

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

Mohd Mousa Mustafa Odeh¹, S. M Ferdous Azam¹

¹Post Graduate Centre, Management and Science University, University Drive, Off
PersiaranOlahraga, 40100 Shah Alam, Selangor
Corresponding Author: Khaled Mohamad A. Masli

ABSTRACT

Financial performance is used to determine a firm's operating and financial characteristics. The literature suggests a link between bank performance and the strategies used to manage liquidity and credit risk. No studies have been conducted in Libya on risk management, specifically liquidity and credit risk management, or their impact on bank performance with dynamism as a moderator. The study's population were western Libyan commercial banks. Potential constituents included directors and risk committee members, executive managers, and department heads of Libyan commercial banks. These special interest groups were chosen based on their financial performance and credit and liquidity risk management. The sample size was carefully chosen, and participants were given structured questionnaires to express their views on the impact of bank risk management on universal banks' financial performance. The empirical data were analysed using partial least squares (PLS) (SEM). Bank managers' perceptions of credit risk management and financial performance correlated positively. The research confirmed a link between liquidity risk management and financial performance. With regards to the environmental dynamism as a moderator between credit risk management and financial performance, it is supported by the statistics analysis. Thus, credit risk management and liquidity risk management are important determinants of Libyan banking performance. Moreover, environmental dynamism found to have influential impact on the relationship between credit risk management and liquidity risk management implying that financial performance can be easily achieved with the interference of environmental dynamism.

Keywords: credit risk, liquidity risk, dynamism, financial performance, commercial banks

1.0 Introduction

Finance has become a revolutionary way to reduce poverty due to the fact that this type of organization and the way that it operates are better designed to face information problems (Banerjee & Jackson, 2017). This goal is achieved by providing credits or loans to the clients. According to Ibtissem and Bouri (2013), the most significant risk that an institution faces in the credit granting and collection process is default. Default occurs when a borrower cannot meet his key financial obligations to pay principal and interest (Islam, 2019). That constitutes high potential of credit risk which can affect the solvency of financial institution. Credit risk is most simply defined as the potential that a bank's borrower or counterparty will fail to meet its obligations in accordance with agreed terms.

Credit risk management is the process of identifying, assessing, scoring and monitoring credits. Credit identification is the pillar of risk management in the financial institutions and it is directly or indirectly linked to their business Manipulation of money or management of financial securities, loan contracts is risky (Gregory, 2010). Credit risk identification process is to acknowledge the potential losses that may incur and starts assessing it from the selection of potential borrowers, taking decisions based on the real facts. Next, in credit risk assessment, the risk must be first all defined and identified by its principal sources and level of existence. It is to analyze the credit and determine its quality in order to determine the creditworthiness of the counterparty (Brown & Moles, 2014). It is to analyze his capacity and willingness to pay according the agreement. Credit risk scoring is the statistical assessment done on the borrower side using information available on his credit report, in order to know if the borrower is willing to pay. Finally, credit risk monitoring is the monitoring of the quality loan portfolio, by segmenting all customer depending on how they respect the schedule of repayment agreed in the contract. The monitor for example looks if the customer is paying regularly, delay one month and execute on the following month, if there is a delay of months and then measure are taken for customers who delay, and the starts classifying them according to their current situation. After their classification, some credits need a close follow up, or classified as substandard credit, doubtful or loss.

Additionally, liquidity has historically been a high priority for financial managers. Liquidity risks frequently result in a deterioration of one's financial situation and even bankruptcy (Raykov, 2017). As a result, it is critical to manage liquidity risk in order to mitigate its negative impact on the business. It is widely accepted that even the most profitable business can go bankrupt if its liquidity is not managed properly (Blach, Wieczorek-Kosmala, Gorczynska, & Dos, 2014). To ensure a business entity's optimal liquidity, specific business management activities are required. In order to manage liquidity effectively, management must take a comprehensive and in-depth look at the financial condition of the business entity in question. In terms of liquidity, this entails monitoring the asset structure and sources of asset financing, the relationship between short- and long-term asset financing sources, as well as the key activities that affect the speed with which assets circulate within the business process. Maintaining a healthy balance of current assets and current liabilities is critical for the company's performance and value enhancement (Hiadlovsk, Ryboviová, & Vinczeová, 2016).

A major objective of bank management is to increase shareholders' return epitomizing bank performance (Adeusi, Akeke, Adebisi, & Oladunjoye, 2014). The objective often comes at the cost of increasing risk. Bank faces various risks such as interest risk, market risk, credit risk, balance risk, technology and operational risk, foreign exchange risk, country risk, liquidity risk, and insolvency risk (Adeusi et al., 2014). The bank's motivation for risk management comes from those risks which can lead to bank underperformance.

Issues of risk management in banking sector have greater impact not only on the bank but also on the economic growth (Adeusi et al., 2014). Kang, Ratti, and Yoon (2015) concludes that some empirical evidence indicates that the past return shocks emanating from banking sector have significant impact not only on the volatilities of foreign exchange and aggregate stock markets, but also on their prices, suggesting that bank can be a major source of contagion during the crisis.

Recent studies have identified a few factors that most failing banks seem to have in common. In addition to that failing banks often have inadequate system of spotting loan problem early and frequently have expense control problem. Liquidity problems may adversely affect the financial

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

performance of a bank as well as its solvency. Some studies have shown a significant positive relationship between bank profits and liquidity while others have shown a weak positive relationship (Edem, 2017). The credit risk management is needed to be applied in Libyan banks to help make rational decisions on credit facilities. Furthermore, there are no studies showing that Libyan banks make sound use of credit scoring models when making credit decisions. Credit policy in Libya does not show the importance of these models in decision-making as Libyan banks still retain traditional methods of credit analysis (Musbah, Cowton, & Tyfa, 2016). Thus, because of the lack of these models in Libyan banks and in order to rectify this neglect, this thesis deals role of credit management and its effect on financial performance in Libya.

The previous literature mentions to the importance effect of uncertainty dynamism in order to adopt specific strategy (Badshah, Demirer, & Suleman, 2019; Nowak & Wójtowicz, 2015; Vukosavljević, Vukosavljević, & Jelić, 2016). According to Frazier, Tix, and Barron (2004), and Baron and Kenny (1986), while moderators introduced in those studies whose findings showed weak or inconsistent relationship between the independent variable and the dependent variable, the introduction of moderate in previous empirical studies have confirmed the relationship between the independent variable and the dependent variable. With this idea in hand, it is possible to explain how the independent variable affects the dependent variable. Therefore, this study provides details about the moderating effect of uncertainty dynamism on the relationship between risk management and financial performance.

