from the continuing development of the instruments of credit analysis and credit risk.
- **2.** Increase the number of employees with a background in business administration and economics specialties in their staff to create a balanced knowledge base.
- **3.** Continuous training of banks staff to improve credit analysis qualification in various analysis methods.
- **4.** Enhance the banks staffs at different levels of job title to increase adherence with the instructions of the PMA.
- **5.** Make integration in qualitative and quantitative credit analysis tools for accurate evaluation of credit risk.
- **6.** Enter credit management models to determine the profit margin such as (Altman model) and others.
- 7. Link profitability with the credit risk to achieve high productivity.
- **8.** Banks should Increase monitoring of the project after the grant to reduce the chance of default.
- 9. Banks should not rely only on guarantees for credit decision.

- **10.** Enhancing the role of market condition analysis by establishing a system to early monitor changes in the market place.
- **11.** Increase the effectiveness of Internal Rating System, to provide early Warning Signal to credit problem.
- 12. Diversify credit risk tools and methods to evaluate credit risk at the level of the credit portfolio in general and for each kind of credit.

Recommendation for the Palestine Monetary Authority:

- Encourage joint participation by the banks in financing infrastructures projects in order to minimize the risk of default by diversification of capabilities.
- Enhancing lending companies and microfinance to apply credit analysis instruments in order to minimize default rate.
- 3) Establish an institution specializing in credit rating based on the aforementioned criteria.
- Establish an institution specializing in studying the reasons for projects failures, and providing solutions for success and recovery.

5.3 Suggestions for Future Research

In the light of the conclusion of the thesis the researcher suggests the following researches' to perform in future:

- 1- Implementing the model of this thesis to microfinance companies in order to measure the extent of the uses of credit analysis in reducing the credit risk they face.
- **2-** Another study should be done to identify the importance of the risk management in the microfinance company and making strategies and polices.

3- Studying the extent of using credit risk tools in the operation of specialized lending companies to avoid credit risk they face.

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http://www.pma.ps/Portals/1/Users/002/02/2/Legislation/Instructions/Banks/2018/%D8% AA%D8%B9%D9%84%D9%8A%D9%85%D8%A7%D8%AA%20%D8%B1%D9%82 %D9%85%202%20%D9%84%D8%B3%D9%86%D8%A9%202018%20%D8%A8%D8 %B4%D8%A3%D9%86%20%D9%85%D8%AA%D8%B7%D9%84%D8%A8%D8%A 7%D8%AA%20

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Appendix No (1) Questionnaire in Arabic

برنامج التخطيط الاستراتيجي وتجنيد الأموال كلية الدراسات العليا الجامعة العربية الأمريكية – رام الله

إستمارة /إستبانة

حضرة السادة / المحترمين / المحترمين تقوم الباحثة بإجراء دراسة ميدانية بعنوان اختبار فاعلية استخدام أدوات التحليل الائتماني في جسر مخاطر الائتمان "دليل من قطاع البنوك" . لذا نأمل من حضرتكم التكرم بالإجابة على أسئلة الاستبانة بدقة، مع العلم بأن البيانات التي سيتم جمعها هي لإغراض البحث العلمي فقط وتعامل بسرية تامة. وتفضلوا بقبول فائق التقدير والاحترام،،،

تعليمات عامة:

بريد الكتروني : leenyjar@hotmail.com

الباحثة لينا يوسف محمود جردانه

اشراف د. زهران محمد دراغمة



القسم الأول: المعلومات العامة

يرجى وضع دائرة حول الخيار الملائم:

طبيعة النشاط الذي يمارسه البنك:

أ- تجاري ب- إسلامي

التخصص:

أ- محاسبة ب- إدارة أعمال ج- علوم مالية ومصرفية د- إقتصاد

ہ۔ غیر ذلك (أذكرہ)

المسمى الوظيفي:

د۔ مدیر فرع	ج- مدير دائرة المخاطر	ب- مدير دائرة الائتمان	أ۔ مدیر عام
			ه- ضابط ائتمان/ مخاطر

عدد دورات التحليل الإئتماني:

أ- 1-5 ب- 10-6 ج- 11-51 د- أكثر من ذلك
ا**لقسم الثاني:** الرجاء وضع إشارة (√)أمام الإجابة التي تراهـا مناسبة:

