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Risk management practices: A comparative study of Islamic and conventional banks in the MENA region

Fadoua Kouki[a*]

[a]*Applied Management Program, Applied College at Muhyle, King Khalid University, Kingdom of Saudi Arabia*

A B S T R A C T

The study sought to determine how bank financial performance (BFP) was affected by credit risk (CR), liquidity risks (LR), operational risks (OR), financing risks (FR), market risks (MR), in the presence of risk management (RM) as a moderator in conventional and Islamic banks in the Middle East and North Africa. To this end, stratified random sampling and systematic sampling methods were used, with a sample size of thirty conventional banks and thirty Islamic banks from the Kingdom of Saudi Arabia and the Arab Republic of Egypt acting as the unit of analysis. 344 participants that were targeted had completed questionnaires that could be analyzed. The database of the target banks was used to quickly and affordably choose samples. Structural equation modeling was done in conjunction with a tool named Smart PLS 4 (SEM). A 92% reliability coefficient was used to evaluate the instrument's dependability. By assessing study variables using commonly used terminology and consulting with subject matter experts on the research issue, the content validity of the findings was confirmed. PLS 4 was one of the clever analytical approaches used to characterize the study's findings. The following describes the relationship between risk management practices and BFP when utilizing a modified variable (RM): "The study showed that CR does not positively affect BFP in conventional banks when employing a modified RM variable. The study demonstrated that the risk ratio had no positive influence on BFP in Islamic banks using a modified RM variable. It has been established by study that LR has no positive impact on BFP. The study also demonstrated that the LR has no positive effects when the variable RM rate is used in conventional banks. The study's findings demonstrated that the OR does not change when the variable RM rate is used. It is advantageous for BFP in traditional banks. The study discovered that there is a negative correlation between OR and BFP in Islamic banks and that OR has no beneficial effect on BFP when the RM rate variable is included. The study's findings demonstrated a favorable correlation between OR and BFP. The research indicates that in typical banks, FR does not positively increase BFP when employing the adjusted RM variable. The study discovered that there is no correlation between FR and BFP in Islamic banks when the modified RM variable is used. Rather than suggesting a good association between FR and BFP, the results pointed to a negative investigation.

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1. Introduction

Risk has long been a major worry for businesses, particularly banks and financial institutions. Because banks handle depositors' money and every transaction involves risk, the banking industry is especially susceptible to it (Bessis, 2011). In addition, the fierce competition found in banks necessitates the efficient application of risk management techniques (Bulbul et al., 2019). Thus, risk management is essential to a company or bank's ability to succeed (De Angelo & Stulz, 2015; Al-Hakimi et al., 2022). The issues that banks face in the modern era include rising market volatility, the creation of new products and derivatives, rising risk management costs, changing IT systems, and the global financial crisis. Because these variances

* Corresponding author
E-mail address shakeralkhatani@gmail.com (F. Kouki)

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necessitate ongoing risk management framework upgrades, a comprehensive and customized framework is needed to address these challenges (Abu Hussein & Al-Ajami, 2012). Since it only included credit risk analysis along with comprehension, the five-step risk management method studied by Al TAl Tamimi and Al Mazrouei (2007) and Hassan (2009) was insufficient to mandate appropriate risk management procedures for the worldwide banking sector. Risks include those related to risk identification, assessment, analysis, and monitoring. Basel I concentrated on credit risk analysis and management because, although credit risk was thought to be the primary risk that banks faced at the time, operational and liquidity risk are now thought to be either more or equally dangerous for banks (Abu Hussein & Al-Ajmi, 2012; Reda Bilal et al., 2013) .These results were further reinforced by Basel II and Basel III, which identified operational and liquidity concerns as major hazards for banks and developed laws to efficiently control them. The primary factor making the situation worse during the financial crisis is poor liquidity management. The Basel Committee on Banking Supervision, (2008) states that liquidity risk management needs to be a fundamental component of banks' entire risk management and governance structure. Operational risk is currently receiving a lot of attention because operational risk occurrences are becoming more frequent as financial institutions evolve (Chernobai et al., 2018) and because they have resulted in significant losses (Neifar & Jarboui, 2018). Since there is little empirical research on risk management procedures in banks in lower middle-income nations like Pakistan, risk management has grown in significance (Shafiq & Nasr, 2010) .According to Aurangzeb (2012), banks dominate Pakistan's financial industry, which is an emerging economy. Like many other countries, Pakistan has two banking systems. Islamic banks coexist alongside conventional banks, accounting for 15% of the asset base and 17% of deposits, respectively (State Bank of Pakistan, 2019). In comparison to Malaysia and the Middle East, the worldwide portfolio's share of deposits was 1.75 percent (Islamic Financial Services Board [IFSB], 2015). Nonetheless, Islamic banks have enormous expansion potential because they are located in a country where 98% of the population is Muslim .Even though both kinds of banks carry out the same two primary tasks: mobilizing money and providing utility services they differ significantly from one another when it comes to how various goods and services are implemented and run (Nasser & Mohamed, 2013). In contrast to conventional banks, all transactions conducted by Islamic banks adhere to Islamic law and are free from usury (based on profit and loss sharing). Despite having distinct conceptual frameworks, both financial systems encounter risks when carrying out various operations and managing diverse product and service categories.

The risk exposure for Islamic banks, however, is dual since they have to abide by both Islamic Sharia laws and the ordinary rules of conventional banks. Given these facts, it is helpful to examine and contrast the procedures and risk management strategies of these two distinct but related banking systems that operate in the Middle East and North Africa in order to identify their relative advantages and weaknesses. Additionally, there are three key factors to consider when contrasting Islamic and conventional banks: 1. the financial sector is expanding well; 2. Islamic banks fared well throughout the financial crisis and gained greater traction among Muslims (Ouerghi, 2014); 3. Islamic banks adhere to the same fundamental banking laws and accounting standards as conventional banks (Khan et al., 2017). While the present study builds on previous empirical research on risk management practices in Middle Eastern and North African banks (Shafiq & Nasr, 2010; Khaled & Amjad, 2012; Nazir et al., 2012; Shafiq et al., 2013, Reda Bilal et al., 2013; Rehman. et al., 2017), it also adds to the body of literature by taking into account two additional aspects of banks' risk management process practices: operational risk analysis (ORA) and liquidity risk analysis (LRA) practices. Five-step risk management process: credit risk analysis, monitoring, assessment, identification, and comprehension of risks. Despite compelling evidence that operational and liquidity risk are just as essential as credit risk, no research has yet integrated these two risks into the risk management process. By investigating the risk management processes (RMPs) of Islamic and conventional banks in the Middle East and North Africa using the following seven risk management process aspects: understanding, identifying, and assessing risks this research aims to significantly contribute to the current model of risk management framework for banks. Operational risk analysis, credit risk analysis, liquidity risk analysis, and risk monitoring. More particularly, the purpose of this study is to compare risk management procedures in Islamic banks and conventional banks, as well as to examine the effects of risk management practices, such as operational and liquidity risks, on risk management practices in both types of banks. This is how the rest of the paper is structured. In Section 2, theories are presented and the literature that is pertinent to risk management techniques is reviewed. The data and analytic methodology are explained in Section 3. The study's preliminary and inferential analyses are discussed and results are presented in the fourth section. The paper is concluded in Section 5.

2. Review of Literature and Hypothesis Development

While institutional theory stresses the development and use of risk management procedures and practices to reduce these risks, agency theory emphasizes the existence of risks in an organization (Jensen and Meckling, 1976; Howden & Hamed, 2014). Conflicts of interest between principals (stakeholders) and agents (managers) give birth to the agency dilemma, which exposes banks to a variety of hazards since managers frequently abuse their position of authority for personal gain (Jensen and Meckling, 1976). In light of this, institutional theory contends that a consistent set of guidelines is required to create an efficient framework for risk management practices. Tolbert and Zucker (1983) defined institutionalization as “the process by which components of a formal structure become widely accepted, as appropriate and necessary, it serves legitimate organizations” (p. 5), and this can be accomplished through institutionalization. It has been observed that the environment, technology, and size of the business all affect how risk management procedures are implemented (Collier & Wood, 2011).