No studies have been conducted in Libya on the characteristics of risk management in general, and specifically liquidity and credit risk management, or on the impact of such management on bank performance. Thus, the purpose of this research is to bridge that gap by focusing on Libyan Commercial Banks (LPCB) and examining the effect of credit risk management (risk identification, risk analysis) and liquidity risk management on banks' financial performance, as well as the moderating role of uncertainty dynamism in the relationship between risk management and financial performance.

2.0 Literature Review

Theory of Risk Management

David (1997) developed this theory with the goal of determining why risk management is necessary. It also outlines the theoretical foundations for contemporary bank risk management, with a particular emphasis on market and credit risks. According to the theory, market and credit risks have a direct or indirect effect on a bank's survival (Eichhorn, 2004). One would expect credit risk indicators to have an effect on a bank's profitability if credit risk management is ineffective and inefficient (Ngugi, 2001). According to this theory, the primary source of value loss is market risk, which is defined as a change in the net value of an asset as a result of changes in interest rates, currency exchange rates, equity, and commodity prices (Wu & Olson, 2010). Regulators are concerned with overall risk and are less concerned with the risk associated with individual portfolio components, as managers are capable of window dressing the bank's position. The requirement for total risk demonstrates that risk cannot be centralised, as risk in a portfolio is not simply the sum of its components, as Markowitz theory states. This implies that portfolio risk must be determined by portfolio return, which remains constant regardless of portfolio composition changes (Beverly, 2015).

Managers must consider the risk-reward trade-off in light of regulatory requirements and alternative options. Risk measurement is expensive, and bank managers must strike a balance between precision and cost (Sovan, 2009). Trade-offs will have a significant impact on the bank's method of operation. They have a single risk measurement objective: to determine to a high degree of precision the maximum loss that the bank is likely to incur (Muhammad & Bilal, 2014). Regulators may require capital that is greater than the estimated maximum loss in order to ensure non-failure. Risk management theory employs two distinct methods for quantifying risk: scenario analysis and value at risk (Sovan, 2009). Scenario analysis does not require a distribution assumption for risk calculation, is highly subjective, and presupposes that future results will be similar to those in the past (Wilfred, 2006). Value at risk (VAR) is a technique that estimates potential losses by analysing the asset return distribution. Monte Carlo simulation and analytical VAR are two widely used methods for estimating VAR, which enable managers to forecast. They have the advantage of computational efficiency and tractability, despite the fact that they may exhibit a non-normal distribution with fat tails reflecting return volatility inconstancy. This method is founded on sound economic theory and takes into account market structure (Muhammad & Bilal, 2014). Where a non-normal distribution exists, student t is useful because it is aimed at describing the category of portfolio returns. Analytical value at risk is based on conventional portfolio theory; the return distribution is described in terms of variance and covariance, which represent the risk characteristics of a portfolio over time (Sovan, 2009). In this study, market risk is quantified using the category value at risk (VAR).

The Libyan banking sector is crucial to the future success of the Libyan economy, especially following the government's 1993 decision to begin a gradual policy of banking sector privatization (El-Shukri, 2007). The Libyan state sees deregulation of the banking sector as the key to the stimulation of economic activity in all other non-oil sectors of the economy. At the present time, banking makes an important contribution to the economy of Libya, especially in the non-oil sectors, in terms of both investments in projects which represent increases in GDP (Dincer&Eichengreen, 2013), and by providing employment to the increasing proportion of the nation's six million people who are not protected by the benign employment conditions of the public sector (Central Bank of Libya, 2006).

The Theory of Liquidity Preference

BibowBibow (2005) According to Keynes, people value money for both "current business transactions and its use as a store of wealth." As a result, they will forfeit the ability to earn interest on money they intend to spend immediately and want to keep on hand as a precaution. When interest rates rise, however, they become more willing to hold less money for these purposes in order to earn a profit.

According to Elgar (1999), one requires money to finance expenditure plans, speculate on the future path of interest rates, or, finally, because one is uncertain about the future, it is prudent to hold a portion of one's resources in the form of pure purchasing power. These motives for money demand became known as transactional, speculative, and precautionary motives. The banks' liquidity preference approach implies that banks should pursue active balance sheet management rather than passively accommodating credit demand.

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

In Libyan context the related literature revealed that the financial performance of Libyan banks is low and lagging behind. Zarook et al. (2013) stated that that financial performance expressed by liability to assets ratios, profit, return of assets have no significant effects on access to finance in Libya. In the same way other study conducted in Libya confirmed that the level of using information and communication technology (ICT) is low in Libyan commercial banks; in addition, an analysis revealed that poor state infrastructure, especially within the fields of telecommunications and electricity, causes unattractive performance within Libyan commercial banking operation and government intervention was the main reason behind the lack implementation of ICT (Saeed & Bampton, 2013). However, other study conducted by Alrafadi and Md-Yusuf (2013) In general, the results of the profitability of the banks used in this research showed increase and then begin to decrease and then increase again. The results clearly indicate that the performance of Libyan banks is not stable depending on components of profitability (Gamal, Atia Jai, & Zulfiqar Ali, 2017; Iswaissi&Falahati, 2017; Murugiah&Akgam, 2015).

Credit Risk

Sujeewa (2015) in his research on Impact of credit risk management on performance for commercial banks in Sri Lanka, Primary data were collected from eight commercial banks out of 24 commercial banks mainly through an interview in order to have their views on the problems and solutions. The secondary data was also obtained from various sources such as Annual Reports of the selected commercial banks for panel data for the period 2009 to 2013. The Return on Assets (ROA) was used as performance indicator and Loan Provision to Non-Performing Loans (LP/NPL), Loan provision to Total (LP/TL), Non-Performing Loans/ Total Loans (NPL/TL) and Loan Provision to Total Assets (LP/TA) were used as indicators of credit risk. Regression model using E-views software was used to establish the relationship between credit risk and profitability. The result shows that non-performing loans and provisions had a significant negative relationship to profitability, thus credit risk had an adverse impact on the profitability. Ogboi and Unuafe (2013) researched on impact of credit risk management and capital adequacy on financial performance of commercial bank in Nigeria. The results showed that loan loss provision, adequacy ratio, and loan advances to deposit ratio showed a positive relationship with return on assets other researchers disagree with this finding where credit risk had significant negative impact on bank profitability in Nigeria (Ejoh, Okpa, &Egbe, 2014; Kargi, 2011).