المحور الاول تحليل التاريخ الائتماني للعميل: من أهم محاور تحليل المعابير الخاصة بالمقترض وتتعلق بتحليل بياناته الائتمانيه التاريخية للتنبوء بالمستقبل ا**لهدف منها:** المساعدة في اتخاذ قرار تمويلي مناسب وتفادي مخاطر تمويل مبني على العلاقات الشخصية بين البنك والعميل. أ. **يتم استخدام تحليل التاريخ الائتماني للعميل:**

	موافق بدرجة قليلة جدا	موافق بدرجة قليلة	موافق بدرجة متوسطه	موافق بدرجة عالية	موافق بدرجة عالية جدا	العيارة	رقم
ľ						يتم جمع معلومات عن حجم وطبيعة الالتز امات القائمة تجاه البنوك والاخرين.	1
						يتم جمع معلومات عن مدى انتظام العميل بتسديد التز اماته السابقة.	2
						يتم جمع معلومات عن قدرته على مواجهة الأزمات السابقة.	3
ſ						يتم الوقوف على مدى نجاح العميل في ادارة الائتمان الحاصل علية سابقا.	4
						يتم طلب اي معلومات أخرى ناقصة تؤثر على القرار الائتماني.	5
						يتم تقييم مستوى مخاطر الائتمان المطلوب.	6
ſ						يتم تحديد إحتمالية تعثر العميل في السداد.	7

المحور الثانى أدوات تقييم مخاطر الانتمان: هي ادوات متنوعة تستخدم من اجل خلق تنبؤات دقيقة تضمن الحد من مخاطر عدم السداد والتعثر الإئتماني وايضا للمساعدة في التقييم الإشرافي للمؤسسات المقرضة منها: نظام تصنيف ائتماني، نظام نقاط الائتمان، نظام الخبراء. ب. يتم استخدام أدوات تقييم مخاطر الائتمان:

	موافق بدرجة قليلة جدا	موافق بدرجة قليلة	موافق بدرجة متوسطه	موافق بدرجة عالية	موافق بدرجة عالية جدا	العبارة	رقم
						وجود دائرة متخصصة لإدارة مخاطر الائتمان.	1
						نظام تصنيف ائتماني داخلي معتمد.	2
						نظام تصنيف ائتماني خارجي.	3
						الاستناد الى قرار لجان ائتمان متخصصة.	4
						نماذج تسعير سعر الفائدة المفروضة مثل نموذج (Altman) وغيره.	5
						مراجعة دورية لتصنيف الانتمان (رديء، مشكوك في تحصيله، دون المستوى، جيد).	6
						يتم استخدام الطرق المالية المختلفة لتقييم مخاطر الائتمان.	7
ſ	لمفصلة للقوائم	به التحليلية ا	ث تهتم بالدر ا	قترض، حي	ضع المالي للم	لة الثالث تحليل القوائم الماليه: تعد من أهم مصادر الحصول على معلومات تقيم الوه	المحور
I	, -				- C		, ti ti

الماليه من أجل تقييم وضعه و قدرته المالية وتفادي مخاطر التعثر في السداد. ج. يتم استخدام تحليل القوائم المالية للعميل:

موافق بدرجة قليلة جدا	موافق بدرجة قليلة	موافق بدرجة متوسطه	موافق بدرجة عالية	موافق بدرجة عالية جدا	العبارة	رقم
					يتم تحديد مواطن القوة والضعف في الموقف المالي.	1
					يتم تحديد حجم الرافعه المالية.	2
					تقييم سياسات الشراء والبيع.	3

		يتم تحديد قدرته على التحصيل والسداد.	4
		حساب معدلات الدوران والكفاية في ادارة الموارد المتوفرة.	5
		تحليل القدرة على الوفاء بالالتزامات قصيرة وطويلة الاجل.	6
		يتم تحديد حجم التدفقات النقدية في الانشطة التشغيلية لتتلائم مع مواعيد الاستحقاق والسداد.	7