The main driving force behind the implementation of risk management strategies will come from government policies found in the environment. According to Hudin and Hamid (2014), risk management implementation is influenced by innovation (new goods and services), communication, time, and social systems. Therefore, developing and putting into practice a strong framework for risk management is just as important for Islamic banks as it is for conventional banks in order to solve the agency problem and safeguard the interests of all parties involved in the business, such as creditors, employees (Van Greuning & Iqbal, 2008; Hasan, 2009). Clients, etc. The most significant stakeholders are the consumers, particularly those who use in-service industries like banking. Although they ought to have faith in the company, bankruptcies and other financial difficulties can erode that faith. By assisting in resolving these problems and boosting client confidence, risk management increases the value of the company (Klimczak, 2007). The method of managing risks involves steps. As stated by Bessis (2011), "It functions via three defensive lines, namely: 1) business lines. 2) The enterprise's operations, which include finance, human resources, risk management, compliance, and legal. Third-party auditing (pp. 9). Hassan (2009) and Al-Tamimi and Al-Mazrooei (2007) conducted empirical tests of the risk management process for the Islamic banks and conventional banks of Brunei Darussalam and the United Arab Emirates, respectively. They stated that the Risk Management Process (RMP), which consists of five steps Understanding Risk and Risk Management (URRM), Risk Identification (RI), Risk Analysis and Assessment (RAA), Risk Monitoring (RM), and Credit Risk Analysis (CRA) is the basis for risk management practices (RMPS). The findings showed that, in both conventional banks and Islamic banks, the RI and the RAA could have a greater impact on the RMPS than the other components of the RMP. Furthermore, Hassan (2009) noted that Islamic banks performed marginally better at risk management than did traditional banks. Since then, a substantial amount of research has been done to examine the risk management procedures used by conventional and Islamic banks that operate throughout the Middle East and North Africa.

All facets of the RMP were substantially correlated with the RMPs of Islamic banks and commercial banks, according to a thorough comparison research conducted by Abu Hussain and Al-Ajmi (2012) on the RMPS of Islamic banks and conventional banks in Bahrain. The RAA, the RI, the RMPs, the RM, and the RI are factors that determine the quality of the RMPS, even if Islamic banks and conventional banks were relatively efficient in these areas. Conventional banks and Islamic banks differed significantly in terms of the URRM, although having similarities in the RI, RM, RAA, and CRA. According to Mohad Arrifin and Kassim (2011), Malaysia's Islamic banks are effective at RMPs, but there is still opportunity for development. Hassan (2011) noted that five Middle Eastern countries' conventional and Islamic banks were fully aware of the significance of risk and how to manage it. Additionally, the banks that made up the study's sample handled the RI, RAA, and RM, as well as the management of various risk kinds, with effectiveness. According to Sleimi (2020), Jordanian banks' risk management methods were significantly correlated with all five parts of the risk management process, which in turn led to improved performance. Basel III's risk management procedures and their use in Pakistan, Bahraini, and United Arab Emirates banks were examined by (Raza Bilal et al., 2013). According to their research, there was a noteworthy correlation between the RMU, RAA, RI, and CRA and the RMPs of Bahrain's Islamic and conventional banks. Additionally, they discovered that all aspects of the risk management process in Pakistan banks had a substantial correlation with the RMPs, and that the RMU, IOR, and RAA had a significant impact on risk management practices in UAE institutions. Similarly, Muhammad et al. (2018) proposed that the risk management strategies of Pakistan's commercial banks were determined by the URM, RI, RAA, RM, and CRA . Actually, the two most important parts were the RM and the RAA. However, Khalid and Amjad's (2012) study found a favorable correlation between the RMPs in Pakistan's Islamic banks and every facet of the risk management process. Nonetheless, it was shown that the RM and the URM had the most impact on the RMPS. Credit risk analysis, risk monitoring, and risk comprehension, according to Nazir et al. (2012), were the three most crucial components of the RMP and had a big impact on the RMPS of Islamic banks of Pakistan. Additionally, they contended that the RMPS of Islamic banks and conventional banks differ significantly. In the meantime, Shafique et al. (2013) came to the conclusion that Pakistan's Islamic banks and conventional banks use the same risk management procedures. This discrepancy indicates that local regulatory frameworks and compliance levels at different times have a big impact on banks' RMPs. It is true that there are notable differences between conventional banks and Islamic banks with regard to RMPS, RI, and liquidity risk assessments. Furthermore, Islamic banks perform well in the RI and RMPS, while traditional banks perform well in liquidity analysis. In addition to credit risk, yet another wave of research indicates that the biggest risks facing banks are liquidity risk and operational risk (Hassan, 2009; Abu Hussain & Al-Ajmi, 2012; Raza Bilal et al., 2013; Shafiquet al., 2013; Al-Ali & Naysary, 2014). Whereas conventional banks face credit risk, liquidity risk, interest rate risk, foreign exchange risk, and operational risk (Shafique & Nsar, 2010; Alam & Maskujama, 2011; Wood et al., 2013; Basel II, 2004), Basel III, 2010; IFSB, 2005), Islamic banks face credit risk, liquidity risk, foreign exchange risk, operational risk, and Shariah risk (Ariffin et al., 2009; Rehman et al., 2017). Credit, liquidity, operational, and market risk are the four main risks that banks should manage, according to Basel II (2004), Basel III (2010), and IFSB (2005). The 2007–2009 financial crisis served as a fresh reminder of the significance of liquidity risk. During the crisis, banks with substantial capital even experienced liquidity problems (Jenkinson, 2008).

Liquidity management is therefore the primary goal of Basel III (2010) (Giordana & Schumacher, 2013). High-quality liquid assets (HQLA) and the liquidity coverage ratio (LCR) were introduced in Basel III to solve the liquidity issue. Just like other bank types, Islamic banks need to have liquidity (Bello et al., 2017). Islamic banks have liquidity problems because there aren't many options or instruments available to them in accordance with Shariah requirements, not because of a lack of liquidity coverage (Archer & Karim, 2013). According to JJaffar and Manarvi (2011) and Kassim and Abdulle (2012)

comparative analyses of the performance of Islamic and conventional banks, the fact that Islamic banks offer fewer Islamic investment options may contribute to their greater liquidity. Similarly, Akhter et al. (2011) and Rehman et al. (2017) came to the conclusion that the Middle East and North Africa's conventional banks handled their liquidity better than the Islamic banks. Over the past ten years, operational risk identification and management have become increasingly important due to the massive losses that financial institutions have experienced as a result of excessive operational risk. For instance, dishonest business practices caused losses for Bernard L. Madoff Investment Securities (USD 17 billion), General Society (Euro 6.3 billion), Rabobank (USD 1 billion), and Fondiaria -SAI (252 million euros) in 2013. Financial institutions should take note of these losses as a warning, as it is now crucial for them to recognize, track, and efficiently manage operational risks (Neifar & Jarboui, 2018). For banks, operational risk management is essential for the following reasons: 1) Operational risks lead to significant losses; 2) operational risks originate internally, as a result of inadequate internal control; and 3) inadequate operational risk management is a sign of weakness in other areas of the risk management system as well (Chernobai et al., 2018). Moreover, Raza Bilal et al. (2013) have determined that operational risk is the biggest threat facing banks. Both kinds of banks in Pakistan had a serious cyber security incident in October 2017 that resulted in a loss of over $6 million USD. This occurrence highlights the necessity for banks to strengthen their information systems, which falls under the category of operational risk. Shariah non-compliance risk, or the likelihood that shariah laws and principles won't be followed in the bank's operations, is another distinct operational risk that Islamic banks must deal with. This risk is linked to the fiduciary duties Islamic banks have to fund providers under a two-tier Mudarabah contract, such as Mudarib (entrepreneurs). The bank is responsible for returning monies to the original fund provider in the event that Mudarib engages in irresponsible or unethical behaviour. Thus, for Islamic banks, operational risk management is even more important. It is arguable from the talks above that the agency problem necessitates banks implementing uniform risk management procedures. The most important risks for both conventional and Islamic banks are liquidity and operational risks, hence these should be included in the risk management process in addition to credit risk. Given that both types of banks' risk management procedures and practices differ from one another in some regions of the world while remaining the same in others, the following theories can be put forth:

H1: CR → BFP
H2: FR → BFP
H3: LR → BFP
H4; MR →BFP
H5: OR → BFP
H6: RM → BFP
H7: RM × CR → BFP
H8: RM × LR → BFP
H9: RM × OR → BFP
H10: RM × FR → BFP
H11: RM × MR → BFP

Table 1
Study variables and their codes

Element	Code
Credit risk	CR
Liquidity risk	LR
Operational risks	OR
Financing risks	FR
Market risk	MR
Risk Management	RM
Bank financial performance	BFP

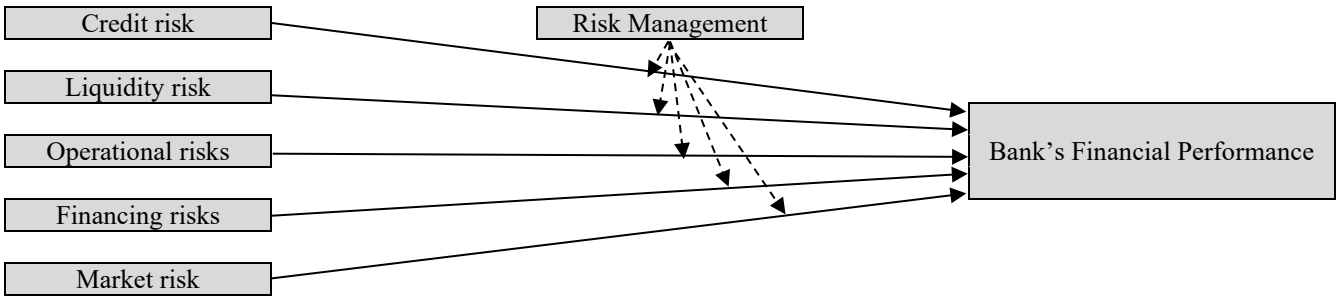

Fig. 1. Research model

3. Methodology

3.1 Research design

The research employed a positive methodology and quantitative modelling technique. The study's objectives were to ascertain the direct effects of CR, LR, FR, OR, MR, and RM on BFP as well as the function of RM in altering the link between CR, LR, FR, OR, MR, and BFP in Middle Eastern conventional and Islamic banks. represented in the Arab Republic of Egypt, as well as in Saudi Arabia and North Africa.

3.2 sample

With a sample size of 35 Islamic banks from the Kingdom of Saudi Arabia and the Arab Republic of Egypt as well as 30 conventional banks from the same two countries acting as the unit of analysis, the study employed stratified random sampling and systematic sampling techniques. Of the 450 respondents that were targeted, 373 completed questionnaires were discovered; convenience sampling, a non-probability sampling approach, was employed to gather data; 29 of the completed forms were damaged and unfit for analysis, leaving 344 completed forms valid for analysis. The target banks' database was used to efficiently and affordably choose samples. Software called Smart PLS 4 (SEM) was used in conjunction with structural equation modelling. The tool's reliability was assessed using a 92% reliability coefficient. The content validity of the findings was verified by assessing study variables using generally recognized terminology and speaking with subject matter experts regarding the research topic. The study's findings were characterized using the intelligent PLS 4 analytic tools.

3.3 Data collection tool

Data was gathered from middle and senior management as well as the risk departments of the targeted banks in the Kingdom of Saudi Arabia and the Arab Republic of Egypt using specifically created questionnaires. A modified variable, a dependent variable, and five independent variables are included. There are four question items for each of the independent and modified variables, and five paragraphs measuring the dependent variable are also included. The questionnaire was created using a five-point Likert scale, with responses ranging from “strongly disagree” (1) to “strongly agree” (5). Using a modified risk management variable, the questions were designed to determine the impact of the five risk management techniques found in the study on the financial performance of conventional and Islamic banks. The procedure of gathering data took place between February and May of 2024.

Since the information required regarding various aspects of risk management procedures and processes is not usually disclosed in banks’ annual reports or any other reports issued by central banks, primary data was collected using a self-survey questionnaire (Bu Hussein and Al-Ajmi, 2012). Furthermore, researchers can explain their findings and inspire participants, who can complete the survey at their convenience (Sekaran & Bougie, 2016). The questionnaire used in this study was adapted from risk management practices and practice measurement studies conducted by (Al Tamimi and Al Mazrouei (2007) and Hassan (2009). Since the questionnaire constructs had already been piloted and validated, it was approved (Bryman & Bell, 2012). These reputable and previously validated concepts provide accurate measurements that lead to positive outcomes (Sekaran & Bougie, 2016).

4 items were adopted to measure the CR variable from (Reza Bilal et al., 2013), and 4 items were adopted for the LR variable from (Khalid & Amjad, 2012). They had previously used the constructs in their investigations to examine risk management procedures and methods in Pakistani banks. 4 items were adopted for the OR variable from Rahman et al. (2017), while 4 items were adopted for the FR variable from (Al-Tamimi and Al-Mazroui, 2007). 4 items were also adopted from (Sekaran & Bougie, 2016) to measure the MR variable. As for the modified variable represented by RM, it was measured in 4 items from liquidity (Bello et al., 2017), while for the modified variable represented by BFP, it was measured by Khan et al., (2017) and Khan and Ahmed (2001) through 5 items as well.

4. Results

The data was analyzed using partial least squares-structural equation modeling (PLS-SEM) with SmartPLS 4.0. The data analysis process involved two steps (Hair et al., 2017). Testing the structural model happens after evaluating the measurement model. PLS-SEM is widely utilized in management research due to its numerous advantageous characteristics (Al-Kahtani & Al-Mekhlafi, 2024; Goaill, 2022; Al-Swidi et al., 2023; Goaill et al., 2023). Moreover, PLS-SEM allows the measurement and structural models to be analyzed simultaneously, resulting in accurate measurements (Barclay et al., 1995; Al-Hakimi et al., 2021).

4.1 Measurement model

The proposed model depicted in Fig. 1 was empirically validated in this work using structural equation modeling (SEM) technique (Bou-Llusar et al., 2023). First, in the statistical investigation of the model's validity, factor analysis (PCA) was used to confirm the unidimensionality of all three sets of latent variables in the observed model (Kingir & Mesci, 2010). The results of factor loading and the percentage of variance explained by the unit dimension factor are shown in Table 3. Confirmatory factor analysis (CFA) uses a control or measurement model that is selected to guarantee the test model's validity and reliability. Because all seven sets of variables have Cronbach's alpha values larger than 0.7, the data can be utilized to assess the proposed model (Bou-Llusar et al., 2009). Structural equation modeling (SEM) is used to examine the discriminant validity of the various question sets by comparing pairs of latent question sets found in the measurement model. Table 3 displays the results of discriminant validity as well as correlations between the three sets of questions. The highest degree of correlation among the independent variables is 0.901, or MR, based on the findings of the SEM and Pearson correlation coefficients. The remaining values or scores fall between these two values, with LR represented by the lowest score on this

axis, 0.767. The greatest score, or value, in the adjusted variable used to quantify RM is 0.915, while the lowest score is 0.817. Between these two values is where the remainder lies. It is seen that the dependent variable has a maximum score of 0.884, denoted by BFP. The remaining scores range between these two figures, with 0.806 being the lowest. The statistical data to validate the model in Figure 3 is processed using the program LISREL v.16 because the data's statistical reliability was deemed sufficient. The degree to which the suggested model matches the input data is assessed using the indicator's starting values. The findings from the fit index study are shown in Table 3. The goodness-of-fit index (CFA) measures how well a model applies to a scenario in which there is no model. An increased GFI value is probably the outcome of increasing the statistical sample size. The S.d. standard deviation square error index (CFA) calculates the misfit for each degree of freedom. There is a suitable range for the RMSA value. Table 5 shows the values of (PCA, reliability, convergent validity, see Table 2).