Asad, Syed, Wasim and Rana (2014) from Pakistan banking sector researched on credit risk exposure and performance for five-year period to 2010 using fixed effects regression analysis which showed loans and advances to deposit ratio and loan loss provision to non-performing loans had a significant negative relationship to performance. Similar studies have shown significant negative relationship between non-performing loans ratio and performance (Abdelrahim, 2013; Boahene, Dasah&Agyei, 2012) but inconsistent to other authors whose results were Non-performing loans to Gross loans as proxies of credit risk had positive effects on the financial performance (Li & Zou, 2014). Aman and Zaman (2010) researched on impact of privatization on the credit risk and performance of Pakistan banks Using Error correction model and ensuring data stationarity, the findings were that capital adequacy ratio had statistical significant and positively related to performance of banks. Anila (2015) in his research paper on factors affecting performance of commercial banks in Albania banks size was used as one of the independent variable. Capital

adequacy had a strong negative and significant relationship with performance of the banks. Other authors who got contradicting results where Capital adequacy had a positive relationship with performance (Frederic, 2014), similar findings by other previous research was by (Ongore&Kusa, 2013; Obamuy, 2013; &Syafri, 2012).

Taiwo, Ucheaga, Achugamonu, Adetiloye, Okoye, and Agwu (2017) undertook a research on Credit Risk Management: Implications on Bank Performance and Lending Growth on commercial banks in Nigeria's Deposit Money Banks over the period of 17 years (1998- 2014). The objective was to determine the effect of credit risk on performance of banks in Nigeria. The variable for this study were Interest Rate Spread, Money Supply, Loan to Deposit Ratio, Non-Performing Loan and Actual Liquidity Ratio Secondary data for the period was obtained from CBN Statistical bulletin 2014 and World Bank Index 2015. Multiple linear regressions were used to analyze the time series data. Ordinary Least Square and multiple regressions were used to determine the effect of credit risk on performance. Using the t-stat values, we found that just two independent variables are statistically significant at 5% level of significance. Money supply is statistically significant at 5% level of significance. The findings show that sound credit management strategies are very vital for investors' confidence in banking industry. Non-performing loans had positive relationship to lending growth. This shows that depositors do not evaluate the effectiveness of credit risk management before placing deposits in the banks. Interest rate spread had negative relationship to total loans and advances this showed that savers reluctance to make deposits when interest rate is low while banks at the same time have difficulty to in finding customers. The study recommended adherence to credit risk strategies, appraisals and analysis. The credit worthiness of would be borrowers should be evaluated. Loan to deposit ratio and Money supply had great influence on bank lending growth. Total loans and advances had insignificant relationship to credit risk. The study recommended that banks should be encouraged to source for capital internally from profits other than external borrowings and liabilities.

Risk of Liquidity

Liquidity risk management entails maintaining an adequate cash position, marketable securities, and funding availability for committed credit facilities (CBK, 2016). BCBS (2008) asserts that banks' fundamental role in converting short-term deposits to long-term loans exposes them to liquidity risk. A liquidity crisis at a single bank can have systemic consequences. The global subprime mortgage crisis of 2007–2008 underscored the critical nature of liquidity management in the banking sector. The Basel Committee published its "Principles for Sound Liquidity Management and Supervision," which defined liquidity as having two components: funding liquidity and market liquidity. Liquidity of funding refers to an organization's ability to raise capital. Market liquidity is high if it is straightforward for an organisation to raise funds through the sale of an asset, rather than through borrowing against it as collateral. If the magnitude of the impact varies randomly over time, liquidity becomes a risk factor (Clemens, Iman& Robert, 2015).

Liu (2011) proposed a number of methods for quantifying liquidity risk, including the cash in hand to asset ratio, the liquidity ratio, the borrowing fund-asset ratio, the borrowing fund-deposit ratio, the cash reserve ratio, the deposit-credit ratio, the lending fund-deposit ratio, and the debt paying ability. Mohamad Norazwa and Hawati (2015) examined Liquidity Risk and Performance in Bahrain and Malaysian Banks. For the period 2008 to 2014, panel data were used to determine

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

liquidity risk. The changes in the current ratio, growth in total asset loan volatility, bank capitalization, deposit volatility, loan to deposit ratio, management efficiency, interbank ratio, and bank size were used as indicators of liquidity risk. Deposit volatility, bank capitalization, growth in total asset loan volatility, management efficiency, bank size, and loan to deposit ratio all play a role in determining liquidity risk. For banks in Bahrain, deposit volatility and liquidity risk had a significant negative relationship; higher deposit volatility results in decreased liquidity, which increases liquidity risk exposure. Additionally, it was discovered that the bank capitalization coefficient had a positive and significant relationship with the liquidity risk of all banks.

Bessis (2010) examines liquidity risk in three ways. The first is considered when a bank is unable to raise funds at a reasonable cost due to interest rate levels, transaction volumes, and funding difficulties with a counterparty. The second perspective views liquidity as a safety net that enables gains in difficult circumstances. Thus, liquidity risk exists when there is a mismatch between short-term assets and short-term liabilities. The final perspective is one in which liquidity risk is viewed as an extreme circumstance. Such situations arise when a significant loss results in liquidity issues. While large-scale deposit withdrawals can create liquidity risk in the banking sector, they are unlikely to be a significant source of liquidity risk. Additional factors that may contribute to liquidity risk include large commitments or a high exposure to long-term lending, which may result in liquidity problems (Ahmed & Anees, 2012).

Sufian and Kamarudin (2011) examined the determinants of banking sector profitability in Bangladesh, examining both bank-specific and macroeconomic determinants. The research findings indicate that liquidity levels have a significant impact on a bank's profitability. This finding is consistent with that of (Dang, 2011), who discovered that an adequate level of liquidity has a positive relationship with bank profitability. Other authors discovered insignificant relationships between liquidity risk and bank profitability (Ongore & Kusa, 2013).