المحور الرابع محور الربحية: عباره عن عوائد استثمارات البنك في الائتمان، أهميتها تنبع لتغطية المصاريف التشغيلية التي يتكبدها البنك ، كما تمكنه من دفع الفوائد على الودائع، وتحقيق عائد صافي على رأس المال المستثمر من قبل المساهمين لتعويضهم عن الفرص البديلة المتاحة أمامهم. د. يتم الربط بين مخاطر الائتمان وربحيته:

موافق بدرجة قليلة جدا	موافق بدرجة قليلة	موافق بدرجة متوسطه	موافق بدرجة عالية	موافق بدرجة عالية جدا	العبارة	
					تحليل الفرص الائتمانية المتاحة واختيار الفرصة الأقل مخاطرة.	1
					تنويع المنتجات والمزايا المقدمة لزيادة الربحية.	2
					ربط سعر الفائدة المستوفاه من العميل بمستوى مخاطره.	3
					لا تمنع درجة المخاطره التوسع في المنح مقابل عوائد مغرية.	4
					يستخدم التأمين الائتماني كأداة للتحوط ضد مخاطر الائتمان.	5
					يتم أخذ عناصر تكلفة المخاطر التي تتعرض لها العملية الإئتمانية.	6
					تحمل مخاطر التساهل بالضمانات مقابل تحقيق ربح أعلى.	7

المحور الخامس "استخدام نماذج معايير الجدارة الانتمانية العالمية": أهم محور من محاور الدراسة الانتمانية وهي عباره عن مجموعة من المعايير التي تحفز البنك على اتخاذ قرار التمويل المناسب مع الاحتفاظ بنسبة معينة من المخاطر منها (bc's) approaches (bc's) The six C's of Credit (bc's) approaches ه. يتم استخدام نماذج معايير الجدارة الانتمانية العالمية:

موافق بدرجة قليلة جدا	موافق بدرجة قليلة	موافق بدرجة متوسطه	موافق بدرجة عالية	موافق بدرجة عالية جدا	العبارة			
				(1- شخصية العميل			
1 التعرف على أهلية المقترض .								
					التحقق من عدم انفر اد المالك بالإدارة.	2		
					التحقق من سمعة المقترض في قطاع عمله بإسلوب لايتنافى مع قواعد السرية المصر فية.	3		
					2- قدرة العميل			
					التعرف على مصادر الدخل الاخرى للعميل في حال الاعسار .	4		
					التأكد من توفر كفاءات وخبر ات ادارية منافسة.	5		
					التأكد من ملائمة التسهيلات المطلوبة لحجم وطبيعة عمل العميل.	6		
				L	3- رأس مال العميل			
					التأكد من قدرة المقترض على المساهمه في نسبة معينة من التمويل.	7		
					الزام المقترض بأن لاتزيد مديونيته على نسبة معينة من حقوق الملكية.	8		
					قياس قدرة العميل طالب الائتمان على توليد الارباح.	9		
				ف العميل	4- الضمانات المقدمة من طر			
					كفاية الضمانات المقدمه لتغطية قيمة القرض والفوائد والعمولات.	10		
					11 التأكد من سلامة نوعية الضمانات المقدمه من حيث الاستقرار والقابلية للتسييل.			
					توتَّيق الضمانات حسب الأصول، بموجب سندات الر هن أو وسائل التوثيق	12		