Table 2
Reliability and Validity Analysis PCR

	Commercial banks			Islamic banks		
Variable	Items	loading	VIF	Items	loading	VIF
BFP	BFP1	0.806	2.151	BFP1	0.840	3.125
	BFP2	0.878	3.268	BFP2	0.872	3.937
	BFP3	0.884	3.180	BFP3	0.857	2.693
	BFP4	0.883	3.793	BFP4	0.819	2.448
	BFP5	0.829	2.950	BFP5	0.805	2.185
CR	CR1	0.872	2.530	CR1	0.874	2.441
	CR2	0.878	2.625	CR2	0.908	4.413
	CR3	0.889	2.602	CR3	0.937	5.818
	CR4	0.798	1.826	CR4	0.890	3.016
FR	FR1	0.875	3.103	FR1	0.873	2.547
	FR2	0.899	3.524	FR2	0.891	2.943
	FR3	0.903	3.396	FR3	0.890	2.936
	FR4	0.877	2.942	FR4	0.822	1.828
LR	LR1	0.767	1.574	LR1	0.845	2.089
	LR2	0.892	3.224	LR2	0.819	2.041
	LR3	0.907	3.929	LR3	0.854	2.632
	LR4	0.845	2.309	LR4	0.832	2.487
MR	MR1	0.895	3.681	MR1	0.882	2.808
	MR2	0.926	4.734	MR2	0.908	3.356
	MR3	0.901	3.189	MR3	0.898	3.148
	MR4	0.863	2.438	MR4	0.869	2.720
OR	OR1	0.823	2.113	OR1	0.807	1.790
	OR2	0.879	2.680	OR2	0.901	4.513
	OR3	0.845	2.060	OR3	0.905	4.636
	OR4	0.793	1.639	OR4	0.804	1.758
RM	RM1	0.817	1.894	RM1	0.829	2.163
	RM2	0.894	4.362	RM2	0.818	2.052
	RM3	0.915	4.861	RM3	0.870	3.041
	RM4	0.866	2.310	RM4	0.881	3.216

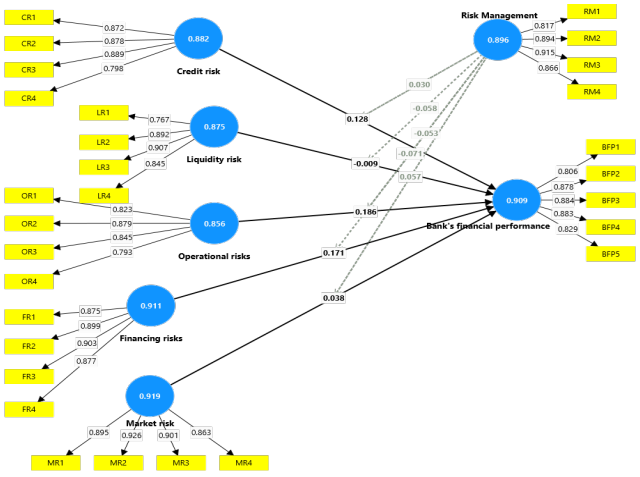

Fig. 2. The PLS algorithm of the measurement model (Commercial banks)

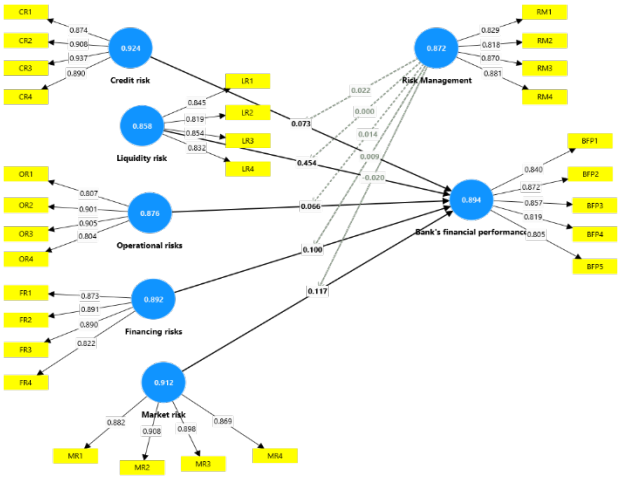

Fig. 3. The PLS algorithm of the measurement model (Islamic banks)

Table 3
CFA

		Conventional (commercial) banks					Islamic banks				
		CFA					CFA				
Variables	Items	Beta	Sample mean (M)	S.d	T values	P values	Beta	Sample mean (M)	S.d	T values	P values
BFP	BFP1	0.806	0.804	0.024	33.009	0.000	0.840	0.839	0.021	39.368	0.000
	BFP2	0.878	0.877	0.016	53.772	0.000	0.872	0.871	0.018	48.839	0.000
	BFP3	0.884	0.883	0.018	49.998	0.000	0.857	0.856	0.017	50.621	0.000
	BFP4	0.883	0.882	0.016	55.886	0.000	0.819	0.818	0.026	32.017	0.000
	BFP5	0.829	0.828	0.023	35.676	0.000	0.805	0.804	0.022	36.979	0.000
CR	CR1	0.872	0.871	0.017	50.384	0.000	0.874	0.873	0.016	53.105	0.000
	CR2	0.878	0.878	0.016	56.108	0.000	0.908	0.907	0.014	64.215	0.000
	CR3	0.889	0.889	0.015	57.796	0.000	0.937	0.936	0.010	93.592	0.000
	CR4	0.798	0.797	0.029	27.785	0.000	0.890	0.889	0.015	60.686	0.000
FR	FR1	0.875	0.874	0.019	46.285	0.000	0.873	0.872	0.016	54.446	0.000
	FR2	0.899	0.898	0.015	61.352	0.000	0.891	0.890	0.016	55.829	0.000
	FR3	0.903	0.902	0.012	76.566	0.000	0.890	0.888	0.018	49.316	0.000
	FR4	0.877	0.875	0.016	56.303	0.000	0.822	0.821	0.021	38.758	0.000
LR	LR1	0.767	0.765	0.034	22.368	0.000	0.845	0.844	0.017	49.729	0.000
	LR2	0.892	0.891	0.014	65.118	0.000	0.819	0.818	0.024	34.272	0.000
	LR3	0.907	0.906	0.012	72.810	0.000	0.854	0.852	0.022	39.139	0.000
	LR4	0.845	0.844	0.020	41.887	0.000	0.832	0.830	0.026	31.772	0.000
MR	MR1	0.895	0.894	0.016	55.432	0.000	0.882	0.882	0.015	60.007	0.000
	MR2	0.926	0.926	0.010	91.013	0.000	0.908	0.908	0.011	80.651	0.000
	MR3	0.901	0.900	0.013	69.850	0.000	0.898	0.897	0.014	64.262	0.000
	MR4	0.863	0.862	0.018	47.198	0.000	0.869	0.868	0.018	49.586	0.000
OR	OR1	0.823	0.823	0.025	32.801	0.000	0.807	0.806	0.026	31.029	0.000
	OR2	0.879	0.878	0.015	58.075	0.000	0.901	0.900	0.014	62.449	0.000
	OR3	0.845	0.845	0.018	46.215	0.000	0.905	0.903	0.014	63.174	0.000
	OR4	0.793	0.791	0.029	27.301	0.000	0.804	0.802	0.027	29.990	0.000
RM	RM1	0.817	0.816	0.024	34.246	0.000	0.829	0.827	0.025	33.629	0.000
	RM2	0.894	0.893	0.016	55.312	0.000	0.818	0.817	0.023	35.800	0.000
	RM3	0.915	0.914	0.013	70.319	0.000	0.870	0.870	0.017	50.268	0.000
	RM4	0.866	0.865	0.020	43.218	0.000	0.881	0.880	0.016	55.525	0.000