Kim (2015) examined the effect of liquidity risk on bank performance in European Union member countries using panel data for the three years to 2009 and sample data from 23 European Union member countries. The results indicated that there was a negative correlation between liquidity ratios and performance. On the other hand, other authors discovered that the ratio of loans to deposits as a proxy for liquidity risk is significant and positively related to net interest margins in their research on liquidity risk and performance in EU countries (Chortareas, Girardone & Ventouri, 2011). Umar, Muhammad, Asad, and Mazhar (2015) examined the effect of liquidity risk management on firm performance in Pakistan's traditional banking sector. For the period 2009 to 2013, the study examined two banks and discovered that the current ratio was negative and significantly related to performance. Similar studies have demonstrated a significant inverse relationship between the current ratio, a proxy for liquidity risk, and performance (Naceur & Kandil, 2009; Pasiouras & Kasmidou, 2007).

Arif and Anees (2012) conducted research in Pakistan on liquidity risk and its impact on bank profitability. The study discovered a significant negative correlation between liquidity, deferred loans, and liquidity gap and performance. In a similar study conducted by (Ahmed & Ahmed, 2012), they examined 22 banks in Pakistan from 2004 to 2009. The findings indicated that bank deposits and cash had a significant positive relationship with performance, whereas the non-performing loans ratio had a negative relationship with performance. Similarly, (Chen, Shen, & Kao, 2010) examined the relationship between bank liquidity risk and performance for commercial banks in 12 advanced

economic countries from 1994 to 2006 and discovered that liquidity risk was a determinant of bank performance. Alper and Anbar (2011) examined the special and macroeconomic determinants of Turkish bank performance from 2002 to 2010 using panel data and discovered that liquidity had a positive effect on the bank's performance. Other authors found a similar effect on the performance of 15 Iranian banks from 2003 to 2010 (Naser, Mohammad, & Ma'someh, 2013).

Dynamism

Dess and Beard (1984, p. 56) defined dynamism as a “change that is hard to predict and that heightens uncertainty for key globalization members”. It is possible for managers to anticipate changes in a stable environment, and the consequences of these circumstances are more predictable. Meanwhile in instances of dynamic and turbulent times, managers must deal with instability and unanticipated changes with consequences on the environment that are less predictable.

In a dynamic and uncertain environment, identifying key strategic factors and developing and using resources and capabilities is difficult, and, therefore, the outcomes are less clear (Black & Boal, 1994). Furthermore, many studies have stated that strategic choices are related to changes in the environment in which an organization functions, and, in an environment of greater uncertainty, making decisions such as whether to make large investments more difficult for managers (Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales, 2008)

In a dynamic environment, managers are more likely to devote a greater effort to understand how or which environmentally strategic approach is appropriate to select. Also managers may find difficulty in understanding changing stakeholder expectations for the natural environment. For instance, Goll and Rasheed (2004) indicated the stance of stakeholders toward corporate and environmental issues taking action towards alleviating environmental issues is important. More lately, with the growing popularity of the concern for social and environmental issues, managers whose firms have taken a traditional stance during a period of confusion as to what stance to take may well have adopted a combative stance toward social and environmental issue integration. Furthermore, government regulations encounter difficulty in dynamic environments that are difficult to predict (Lehavi, 2010).

Black and Boal (1994) referred to dynamism when studying resources related to performance sustainability in an environment of high uncertainty. Amit and Schemaker (2006) argued that making decisions about adopting strategies in an environment of high uncertainty is difficult. The study suggested that it was likely that managers try to anticipate the future in an uncertain environment in order to be successful. Hence, organizations are expected to invest more in tangible and intangible resources to gain the capabilities required for a proactive strategy in an environment of high uncertainty.

Commercial banks' financial performance and credit risk management

A bank's primary function is to accept deposits and extend credit, which inevitably exposes it to credit risk. The most significant risk that banks face is credit risk, and the success of their business depends more than any other risk on accurate measurement and efficient management of this risk (Giesecke, 2004). A borrower's and a counterparty's credit quality can change over time, resulting in value fluctuations in debt instruments and derivatives, according to Chen and Pan (2012).

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

Credit risk has a mixed effect on bank performance, as evidenced by empirical evidence and study results. Some researchers discovered a negative link between credit risk and bank performance, while others discovered a positive one. The study that found no connection between credit risk and bank profitability is on the other end of the spectrum. The overall risk was taken into account in some studies, while credit risk was emphasised as the most important factor affecting bank profitability.

Four Swedish banks were studied from 2000 to 2008 for the relationship between non-performing loans and capital adequacy ratios, according to Hosna et al. According to the findings, ROE was inversely related to loan nonperformance and capital adequacy ratios, though the degree of the relationship varied from one bank to the next. It's not the only study to find such inverse relationships between profitability, performance, and credit risk (2011).

From 2004 to 2008, Kithinji (2010) examined the impact of credit risk as measured by the loan-to-asset ratio and the non-performing loan-to-total loan-to-asset ratio on total bank return. In other words, the amount of credit and non-performing loans have little impact on commercial banks' profits, according to the research. According to the findings, additional factors that could affect a bank's performance should be considered, and the study should be conducted over a longer time period to get a more complete picture. Liquidity and market risk were included in this study because they are important components of financial risk.

An empirical study by Marshal and Onyekachi (2014) examined how credit risk and bank performance in Nigeria changed over the 15-year period (1997-2011) for five different banks. We used time series and cross-sectional data from the banks' annual reports and accounts statements/sheets to estimate panel data regression models. The results show that the Ratio of non-performing loans to loans and advances (LogNPL) and the performance of banks are linked in a positive way (LogROA). Our apriori expectations were not met by their findings, which showed that banks in the study had a very low level of nonperforming loans in their loan portfolio. Additionally, they discovered a link between the loan-to-deposit ratio (LogLA) and the performance of banks (LogROA). As a result, banks' performance improves because of the increased interest income they receive from loan and advance transactions. The following hypotheses have been put forth as a result of this discussion.

H1a: Credit risk identification and financial performance have a positive relationship.

H1b: Credit risk analysis and financial performance have a positive relationship.

H1c: Monitoring credit risk and financial performance have a positive relationship.

Liquidity Risk Management and Commercial Bank Financial Performance

In a study conducted in Ghana, Konadu (2009) found no correlation between liquidity trend and profitability and came to the conclusion that liquidity and profitability have a negative relationship in the Ghanaian banking sector. According to Lamberg and Valming (2009), changing liquidity strategies had no significant impact on return on assets (ROA). In times of financial crisis, only an increase in the use of liquidity forecasting and short-term financing improved ROA. Furthermore, it was discovered that the significance of key ratios, which track a company's liquidity, remained constant over the research period. If the results for liquidity on profitability are mixed and not significant, it suggests that the conclusion about the impact of liquidity is still debatable and more research is needed. According to Li (2007), more research is required.