<u> </u>	<u> </u>				SH 3 3.51				
				,tinet	الفانونية الأخرى. 5- الظروف المحبطة با	. <u></u>			
ļ	·T		·	للعلين		12			
ļ	<u> </u>		1	1	الاوصاح الاصحادية والإملية السالمة.	13			
ļ	<u> </u>		· · · · · · · · · · · · · · · · · · ·		فطاع عمل المقترص أو المؤسسة التي يعمل بها.	14			
ļ				-1.11 - 1	ا ينم التقييم بناءا على زياره ميدانيه للمسروح المراد نموينه. 	15			
ļ	<u> </u>			ا بعد المنح	مراقبة الانتمان ومنابعة م-0 مراقبة الانتمان ومنابعة م-1 مراقبة الانتمان ومنابعة م-1 مراقبة الانتمان ومنابعة م- 1 ما مأمانا ما	17			
ļ	·				هل يتأخر العميل في نسديد الافساط او يطلب ناجيلها؟	16			
	1				هل يطلب العميل زيادة التسهيلات دون وجود مبرر آت؟	17			
					هل يستخدم العميل التسهيلات في الغايه التي تم منح التسهيلات لها؟	18			
منح الائتمان	تنظم عمليات	مدار تعلیمات i	من خلال إص	مل الينوك ر	لسادس تطبيق تعليمات سلطة النقد الفلسطينية: تنظم سلطة النقد الفاسطينية ع	المحور ا			
	. (, = 0	5.0	للحفاظ علي حقوق كل من الدائنين و المقر ضين و الحد من مخاطر الائتمان.	المصر في			
					بيق تعليمات سلطة النقد الفلسطينية:	و. يتم تط			
موافق	Γ			· · ·		1			
بدرجة	مه افق	مه افة ر	مه افق	موافق		I			
قليلة	ىد جة	ىد جة	ىد حة	بدرجه	العبارة	رقم			
جدا	قليلة	مته سبطه	عالية	عاليه		, -			
				جدا					
┝───┤	└───┤		<u>ا</u>	ļ	تحرص إدارة البنابي على الالتزار بتعليمات سلطة النقد				
├ ───┤	└────┤		۱	ļ	لكرص بدرة أثبت على أم سرام بتمنيك سبعة النب. الاستخلام عن العملاء م الكفلاء من مواقع سلطة النقد الانتمانية				
	└────┤		۱	ļ	الاستعادم عن المعادي والمتحرب من من عن المستحر عن المعاد الانتمان	3			
├ ───┤	└────┤		۱ ــــــــــــــــــــــــــــــــــــ	ļ	الالتزار بندر، التركز القطاء الالتزار بندر، التركز القطاء				
┝────┤	└──── <u></u>			ļ	الاللزم بنسب الترجر الصعاصي. الحدام ذار ان مدان فالعملام معشار دهم	- - -5			
├ ───┤	└────┤		۱	ļ	الجراع ريارات ميدريب تتعمد والمتعاريمهم. الشفافية في تدخير حكافة شد مطالبة مع العملاء				
	ļ		ļ	ļ	الللكافية في توضيع عند شروع مستعد مع مصدير.	7			
	l					1			
السداد	اشهریه علی ا	دخله وقدرته ال	ما يتلاءم مع 	نه التمويلية ب 	سابع دراسة وضع السوق : تتعلق بتحليل بيئة وقطاع عمل المقترض لتلبية احتياجاة ل ليل وضع سوق العميل:	<u>المحور ال</u> ز. يتم <u>تح</u>			
موافق		•.	. • .	مه افق		·			
بدرجة	موافق	موافق	موافق	ىدر ھة		I			
قليلة جدا	بدرجه	بدرجه	بدرجة	عالية		I			
	قليله	متوسطه	عاليه	حدا	العبارة	رقم			
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			·	1	در اسه حجم وطبيعه سوق العميل و عمله. ۱۱ ۱۱ ۱۱ ۱۱ ۱۰	1			
	<u> </u>				حجم الطلب على السلعة.	2			
	<u> </u>				مدى تتوع سلع العميل وجودتها بالدسبه للسلع المدافسه.	3			
					منافذ التوزيع المستخدمة من قبله.	4			
					تحليل المخاطر التي تتعلق بقطاع الصناعة التي ينتمي إليها متىروع المقترض.	5			
					تأثير القوانين و التشريعات على نشاط العميل.	6			
	+			1	متابعة العمل بعد منحه الائتمان لضمان حسن سير ونجاح المشروع.	7			
						•			
	فية.	السرية المصر	ل مع مر اعاة	مع هذا العميا	ثامن سمعة العميل واخلاقة: تتعلق بمدى اقتناع المحلل الائتماني في التعامل كبنك ه ليل سمعة العميل لانها:	المحور الا ح. يتم تد			
موافق	، ڈ ہ			موافق					
بدرجة	موافق	موافق	موافق	بدرجة					
قليلة	بدرجه	بدرجه	بدرجه	عالية	العيارة	رقم			
110	فليله	متوسطه	عاليه	110		, •			

عامل مهم في قبول طلب الائتمان او رفضه. تكشف نية المقترض على السداد. تؤثر على حجم الضمانات المطلوبة.