The findings, which are also shown in Table 3, show that the test model's values are statistically reliable because the majority of the variables have significance levels of $p < 0.05$. Furthermore, according to Ho (2006), all t-values larger than 2 show that there is no difference between the sample and the population. Cronbach's alpha in Table 4 of the research model is utilized to assess the coherence of variables within particular latent groups (Cronbach, 1951). The obtained values of Cronbach's alpha, which are more than 0.7 (Table 5) inside seven groups five of which are outlier groups and two of which are particular latent groups of variables in the tested model show the satisfactory coexistence of some values of the variables and the variables themselves.

Table 4
Construct reliability and validity

Variables	Conventional (commercial) banks				Islamic banks			
	Cronbach's alpha	Composite reliability		AVE	Cronbach's alpha	Composite reliability		AVE
		(rho_a)	(rho_c)			(rho_a)	(rho_c)	
BFP	0.909	0.909	0.932	0.734	0.894	0.895	0.922	0.703
CR	0.882	0.886	0.919	0.740	0.924	0.925	0.946	0.815
FR	0.911	0.912	0.938	0.790	0.892	0.892	0.925	0.756
LR	0.875	0.878	0.915	0.730	0.858	0.862	0.904	0.702
MR	0.919	0.919	0.943	0.804	0.912	0.913	0.938	0.792
OR	0.856	0.857	0.902	0.698	0.876	0.877	0.916	0.732
RM	0.896	0.896	0.928	0.764	0.872	0.874	0.912	0.723

Structural equation modeling was applied in this investigation using the PLS smart metering evaluation model. Table 4 evaluates the measuring model's construct validity (convergent and discrete validity) as well as construct reliability. Given that Cronbach's alpha and composite reliability values are greater than 0.7 (Cannan et al., 2005; Vertz et al., 1974), construct reliability was fulfilled, as evidenced by the results in Table 4. Commercial banks and Islamic banks have greater than 0.7 Cronbach's alpha ratings. Both the composite reliability values (rho_a) and (rho_c) for Islamic and commercial banks, respectively, are higher than 0.7. Since the factor loading values exceed the recommended value of 0.5, the average variance extracted (AVE) indicator reliability is likewise guaranteed (Ringle et al., 2017; Babin et al., 2010). Because the average variance extracted (AVE) values from Table 5 are more than 0.5, convergent validity is satisfied (Babin et al., 2010). Furthermore, discriminant validity is satisfied. Based on the criteria of (Fornell et al., 1981), the AVE values in bold in Table 4 are greater than the correlations between variables. The concept validity and reliability results are displayed in Table 4.

Table 5
Discriminant validity (HTMT)

	Conventional (commercial) banks	Islamic banks
Variables	Discriminant validity (HTMT)	Discriminant validity (HTMT)
CR → BFP	0.865	0.786
FR → BFP	0.887	0.881
FR → CR	0.886	0.798
LR → BFP	0.866	0.977
LR → CR	0.918	0.788
LR → FR	0.903	0.894
MR → BFP	0.863	0.894
MR → CR	0.895	0.856
MR → FR	0.874	0.940
MR → LR	0.910	0.901
OR → BFP	0.897	0.902
OR → CR	0.891	0.840
OR → FR	0.894	0.887
OR → LR	0.910	0.937
OR → MR	0.897	0.947
RM → BFP	0.923	0.938
RM → CR	0.869	0.813
RM → FR	0.893	0.918
RM → LR	0.908	0.955
RM → MR	0.902	0.930
RM → OR	0.882	0.958

Credit risk = CR , Liquidity risk - LR , Operational risks = OR , Financing risks =FR , Market risk =MR , Risk Management =RM , Bank's financial performance = BFP

Table 6
Cross loading

	Conventional (commercial) banks							Islamic banks						
Variables	BFP	CR	FR	LR	MR	OR	RM	BFP	CR	FR	LR	MR	OR	RM
BFP1	**0.806**	0.681	0.676	0.672	0.659	0.677	0.782	**0.840**	0.664	0.702	0.716	0.714	0.753	0.746
BFP2	**0.878**	0.660	0.660	0.653	0.681	0.665	0.737	**0.872**	0.621	0.669	0.680	0.689	0.715	0.728
BFP3	**0.884**	0.675	0.706	0.680	0.694	0.713	0.704	**0.857**	0.599	0.657	0.671	0.674	0.660	0.697
BFP4	**0.883**	0.669	0.713	0.664	0.670	0.663	0.685	**0.819**	0.558	0.632	0.694	0.655	0.601	0.659
BFP5	**0.829**	0.635	0.703	0.639	0.674	0.679	0.661	**0.805**	0.562	0.647	0.845	0.660	0.617	0.647
CR1	0.662	**0.872**	0.659	0.657	0.683	0.661	0.664	0.678	**0.874**	0.679	0.651	0.698	0.688	0.654
CR2	0.683	**0.878**	0.697	0.702	0.718	0.683	0.686	0.617	**0.908**	0.634	0.606	0.702	0.666	0.651
CR3	0.712	**0.889**	0.721	0.745	0.745	0.724	0.708	0.615	**0.937**	0.633	0.628	0.709	0.674	0.647
CR4	0.609	**0.798**	0.653	0.668	0.622	0.596	0.599	0.671	**0.890**	0.679	0.645	0.732	0.700	0.683
FR1	0.707	0.693	**0.875**	0.752	0.723	0.721	0.738	0.668	0.596	**0.873**	0.681	0.682	0.667	0.692
FR2	0.696	0.728	**0.899**	0.713	0.715	0.700	0.712	0.684	0.606	**0.891**	0.667	0.678	0.657	0.679
FR3	0.730	0.712	**0.903**	0.710	0.694	0.683	0.703	0.660	0.627	**0.890**	0.649	0.679	0.683	0.701
FR4	0.737	0.690	**0.877**	0.693	0.711	0.705	0.715	0.726	0.699	**0.822**	0.720	0.908	0.719	0.743
LR1	0.646	0.652	0.644	**0.767**	0.667	0.614	0.656	0.805	0.562	0.647	**0.845**	0.660	0.617	0.647
LR2	0.707	0.713	0.736	**0.892**	0.748	0.690	0.730	0.682	0.578	0.658	**0.819**	0.649	0.625	0.661
LR3	0.652	0.692	0.704	**0.907**	0.707	0.681	0.699	0.717	0.631	0.670	**0.854**	0.694	0.774	0.757
LR4	0.630	0.695	0.665	**0.845**	0.660	0.703	0.658	0.673	0.587	0.653	**0.832**	0.671	0.707	0.707
MR1	0.714	0.727	0.715	0.758	**0.895**	0.705	0.753	0.760	0.743	0.737	0.754	**0.882**	0.772	0.757
MR2	0.689	0.739	0.727	0.761	**0.926**	0.735	0.740	0.726	0.699	0.822	0.720	**0.908**	0.719	0.743
MR3	0.715	0.717	0.708	0.727	**0.901**	0.723	0.724	0.709	0.684	0.745	0.679	**0.898**	0.715	0.733
MR4	0.711	0.709	0.717	0.681	**0.863**	0.689	0.716	0.683	0.675	0.730	0.682	**0.869**	0.807	0.713
OR1	0.615	0.647	0.638	0.649	0.656	**0.823**	0.578	0.683	0.675	0.730	0.682	0.869	**0.807**	0.713
OR2	0.653	0.637	0.640	0.623	0.655	**0.879**	0.616	0.693	0.643	0.674	0.725	0.678	**0.901**	0.746
OR3	0.695	0.671	0.642	0.632	0.626	**0.845**	0.629	0.677	0.674	0.675	0.709	0.706	**0.905**	0.743
OR4	0.682	0.637	0.717	0.724	0.720	**0.793**	0.760	0.679	0.595	0.605	0.653	0.638	**0.804**	0.663
RM1	0.728	0.658	0.676	0.687	0.754	0.682	**0.817**	0.657	0.615	0.679	0.687	0.713	0.706	0.829
RM2	0.709	0.701	0.736	0.728	0.715	0.671	**0.894**	0.692	0.578	0.686	0.664	0.707	0.655	0.818
RM3	0.724	0.666	0.720	0.707	0.724	0.665	**0.915**	0.754	0.621	0.710	0.739	0.697	0.763	0.870
RM4	0.754	0.678	0.686	0.689	0.666	0.689	**0.866**	0.713	0.671	0.683	0.713	0.703	0.724	0.881