In their 2013 study, Lartey et al. (2013) found a weak positive relationship between Ghana's listed banks' liquidity and profitability. They found that illiquidity and excess liquidity are both "financial diseases" that can easily erode a bank's profit base because they affect the bank's attempt to reach a high profitability level. Olagunju et al. (2011) found that commercial banks should not compromise efficient and effective liquidity management in order to succeed in operations and survive. Bordeleau & Graham (2010) found a nonlinear relationship between profitability and the amount of liquid assets a bank holds in Canada. However, there is a point at which holding more liquid assets reduces a bank's profitability, all else being equal, according to the researchers (Mwangi, 2014). However, the estimation results showed that the relationship between liquid assets and profitability is dependent on the business model of the bank and the risk of funding market problems. When a bank adopts a more traditional business model (based on deposits and loans), profits can be maximised with less liquid assets. Similarly, banks must hold fewer liquid assets to maximise profits when the likelihood of causing market difficulties is low (as measured by economic growth). To put this in perspective, the following hypothesis has been posited.

H2. Liquidity risk management and financial performance have a positive relationship.

The Moderating Effect of the Perceived Dynamism Variable

The concept of fit in the moderation aspect, the impact of independent factors on the dependent factors is dependent upon the level of a moderating variable. In the context of this study, the relationship between risk management and financial performance depends on the moderator effect of perceived dynamism variable (R. M. Baron & Kenny, 1986; Gligor, 2017). The relationship between the dynamic capabilities and market attitude of the company dependence on the ability of an organization to modify their resources and competencies according to the changing business environment (Andreeva & Chayka, 2006; Chirico & Salvato, 2008). Environment variables have long been considered as essential contingencies in the globalization theory perspective and strategic management practices (Child, 1972).

Empirical evidences and results of various studies show a mixed trend on the effect of credit risk on bank performance. While some established a negative relationship between credit risk and bank performance, other found a positive relationship. In the extreme is the study that found no relationship between credit risk and bank profitability. Also, some of the studies considered the overall risk as a determinant of bank performance, others focus on credit risk as the major risk affecting bank profitability.

The concept of environmental uncertainty is conceptualized in terms of dynamism of the environment (Tan, Li, & Li, 2006). Dynamism reveal the degree of uncertainty that organizations confront, which have a positive impact on the relationship between risk management and banks performance through adopting good of risk (Zhang, Tan, & Wong, 2015). Also, munificence is related to the resources that organizations depend upon to operate, and a munificent environment can have a positive impact on the relationship between strategic and companies' performance through the adoption of good risk management.

Hence, the next section reveals the hypotheses that will test these concepts:

H3: The environmental dynamism moderates the relationship between credit risk management and financial performance

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

H4: The environmental dynamism moderates the relationship between liquidity risk management and a financial performance.

3.0 Methods

The sampling population's personnel were given a standard rating questionnaire, which had been developed and administered to it. Only emailed questionnaires were sent if the hand-delivered version received no response, and participants were given plenty of time to complete the survey before it was collected, so most questionnaires went out and were collected by hand. In order to gain useful insight into the study's objectives, questions were formulated based on a review of relevant literature. Four members of the academic staff at the University of Misurata received copies of the questionnaire and were asked for their thoughts on it. Two senior executives with previous experience in Libya's banking sector, as well as two department heads from the Central Bank of Libya, were also selected for the position. The questionnaires were used in this pilot study to look for measurement errors, clarify unclearly phrased topics, and monitor nonverbal behaviour. Prior to conducting the research, the questionnaires were tweaked as needed. Validity was assessed using factors such as facial appearance and content. The internal consistency of each construct was assessed using reliability analysis, ensuring high generalizability across test items. Participants could opt out of the study at any time, and participation was entirely voluntary. There were 5 items in the perceived financial performance scale, ranging from 1 (strong disagreement) to 5 (strong agreement), which were taken from Stikilay, M., & Aslan, E. (2012). The measurement scale of 4 items of uncertainty dynamism were adopted from (Mar Fuentes-Fuentes et al., 2004).

To ensure a high response rate, pre-coded questions were used in this survey. They used five-point Likert scales to measure perceptions, beliefs, opinions, and attitudes in social science research, as indicated by participants' responses to a series of statements (DeVellis, 2003). Gender, age, department, and time at work were among the demographics gathered from the survey participants. A partial least squares (PLS) technique was used to analyse the empirical data using structural equation modelling (SEM).

Libyan commercial banks operating in the western region were identified as the study's population. Boards of directors and members of risk committees, executive managers, and department heads of Libyan commercial banks were among the potential constituents. Credit and liquidity risk management, as well as financial performance, were the primary criteria for selecting these special interest groups. Sample size was carefully chosen, and structured questionnaires were given to participants to elicit their opinions and knowledge about the impact of bank risk management on the financial performance of universal banks in this study. Since the subject was so delicate, all responses were kept anonymous to protect the participants' anonymity. All survey results were stored safely in locked boxes around the company. To conduct the surveys and collect the data, they hired a contract research assistant. Research assistants also knew about the problem so they could assist respondents who needed clarification on specific questions.

4.0 Results and Discussion

The questionnaire was distributed to 300 target respondents. Of these 300 questionnaires, 233 were received. The final useable questionnaires were 216 with percentage 72%, which considered sufficient for data analyses. From the demographic data, the gender of the respondents was identified

as 93 percent as male and 6.5 per cent as female. According to the data, the minority of respondents' ages fell in the age from 50 and more with a percentage rated of 37. Meanwhile the percentage of the percentage of 38.9 of the respondents' ages fell in the age range from 30 to 39. In terms of the respondents' Job were categorized as department head (30.1 per cent). Followed by external auditor (23.1 per cent). Most of respondents qualified as master degree with percentage 51.9 followed by respondent who has diploma 24.5 per cent. Regarding the experience, the majority of respondents have experience rage from 10 to less than 20 years with percentage of 38.9 meanwhile the minority of has experience less than 5 years. Furthermore, 87.5 percent of the samples were collected form respondents who work in public bank and 12.5 from private bank.