1 2 3

جدا

جدا

165

		تؤثر على قرار منح العميل بالكفاله الشخصية.	4
		تؤثر على حجم التمويل المطلوب.	5
		تؤثر على سعر الفائدة الممنوحه للعميل.	6
		يؤثر على امكانية التوسع في منحة المزيد من الائتمان.	7

شكراً جزيلاً على تعاونكم،،،،،،،

APPENDIX NO (2) QUESTIONNAIRE IN ENGLISH



The Arab American University Faculty of Graduate Studies

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Strategic Planning Program

Questionnaire

Dear Mr. / Mrs....

Regards,

The researcher is conducting a field study entitled "Investigating the Effectiveness of Using Credit Analysis Techniques to Bridge Credit Risk "Empirical Evidence from the Banking Sector""

So kindly we hope you will answer all the questions accurately and precisely, and we assure your collected answer will be only for scientific purposes and will be e treated strictly confidential.

Yours sincerely,

General Instructions:

- 1- Kindly answer all questions.
- 2- If you have any questions please contact the researcher on the following:

E-mail: leenayjar@hotmail.com

Researcher Lina Yousef Mahmoud Jardaneh Supervisor Dr. Zahran Mohammed Dragameh

First Section: General Information

Kindly put a circle around the appropriate option:

Normal Operation of the bank:

1- Commercial 2- Islamic

The Job Title of the Operator:

- 1- Director of credit department 2- Director of Risk Department 3- Branch Manager
- 4- Business line

Employee's Specialty:

- 1- Accounting 2- Business Administration
- 3- Banking & financial sciences 4- Economics
- 5- Others

The number of courses taken by the operator

1- Less than 5 courses	2- From (5) to (10) courses
3- From (10) to (15) courses	4- More than (15) courses

Second section: Kindly indicate (X) to the appropriate answer

Stem I Adopting Historical Credit Record Analysis Of Borrowers

One of the most important axes related to credit analysis; concerns of investigating and analysis the borrower historical credit background data to predict his future performance.

Your Bank Adopting Historical Credit Record Analysis Of Borrowers

#	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Dis- agree
8.	Collect information about size & nature of standing obligations towards banks and others.					
9.	Collect information about his previous ability to meet his lend- ing obligations.					
10.	Collect information about his previous ability in dealing with financial difficulties.					
11.	Evaluate previous lending record to assess how successful it was.					
12.	Obtaining any other incomplete information that affects the lending decision.					
13.	Evaluate credit risk of the required loan.					
14.	Determine the probability of default.					

Stem II: Adopting known models of evaluating credit risk

Its variety of tools used to create accurate risk credit predictions to guaranty reducing the risk of non-payment and credit facilities default, e.g. Internal credit rating system, credit scoring system.

The Bank Adopting known models of evaluating credit risk:

#	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	The existence of a specialized department to manage credit					
	risk.					
2.	There is certified Internal Credit Rating System.					
3.	There is external credit rating system.					
4.	Relying on a committee of experts.					
5.	Using pricing models to determine the profit margin such as					
	(Altman model) and others.					
6.	Periodic review of the borrower credit rating (bad, doubtful,					
	substandard, and good).					
7.	Use of different financial methods for determining credit risk.					

Stem III: Adopting Financial Analysis of The Borrower:

One of the most important evaluations sources of borrower's financial situation, whereas their concentrations of analytical study of financial statements in order to assess his financial status to avoid the risk of loan default.

Bank Adopting Financial Analysis of The Borrower:

#	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	To determine strengths and weaknesses of his financial posi- tion.					
2.	To determine the financial leverage.					
3.	Evaluating transactions methods used by him.					
4.	To determine his ability to collect and repayment.					
5.	To calculate turnover rates and management efficiency of his financial assets.					
6.	To evaluate his ability to meet short and long term commit- ments.					
7.	To determine his cash flows in operation activities and to match the maturity with repayment dates.					

Stem IV: Bank Profitability:

The effectiveness of manage bank's assets in order to earn a profit to survive; it takes in consideration income and expenses.

Bank focus on profitability:

#	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	Analyze lending opportunities and choose the least risky one.					
2.	Diversify lending product and advantages offered to increase					
	profits.					
3.	Link the level of profit to the level of risk taken.					
4.	The level of risk taken is in accordance of profit margin.					
5.	Credit insurance is useful as a hedge against credit risk.					
6.	The cost elements of the credit process are taken.					
7.	Lenient grantor for higher profit taking.					