The control, relationship, and degree of influence of CR, LR, OR, FR, MR, and RM and BFP are displayed in the table. The table illustrates how these concepts need to be supported by bank culture in order to clearly define the relationship between CR, LR, OR, FR, MR, and BFP through RM. The findings demonstrated a connection between the research variables. Next, we look at the cross-loadings of the constructs to see if items load more heavily on related constructs than on unrelated constructs (Chin, 1998; Yi et al., 2006). The results table shows a component that has loaded its build more frequently than other versions. The investigation's findings also highlight the measurement strategy's limitations.

Table 6
SRMR

	Conventional (commercial) banks		Islamic banks	
Variables	Saturated model	Estimated model	Saturated model	Estimated model
SRMR	0.056	0.064	0.068	0.070
d_ULS	1.360	1.760	2.008	2.106
d_G	1.017	1.079	n/a	n/a
Chi-square	1953.290	1953.048	infinite	infinite
NFI	0.801	0.801	n/a	n/a

Within the PLS-SEM framework, we evaluated model fit using a set of indicators from SmartPLS 4. The standardized root mean square residual, or SRMR, is a crucial metric that illustrates the covariance between the observed correlations and the model's correlation matrix (Hair et al. 2016). The SRMR value for the saturated model, which is 0.056 for conventional or commercial banks and 0.068 for Islamic banks, indicates a remarkable fit, given that values less than 0.08 typically imply good fit (Hu and Bentler, 1998). A considerable good fit is shown by the saturated model's SRMR value, which is significantly larger than the anticipated model value and is 1.360 for conventional banks and 2.008 for Islamic banks. By comparing Chi-square values to the null or standard model (Lohmoller, 1989), the NFI assesses model fit in accordance with Bentler and Bonett's (1980) ideal criterion of 0.90. In accordance with standard procedures, the covariance matrix suggested by the composite factor model and the empirical covariance matrix were compared using the geodesic distance (d_G) and unweighted least squares (d_ULS) discrepancy functions (Hair et al., 2021; Dijkstra and Hensler, 2015). While the saturated model for (conventional) commercial banks and Islamic banks was 1.360 and 2.008, the estimated model for d_ULS revealed bigger values of 1.760 and 1.760 for commercial banks and Islamic banks. The calculated model for d_G showed larger values of 1.079 for conventional banks and n/a for Islamic banks, whereas the saturated model for (traditional) commercial banks was 1.017. It strengthens even more the superior relative fit of the saturated model. This opinion is supported by the chi-square results, which show that the saturated model has a value of 1953.290 and the estimated model has a value of 1953.048. This implies that the goodness-of-fit magnitude of the PLS-SEM model was adequate to demonstrate the PLS model's general validity. The table provides a summary of the results.

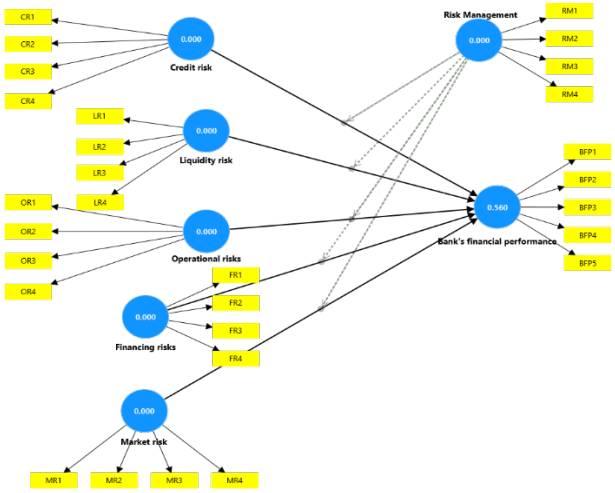

Fig. 4. The PLS algorithm of the measurement model (Commercial banks)

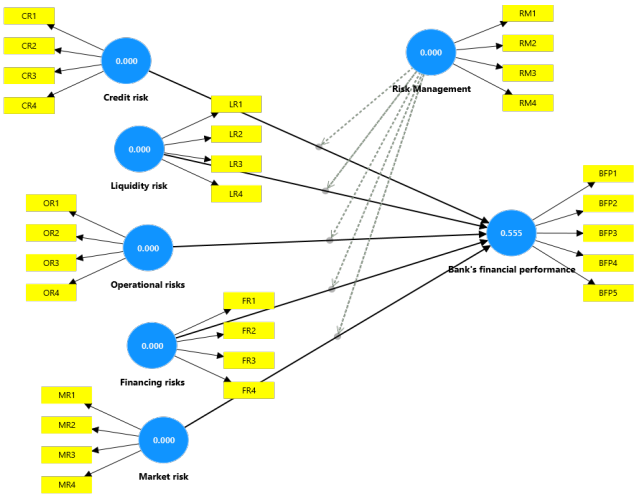

Fig. 5. The PLS algorithm of the measurement model (Islamic banks)

4.2 Structural model

Prior to evaluating the hypotheses, the structural model's fit was assessed using R2 values. Hair et al. (2018) evaluated the suggested relationships between constructs using a structural model to confirm the features of the measurement model. To assess how well the structural model fit the data, R^2 values of 0.786 and 0.805 were utilized for conventional banks and commercial banks, respectively. The R2 number indicates the portion of the dependent variable's internal volatility. Moreover, Stone-Geisser was used to assess the model's prediction ability (Q2). Peng & Lai (2012) state that the internal constructions' Q2 values are BFP 0.555, 0.560, which denotes adequate prediction and is greater than zero.