Convergent Validity

Convergent validity refers to the degree where multiple items used in the research to measure the same concept are in agreement (Ramayah, Lee, & In, 2011). Convergent validity of the measurements used in this research can be examined through the main loadings, value of average variance extracted (AVE), and composite reliability (CR). While assessing the main loadings and cross loading, three items (Credit risk identification = CRI2; Uncertainty environment= EU5; Financial performance=FP4) were deleted based on the recommended cut-off value of 0.50 suggested by Chin (1998b) and Hair et al. (2013a).

After wards, AVE of the variables was assessed. AVE criterion is defined as the grand mean value of the squared loadings of the indicators associated with the construct. An AVE value of at least 0.5 and higher indicates that a latent variable is able to explain more than half of the variance of its indicators on average, therefore itis considered as sufficient (Henseler, Ringle, & Sinkovics, 2009).

According to S. Baron et al.,(2005), when AVE is greater than 0.50, the variance shared with a construct and its measures is greater than error. In current study just one items were deleted (credit risk mentoring = CRM2) its AVE was 0.470. Table shows the AVE score for the rest construct in this research found to be above the minimum threshold (more than 0.5).

Composite reliability was used to assess the consistency of the measurement items used in this study. Composite reliability is more suitable for PLS-SEM as compared with Cronbach's alpha, which is prioritize indicators according to their reliability during model estimation (Hair et al., 2011). Composite reliability should be higher than 0.70 as suggested by Nunnally and Bernstein (1994) and also Hair et al. (2011). Composite reliability refers that that a block is considered as homogeneous and a measure of internal consistency (Barroso et al., 2010). In this, research all composite reliability for each endogenous variable also is more than 0.70. Thus, it can be concluded that the measurements are reliable and internal consistency is present. Table 1 shows the summary of construct validity and reliability after adjustment.

Evaluation of the structural model

The structural model elucidates the relationship between the latent variables in the research model (Duarte & Raposo, 2010). After demonstrating the appropriateness of the measures, evidence supporting the theoretical model, as illustrated by the structural element of the model, is required (Chin, 2010). The R2 values and the level of significance of the path coefficients are the primary evaluation criteria for the structural model, as they indicate how well it explains the variance of endogenous latent variables (Hair et al., 2011). In PLS, the R3 value represents the amount of variance explained by the model for the given construct. The R2 value is critical in research, and there are variances in what constitutes a desirable level of R2 value. Cohen (1988) defined a weak R2 value as 0.02-0.12, a moderate R2 value as 0.13-0.25, and a considerable R2 value as 0.26 and above. However, Hair et al. (2011) argue in this topic that determining what R2 level is considered high is context-dependent. The current study's findings indicate that the R2 coefficient for Financial Performance is 0.445. It implies that credit risk and liquidity risk management can account for 44.5% of the variance in financial performance.

The path coefficients denote the proposed relationship between the constructs (Hair et al., 2013a). The PLS structural model's individual route coefficients can be estimated using standardised beta coefficients from ordinary least squares regression. Non-significant paths or those that exhibit symptoms of divergence from the expected direction do not support the study premise (Hair et al., 2011). Standardized values for the path coefficients range from -1 to +1. Estimated path coefficients near to +1 indicate a strong positive relationship, whereas negative values indicate a strong negative relationship (Hair et al., 2013a).

Results of Direct Relationships

Based on the hypotheses of this study, the direct effects between the variables were tested and findings of the result have been given in Table 2.

Table 2 Results of Direct relationships

Hypotheses	relationship	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
H1	CR -> FP	0.173	0.069	2.495	0.013	Supported
H2	LR -> FP	0.404	0.073	5.542	0.000	Supported

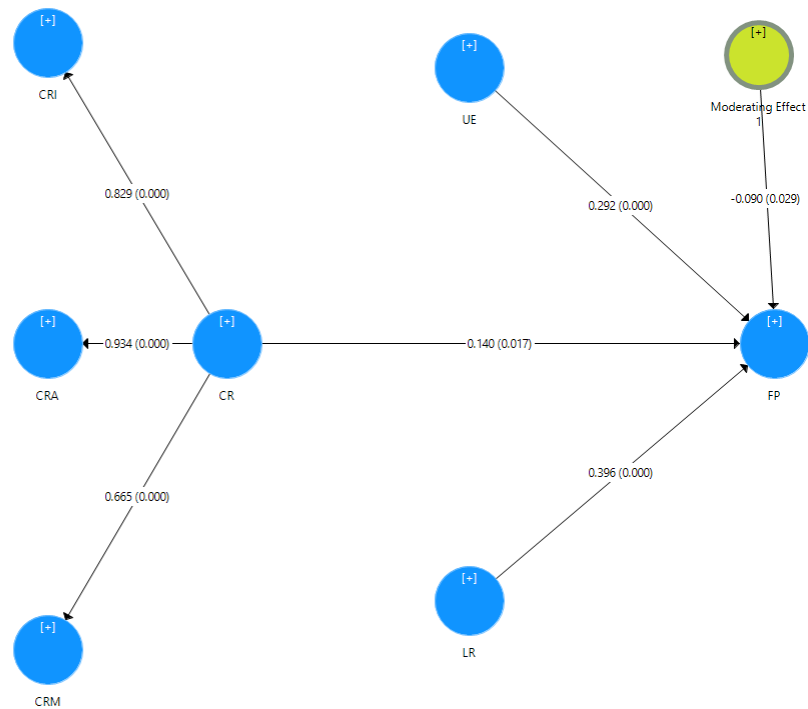
CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, EU = Uncertainty Dynamism, FP = Financial performance

The results suggest that credit risk management has significant relationship with financial performance ($\beta=0.173$, $p = 0.013$). In addition, liquidity risk management has positive significant relationship with financial performance ($\beta=0.404$, $p = 0.000$).

The moderating effect of UE between credit risk management and financial performance

The results show that low level of environment dynamism has influence on the relationship between credit risk management and financial performance ($\beta= -0.090$, $p<0.01$), which also indicates higher level of uncertainty environment decreases the level of financial performance. The R2 value of satisfaction is increased from 0.633 to 0.682. Therefore, it is to be concluded that H3 accepted but in negative manner.