Stem V: Adopt Known Standards Credit Approaches for "Creditworthiness": It is the most important stem of the credit study; in which is a set of criteria creditor usually looks at to make the right financing decision "borrower credit evaluation" while maintaining a certain percentage of risk, the six C's of Credit approaches for creditworthiness one of them: The bank Adopt Known Standards Credit Approaches for "Creditworthiness": Strongly Agree Disagree Strongly Disagree Neutral Agree Item # 1- Character Determine eligibility of the borrower. 1. 2. Verify that management is not the sole responsibility of the borrower. 3. Verify reputation of the borrower in his business filed. 2- Capacity 4. Determine whether the borrower have other income to meet in difficult situations. 5. Determine the borrower has sufficient competencies with com-

	petitive edge.			
6.	To ensure that required loan is appropriate to the size and na-			
	ture of the intended activity.			
	3- Capital			
7.	To ensure the borrower's ability to contribute a certain percent-			
	age of the required loan.			
8.	Impose on the borrower certain condition not to exceed his in-			
	debtedness of certain set of his equity.			
9.	Determine the borrower's ability to generate income and make			
	profit.			
	4- Collateral		 	
10.	The value of the guarantee must equal the total of the loan val-			
	ue; interest and commission.			
11.	To ensure value of the collateral given and the ability to dis-			
	pose of it.			
12.	To legally document the collateral.			
	5- Conditions			
13.	The prevailing economic and security situation.			
14.	The business sector of the borrower or the institution in which			
	it operates.			
15.	The evaluation is based on a field visit to the project to be fi-			
	nanced.			
	6- Control and Follow Up		 	
16.	Is there a delay or postponement of the required payments?			
17.	Does the borrower requests to increase the value of the loan			
	without any justification?			
18.	Dose the borrower use the loan for its intended purposes?			

VI Stem: Apply Instructions Of Palestinian Monetary Authority About Lending

PMA are working to regulate banks credit grant operations by issuing and updating instructions to safeguard the rights of both creditors and lenders and control credit risk based on the global Rules and regulations. **Your Bank Apply Instructions Of Palestinian Monetary Authority About Lending**

#	Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1-	The Bank's management keen to comply with the PMA's in- structions.					
2-	To conduct an Inquire about clients and guarantor from PMA's credit sites.					
3-	Adherence to credit limits and restrictions.					
4-	Adherence to sartorial concentration percentage rates.					
5-	Conduct field visits to credit customers and their projects.					
6-	Transparency in all terms of contracting credit.					
7-	Availability of a clear lending policy as agreed by the Board of Directors.					
Its conce Your ba	erns analysis of borrower working sector to meet his financing nee ank analyzing borrower market condition	eds.				~
#	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1-	Evaluation of borrower business; market share; size; and the nature of his market.					
2-	The size of demands of his products.					
3-	The extent of the diversity and quality of the borrower products and its competitiveness with similar market products.					
4-	Distribution channels used by the borrower.					
5-	Risk analysis of his industrial sector.					
6-	The impact of laws and regulations on the borrower's activity.					
7-	Follow-up of the borrower activity after granting the loan to monitor the success of his activities.					

VIII Stem: Monitor of Reputation and Morals of the Borrowers

Relates to the extent to which a credit analyst is convinced on dealing with the borrower's. **Your bank Monitor of Reputation and Morals of the Borrowers:**

#	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1-	An important factor in granting borrower's application.					
2-	Reveals borrower repayment intentions.					
3-	Affects the size of the required guarantees.					
4-	Affects the grant decision by personal bail.					
5-	Affects the size of the required funding.					
6-	Affects the interest rate.					
7-	Affects the probability expansion of size of the loan.					