Table 7
R2 and Q2

	Conventional (commercial) banks		Islamic banks	
Variables	R-square	Q2	R-square	Q2
BFP	0.786	0.560	0.805	0.555

Hypothesis testing

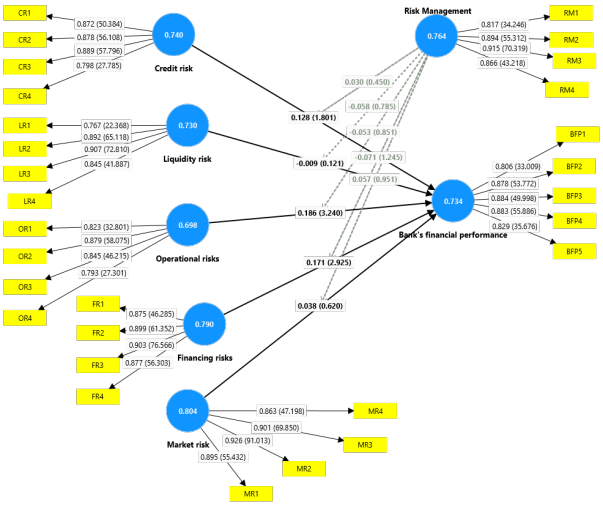

Fig. 6. The PLS algorithm of the measurement model (Commercial banks)

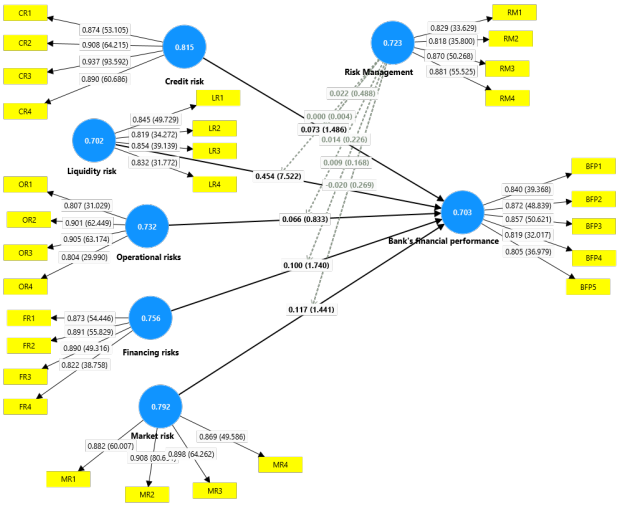

Fig. 7. The PLS algorithm of the measurement model (Commercial banks)

Table 8
Hypothesis testing

Variables	Conventional (commercial) banks						Islamic banks					
	beta	Sample mean (M)	S.d	T values	P values	Result	beta	Sample mean (M)	S.d	T values	P values	Result
CR → BFP	0.128	0.122	0.071	1.801	0.072	×	0.073	0.072	0.049	1.486	0.137	×
FR → BFP	0.171	0.168	0.058	2.925	0.003	√	0.100	0.102	0.058	1.740	0.082	×
LR → BFP	-0.009	-0.005	0.071	0.121	0.904	×	0.454	0.456	0.060	7.522	0.000	√
MR →BFP	0.038	0.036	0.061	0.620	0.535	×	0.117	0.118	0.081	1.441	0.150	×
OR → BFP	0.186	0.188	0.057	3.240	0.001	√	0.066	0.067	0.079	0.833	0.405	×
RM → BFP	0.260	0.261	0.060	4.340	0.000	√	0.210	0.208	0.076	2.763	0.006	√
RM × CR → BFP	0.030	0.037	0.067	0.450	0.653	×	0.022	0.016	0.044	0.488	0.626	×
RM × LR → BFP	-0.058	-0.058	0.074	0.785	0.433	√	0.000	-0.003	0.045	0.004	0.996	×
RM × OR → BFP	-0.053	-0.056	0.062	0.851	0.395	×	0.014	0.021	0.061	0.226	0.821	√
RM × FR → BFP	-0.071	-0.070	0.057	1.245	0.213	×	0.009	0.006	0.056	0.168	0.867	×
RM × MR → BFP	0.057	0.053	0.060	0.951	0.342	×	-0.020	-0.015	0.073	0.269	0.788	×

× Not Supported √ Supported

5. Discussion

H1: "CR → BFP positively affects conventional and Islamic banks." In the case of conventional (commercial) banks: "CR positively affects BFP in conventional banks." The study demonstrated that CR does not positively affect BFP in traditional banks. However, the relationship between CR and BFP is positive, as (beta value = 0.128; T = 1.801; P > 0.05), meaning that CR does not have a positive and significant effect on BFP in traditional commercial banks, and as a result the first hypothesis was reached in the case of commercial banks. Not accepted and not supported. In the case of Islamic banks: "CR positively affects BFP in Islamic banks." The study proved that CR does not positively affect BFP in Islamic banks. However, the relationship between CR and BFP is positive, as (beta value = 0.073; T = 1.486; P > 0.05), meaning that CR does not have a positive and significant effect on BFP in Islamic banks, and as a result it was concluded that the first hypothesis in the case of Islamic banks Not accepted and not supported. As compared to previous research (Al-Tamimi and Al-Mazrouei, 2007; Alexander, 1992; Barnhill Jr., Papapanagiotou, and Schumacher, 2002; Carey, 2001; Chanar et al., 2015; Hahm, 2004; Hadd Hassan, 2009), the current study's findings on the first hypothesis for both conventional and Islamic banks were different. However, prior research has demonstrated that CR significantly and favorably affects the BFP, which is then followed by commercial banks that are both public and private.

H2: "FR → BFP positively affects conventional and Islamic banks." In the case of traditional (commercial) banks: "The FR positively affects the BFP in traditional banks." The study demonstrated that FR positively affects BFP in traditional banks. The relationship between FR and BFP is positive, where (beta value = 0.171; T = 2.925; P < 0.05), meaning that FR has a positive and significant effect on BFP in traditional commercial banks, and as a result the second hypothesis was reached in the case of commercial banks, which is accepted and supported. In the case of Islamic banks: "The FR positively affects the BFP in Islamic banks." The study proved that FR does not positively affect BFP in Islamic banks. However, the relationship between FR and BFP is positive, as (beta value = 0.100; T = 1.740; P > 0.05), meaning that FR does not have a positive and significant effect on BFP in Islamic banks, and as a result it was concluded that the second hypothesis in the case of Islamic

banks Not accepted and not supported. FR and BFP have been reported to positively correlate in a number of research (Alexander, 1992; Carey, 2001; Khaled & Amjad, 2012). FR and RMP, however, appear to be positively correlated, according to other studies (Bowerman & O'connell, 1990; Fan & Shaffer, 2004; Hassan, 2009; Nazir et al., 2012; Shafiq & Nasr, 2010; Shafiq et al., 2013). A few. Thus, it may be inferred from the data that there are notable differences in risk management techniques between public and private commercial banks. There is a positive correlation between FR and BFP for private commercial banks and vice versa for commercial banks. In light of this, all earlier research on commercial banks agreed with the current study's second premise, but all other research on Islamic banks disagreed with it entirely.

H3: "LR → BFP positively affects conventional and Islamic banks." In the case of traditional (commercial) banks: "The LR positively affects the BFP in traditional banks." The study proved that LR does not positively affect BFP in traditional banks, and that the relationship between LR and BFP is negative, where (beta value = -0.009; T = 0.121; P > 0.05), meaning that LR does not have a positive and significant effect on BFP in banks. Traditional commercial, and as a result the third hypothesis was reached in the case of commercial banks is unacceptable and unsupported. In the case of Islamic banks: "The LR positively affects the BFP in Islamic banks." The study proved that LR positively affects BFP in Islamic banks. The study proved that the relationship between LR and BFP is positive, as (beta value = 0.454; T = 7.522; P < 0.05), meaning that LR has a positive and significant impact on BFP in Islamic banks, and as a result it was concluded that the third hypothesis in the case of banks Islam is accepted and supported. The current study differed with regard to Hypothesis 3 in the case of traditional banks with studies (Fatemi & Fooladi, 2006; Giesecke, 2004; Masood et al., 2012; Peter & Peter, 2011; Salas & Saurina, 2002) analyzing LR as a key factor for institution performance. Financial and BFR also found a positive relationship between LR and BFP, and these studies agreed with the results of the current study in the case of Islamic banks.