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks



CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, UE = Uncertainty Dynamism, FP = Financial performance

Figure 1 First moderating variable

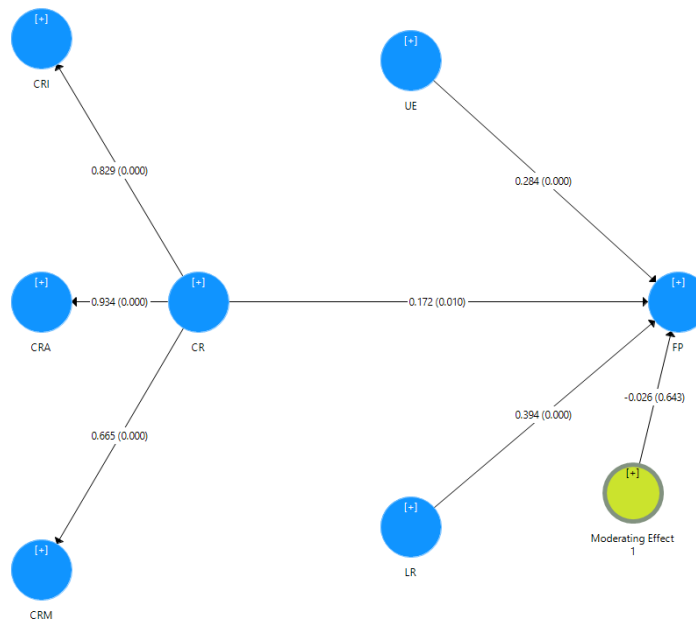
The moderating effect of UE between liquidity risk management and financial performance

The testing was undertaken of the identified moderating effect and that was the uncertainty environment. The results showed that the path coefficient of interaction effect is -0.026, meanwhile the bootstrapping test showed the interaction effect has a t-value of 0.464, which is not significant. Thus, the interaction path is not significant, indicating H4 is not supported.

Table 3 Results of moderator variable

Hypotheses	relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Decision
H3	Moderating Effect of UE between CR and FP	-0.090	-0.091	0.041	2.184	0.029	Supported
H4	Moderating Effect of UE between LR and FP	-0.026	-0.025	0.057	0.464	0.643	Not Supported

CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, UE = Uncertainty Dynamism, FP = Financial performance



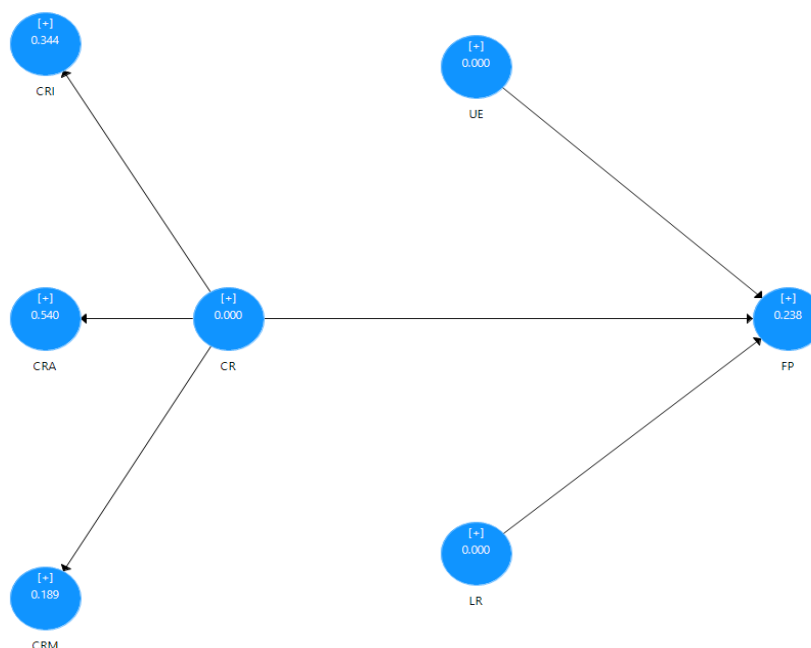
CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, EU = Uncertainty Dynamism, FP = Financial performance

Figure 2 Second moderating variable

Predictive Relevance (Q²)

Predictive sample reuse technique, popularly known as the Stone-Geisser’s Q², can be applied as a criterion for predictive relevance besides looking at the magnitude of the R². According to Geisser(1975) this technique represents a mixture of cross validation and function with the standpoint that the prediction of observables or potential observables is more relevant than the estimation of artificial construct parameters. Henseler et al. (2009), also accentuated to utilize this measure to assess the research model ‘s capability to predict. Adaption of this approach in PLS, ensues a blindfolding procedure that omits a part of the data for a particular block of indicators during parameter estimations and then attempts to estimate the omitted part using the estimated parameters (Chin, 2010). Based on the blindfolding procedure, Q² evaluates the predictive validity of a model via PLS. Q² is generally estimated using an omission of distance of 5-10 in PLS (Akter, D’ambra, & Ray, 2011). Q² values larger than zero indicates that the exogenous constructs have predictive relevance for the endogenous construct (Hair et al., 2011). Table 4.8 showed the summery of the predictive relevance for the endogenous construct under consideration in this research. The results showed that the endogenous construct in this research have predictive relevance.

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks



CRI= Credit risk identification, CRA = Credit Risk Analysis, CRM = Credit Risk monitoring, LRM = Liquidity Risk management, EU = Uncertainty Dynamism, FP = Financial performance

Figure 3 predictive relevance (Q²)

Table 4 Predictive Relevance (Q²)

	SSO	SSE	Q ² (=1-SSE/SSO)
FP	1,296.000	987.313	0.238

Credit risk management appears to have a significant relationship with financial performance (=0.173, p = 0.013). Furthermore, liquidity risk management has a significant positive correlation with financial performance (=0.404, p = 0.000).

Financial performance refers to the degree to which financial objectives are being met or have been met. According to sample experience, the financial performance of Libyan banks is acceptable. This finding is consistent with the findings of other studies that make reference to the generally accepted definition of financial performance (Mohammad, Prajanti, & Setyadharma, 2020). The descriptive analysis establishes that there is an acceptable level of financial performance, which is 3.6 on average. The authors examined the relationship between risk management dimensions, namely risk identification, risk analysis, and risk monitoring, and financial performance. Credit risk management appears to be positively correlated with financial performance. The nature and extent of the effect of effective credit risk management on financial performance continue to be debated. Thus, previous research on credit risk management has been reviewed, and it is concluded that a bank's financial performance is typically influenced by its financial performance (Adekunle, Alalade, Agbatogun, & Abimbola, 2015; Taiwo et al., 2017).

According to the statistical analysis, banks' credit risk management and financial performance, as measured by bank managers' perceptions, had a significant positive relationship.