Thank for your help,,,

#	Name	Qualifications		
1-	Dr Moofed Thaher	PhD in Finance and Banking, An-Najah University		
2-	Dr. Mohammd Qlalweh	PhD in Finance and Accounting Al-Quds Open University		
3-	Mr. Nael Sunaa	Branches Manager Jordan Kuwait Bank- Amman- Jordan		
4-	Mr. Zuhdi AL Jayyousi	Head of Corporate Facilities Jordan Kuwait Bank- Amman- Jordan		
5-	Dr. Makram ALQutob	PhD in Finance and Banking Jordan Kuwait Bank- Amman- Jordan Head of Retail Credit.		
6-	Dr. Jameel Jaber. Alawnah	PhD in Finance & Banking Al- Quds open university		
7-	Mr. Aleez Maher	Head of Risk Manager- Ramallah- Palestine Jordan Kuwait Bank- Regional Management		

APPENDIX NO (3) QUESTIONNAIRE REFEREES

منخص

هدفت هذه الدراسة إلى إختبار فاعلية استخدام أدوات التحليل الائتماني لجسر مخاطر الائتمان من واقع البنوك الفلسطينية، وتمثلت أدوات التحليل الائتماني (تحليل سجل التاريخ الائتماني للعميل، وأدوات تقييم مخاطر الائتمان، والربحية، واستخدام نماذج معايير الجدارة الائتمانية العالمية، وتطبيق تعليمات سلطة النقد الفلسطينية، وتحليل البيانات المالية، ووضع السوق، وسمعة العميل وأخلاقة) التي تستخدم لتقييم الائتمان و جسر مخاطره.

إعتمدت هذه الدراسة على المنهج الوصفي التحليلي وذلك بالرجوع إلى العديد من تعليمات وقوانين سلطة النقد الفلسطينية واتفاقيات بازل والمعيار المحاسبي رقم "9 " والدوريات العلمية والدراسات السابقة والكتب والمقالات العلمية التي تناولت هذا الموضوع، كما تم استخدام الاستبيان كأداه لجمع البيانات الأولية لأغراض هذه الدراسة ومن ثم تفريغها وتحليلها من خلال استخدام برنامج التحليل الإحصائي (SPSS).

وقد تألف مجتمع الدراسة من كل من: مدراء الائتمان ومدراء المخاطر ومدراء الفروع بالاضافه الى موظفي الائتمان في البنوك المحلية الفلسطينية والبالغ عددها (7) بنوك، حيث تم توزيع (248) استبانه وبلغ عدد الاستبيانات المستردة والمكتملة (189).

تمثلت نتائج الدراسة بأن البنوك المحلية الفلسطينية تتبنى استخدام أدوات التحليل الائتماني المختلفة و أدوات تحليل مخاطر الائتمان في تقييم الائتمان وفي محاولة تخفيف مخاطره مما يساهم في تقوية قطاع الائتمان المصرفي الفلسطيني المحلي؛ ومن أسباب ذلك القوانين والتعليمات والتشريعات التي تفرضها سلطة النقد الفلسطينية على البنوك والتي بدورها تلتزم بها.، والجدير ذكره أن هذه النتائج هي نتائج ايجابية وهامه من حيث أنها تمنح البنوك الفلسطينية الفرصة للتوسع في الائتمان؛ وأيضا المشاركه في الاستثمار في تمويل مشاريع تطويرية وبنيوية تحتية طويلة الأمد لرفع عجلة الاقتصاد الوطني الفلسطيني، عوضا عن الاقتصار على تمويل قروض تجزئة الحاجات الاستهلاكيه ومشاريع قصيرة الأمد.

ومن أهم توصيات الدراسة:

- التكامل في أدوات تحليل الائتمان النوعية والكمية لتقييم دقيق لمخاطر الإئتمان.
- إستخدام نماذج تسعير الفائدة لتحديد هامش الربح مثل (نموذج ألتمان) وغيره.
- ان تحث سلطة النقد الفلسطينية البنوك على المشاركة الجماعية في تمويل مشاريع البنية التحتية وذلك للإستفادة من تنويع القدرات التحليلة وبالتالي تقليل مخاطر الائتمان وتوزيعها.

- أن تنفتح البنوك على الاستثمار في تمويل المشاريع الاقتصادية الكبيرة، من أجل تفعيل دورها في التطوير الاقتصادي والاجتماعي من خلال الإستفاده من التطورات المستمرة في أدوات تحليل الائتمان ومخاطره.
- تطبيق شركات الإقراض المتخصصة وشركات الاقراض الصغيرة لمحاور التحليل الإئتماني المذكورة في الدراسة من أجل خفض نسب التعثر لديهم.