This finding corroborates previous research, such as (Alshatti, 2015; Bastomi, Salim, & Aisjah, 2017; Serwadda, 2018). As a result, it can be concluded that credit risk management has a sizable and positive impact on the financial performance of Libyan commercial banks. There is a positive correlation between liquidity risk management and financial performance, the study discovered. If left unchecked, liquidity issues will have a detrimental effect on a bank's financial performance. Additionally, a bank with liquidity problems may have difficulty meeting depositor demands; however, this liquidity risk can be mitigated by maintaining adequate cash reserves and expanding the deposit base. Thus, the findings indicated that managing liquidity risk has a direct effect on financial performance, which is consistent with previous research (Muriithi & Waweru, 2017; Musembi, 2018; Wisdom, Isiaka, & Ogunlowere, 2018).

With regard to the environmental dynamism as a moderate between credit risk management and financial performance, it is supported by the statistics analysis. The result of this study indicated an insignificant interaction of environmental dynamism in relation to a liquidity risk management and financial performance. This revealed the premise of a moderating role of the perceived environmental dynamism on the relationship between a liquidity risk management and financial performance is not supported. According to (Dess & Beard, 1984; Milliken, 1987) the external environment is considered uncertain when managers perceive its components as fast changing and unpredictable. In the situation, where the external environment is uncertain, it is difficult to identify a key specific strategy and managers face the difficulty of being able to make decisions deemed as appropriate for the circumstances or what might be seen as the right decision due to the high risk of making a wrong decision which can adversely impact on the company. In these circumstances, companies in an environment of high uncertainty are expected to invest more in tangible and intangible resources to gain the capabilities required for a proactive strategy to be formulated (Amit & Schoemaker, 2006).

The result differentiated somewhat with the finding of previous studies related to risk management and external environmental dynamism; which indicated that in a changeable environment companies face a significant challenge in relation to implementing an active strategy. A high level of environmental uncertainty creates a challenge, which requires a response of a more active strategy, which is specific liquidity risk management in this study (Clemens, Bamford, & Douglas, 2008; Tscheikner-Gratl et al., 2019). In addition, the finding is in contrast with the study conducted by Miller and Toulouse (1998) which stated that with a higher level of environmental uncertainty. There is a link to more active levels of strategies, when the perceived uncertainty is because of a high level of unpredictability of their customers' needs to the competitors' challenges and influential operating-related technologies. Furthermore, the study is in line with the finding of the previous research conducted by (Leonidou, Leonidou, Fotiadis, & Aykol, 2015). The study tested the moderating effect of dynamism between the globalization capability of stakeholders and companies and the adoption of a proactive environmental strategy. This suggested that in a highly dynamic environment, the ability of companies to adopt a good liquidity risk management is lower and not seen as any advance over their competitors' liquidity risk management, and in taking this stance, it would result in lower levels of financial performance.

However, a plausible explanation for this insignificant result may be linked with the characteristics of the Libyan banks. In addition, as another possible explanation is that this study employed a different research design and different statistical analysis using PLS software non-

The Effect of Credit and Liquidity Risk Management on Financial Performance: The Moderating Effects of Uncertainty Dynamism in Libyan Commercial Banks

parametric tests. Furthermore, another rationale behind this result is that the perception of the respondent managers to a dynamic environment, or to changes to environment might not easily affect the managers' strategic posture regarding liquidity risk. According to the results of the descriptive data, it showed that the mean of uncertainty of the respondent equated to 3.344 and this level refers to a stable level of environment. In a stable environment, the respondent companies' managers seemingly neglected to exert an effort to understand which liquidity risk management is appropriate to select, and these managers have an ability to predict their stakeholders' expectation for a natural or stable environment.

The study makes some policy recommendations to the country's managers and prospective investors. Credit risk and liquidity risk management appear to have an effect on the financial performance of Libyan banks. It is critical, therefore, that banks establish the necessary cash in each product segment and maintain an optimal level, which will aid in cash balance reduction. Simultaneously, banks should consider targeting corporate clients who are willing to keep a sizable cash balance in the bank for an extended period of time.

5.0 Study Limitations

Numerous methodological constraints were considered in order to conduct an effective study. While the research design was tailored to the research objectives and concentrated on the study's critical elements, this research is not without limitations. To begin, many respondents expressed disinterest in completing the questionnaire. Particularly, the politically unstable situation and fear of the sensitivity of the current situation in Libya complicated the research.

Second, this study relied on self-reporting by Libyan banking industry executives and middle management. Because the questionnaire was structured in such a way that it was approached by individual banking managers, the issue of common method variance was unavoidable. Common method variance is a problem in research when response variability overlaps as a result of data collection from a single source. To rule out this possibility, the Harman-single factor test with unrotated factor analysis was used. Because the first factor did not account for the majority of the variance, the common method variance posed a limitation in this study.

6.0 Future Research Recommendations

The study presents the following recommendations based on empirical data to help improve credit risk management and achieve financial benefits. The importance of risk identification, risk analysis, and risk monitoring in credit risk management should be taken into account by Libyan commercial banks. A good credit granting procedure, sufficient credit administration that includes monitoring, processing, and adequate controls over credit risk are required for banks to develop an effective credit risk management system. Banks should implement effective credit risk management strategies by conducting good credit evaluation before making loans to consumers in order to reduce their exposure to credit risk. The current study also focused on the bank's credit and liquidity risk management to assess its performance. According to the study, non-researched factors contribute 55.5% to bank financial performance, whereas studied factors explain 44.5 percent. Thus, future studies may look at additional aspects that effect a bank's financial performance.

Furthermore, because risk management contributes significantly to bank financial success, banks should prioritise risk management. To reduce loan risk and maximise performance, banks must commit more cash to default rate control while maintaining optimal capital adequacy.

Considering external contextual aspects (environmental dynamic) when studying banking issues is critical to achieving a correct result. To be more specific, understanding the poor financial and non-financial performance of Libyan banks involves understanding external causes, particularly the dynamic environment that influenced risk management in Libyan commercial banks.

7.0 Conclusion

This study has finalized that credit risk management and liquidity risk management are major antecedents for the financial performance in the Libyan banking industry. Moreover, environmental dynamism found to have influential impact on the relationship between credit risk management and liquidity risk management implying that financial performance can be easily achieved with the interference of environmental dynamism. On the other hand, the environmental dynamism does not have influential impact on the relationship between liquidity risk management and financial performance. It is of sure that if the Libyan banking industry considers these findings of the study, they can perform well and most importantly, they can achieve superior financial performance.

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