H4: "MR → BFP positively affects conventional and Islamic banks." In the case of commercial banks: "MR positively affects BFP in traditional banks." The study demonstrated that MR does not positively affect BFP in traditional banks. The relationship between MR and BFP is positive, where (beta value = 0.038; T = 0.620; P > 0.05), meaning that MR does not have a positive and significant effect on BFP in traditional commercial banks, and as a result the fourth hypothesis was reached in the case of non-traditional commercial banks. not Accepted and not supported. In the case of Islamic banks: "MR positively affects BFP in Islamic banks." The study proved that MR does not positively affect BFP in Islamic banks. The study proved that the relationship between MR and BFP is positive, as (beta value = 0.117; T = 1.441; P > 0.05), meaning that MR does not have a positive and significant effect on BFP in Islamic banks, and as a result it was concluded that the fourth hypothesis is in the case of Islamic banks are not accepted or supported. According to Hypothesis 4, LR, BFP, and the risk management practices used by commercial and Islamic banks are positively correlated. Effective risk identification and assessment, as well as proper oversight and reaction mechanisms, depend on having a strong framework for financial reporting, financial performance, and auditing. The RMP study and the recent research on the fourth hypothesis outcomes for Islamic banks concurred (Alexander, 1992; Carey, 2001; Khaled & Amjad, 2012). The findings of the current study's fourth hypothesis, however, did not agree with those of other studies, according to earlier research (Bowerman & O'connell, 1990; Fan & Shaffer, 2004; Hassan, 2009; Nazir et al., 2012; Shafiq and Nasr, 2010; Shafiq et al., 2013). historical data pertaining to conventional banks.

H5: "OR → BFP positively affects conventional and Islamic banks." In the case of commercial banks: "The OR positively affects the BFP in traditional banks." The study demonstrated that OR positively affects BFP in traditional banks. The relationship between OR and BFP is positive, where (beta value = 0.186; T = 3.240; P > 0.05), meaning that OR has a positive and significant effect on BFP in traditional commercial banks, and as a result the fifth hypothesis was reached in the case of commercial banks, which is accepted and supported. In the case of Islamic banks: "The OR positively affects the BFP in Islamic banks." The study proved that OR does not positively affect BFP in Islamic banks. The study proved that the relationship between MR and BFP is positive, as (beta value = 0.066; T = 0.833; P > 0.05), that is, OR does not have a positive and significant effect on BFP in Islamic banks, and as a result it was concluded that the fifth hypothesis is valid. Islamic banks are not accepted or supported.

H6: RM on BFP positively impacts conventional and Islamic banks." In the case of commercial banks: "RM positively affects BFP in conventional banks." The study shows that RM positively affects BFP in traditional banks. The relationship between RM and BFP is positive, where (beta value = 0.260; T = 4.340; P > 0.05), which means that RM has a positive and significant effect on BFP in traditional commercial banks. As a result, the sixth hypothesis was reached, and in the case of commercial banks it is accepted. And supported. In the case of Islamic banks: "RM positively affects BFP in Islamic banks." The study demonstrated that RM positively affects BFP in Islamic banks. The study proved that the relationship between MR and BFP is positive, as (beta value = 0.210; T = 2.763; P > 0.05), meaning that RM has a positive and significant effect on BFP in Islamic banks, and as a result, the sixth hypothesis was reached, and in the case of Islamic banks It is accepted and supported. The current study's findings also supported those of studies by (Abu Hussein and Al-Ajmi, 2012; Carey, 2001; Hassan, 2009; Khaled and Amjad, 2012), and others, all of which demonstrated the significance of RM in bank BFP and its status as a crucial measure of BFP, though the nature of the relationship between the two has not yet been explored. This study confirms the favorable relationship between RM and BFP shown in the works of Abu (Hussein and Al-Ajmi (2012); Al-Tamimi and Al-Mazroui (2007); Carey (2001); Chanar et al. (2015); Hassan (2009).

H7: “CR positively affects BFP when using a modified variable RM (RM x CR → BFP) in conventional and Islamic banks.” In the case of commercial banks: “CR positively affects BFP in conventional banks when using variable modified RM.” The study demonstrated that CR does not positively affect BFP in conventional banks when using modified variable RM. And that the relationship between CR and BFP is positive, meaning that RM modifies the relationship between CR and BFP where (beta value = 0.030; T = 0.450; P > 0.05), meaning that CR does not have a positive and significant effect on BFP in traditional commercial banks when using RM as a modified variable. As a result, it was concluded that RM modifies the relationship between CR and BFP, but the seventh hypothesis in the case of commercial banks is unacceptable and not supported. In the case of Islamic banks: it is that “CR positively affects BFP in Islamic banks when using a modified variable RM (RM x LR → BFP).” The study demonstrated that CR does not positively affect BFP in Islamic banks when using a modified variable RM. The study proved that the relationship between CR and BFP is positive, as (beta value = 0.022; T = 0.488; P > 0.05), meaning that RM modifies the relationship between CR and BFP, but CR does not have a positive and significant effect on BFP when using the modified variable RM. Islamic banks, and RM does not modify the relationship between LR and BFP. As a result, it was concluded that the seventh hypothesis in the case of Islamic banks is unacceptable and not supported. In contrast to previous research (Al-Tamimi and Al-Mazroui, 2007; Alexander, 1992; Barnhill Jr., Papapanagiotou, and Schumacher, 2002; Carey, 2001; Chanar et al., 2015; Hahm, 2004; Hadid Hassan, 2009), the current study's findings for the seventh hypothesis for both conventional and Islamic banks were different. (Rosman , 2009). Prior research has demonstrated that CR has a favorable and noteworthy influence on the BFP, with public and private commercial banks following suit. These studies focused on three key risk categories: foreign currency risk, credit risk, and risk management (RM).

H8: “LR positively affects BFP when using a modified variable RM (RM x LR → BFP) in conventional and Islamic banks.” In the case of commercial banks: “The LR positively affects the BFP in conventional banks when using a modified variable RM.” The study demonstrated that LR does not positively affect BFP in traditional banks when using variable modified RM. And the relationship between LR and BFP is negative, meaning that RM modifies the relationship between LR and BFP where (beta value = -0.058; T = 0.785; P > 0.05), meaning that LR does not have a positive and significant effect on BFP in traditional commercial banks when using variable RM. rate, and as a result it was concluded that RM modifies the relationship between LR and BFP, but the seventh hypothesis in the case of commercial banks is not accepted and not supported. In the case of Islamic banks: it is that “the LR positively affects the BFP when using a variable adjusted RM (RM x LR → BFP) in Islamic banks.” The study demonstrated that LR does not positively affect BFP in Islamic banks when using a modified variable RM. The study proved that the relationship between RM and BFP is positive, where (beta value = 0.000; T = 0.004; P > 0.05), meaning that LR does not have a positive and significant effect on BFP when using RM as a modified variable in Islamic banks, just as RM does not adjust the relationship between LR and BFP. As a result, it was concluded that the seventh hypothesis in the case of Islamic banks is unacceptable and unsupported.

H9: “OR positively affects BFP when using a modified variable RM (RM x OR → BFP) in conventional and Islamic banks.” In the case of commercial banks: “The OR positively affects the BFP in conventional banks when using a modified variable RM.” The study demonstrated that OR does not positively affect BFP in conventional banks when using modified variable RM. And the relationship between OR and BFP is negative, meaning that RM modifies the relationship between OR and BFP where (beta value = -0.053; T = 0.851; P > 0.05), meaning that OR does not have a positive and significant effect on BFP in traditional commercial banks when using a variable RM. Modified, and as a result it was concluded that RM modifies the relationship between OR and BFP, but the eighth hypothesis in the case of commercial banks is unacceptable and not supported. In the case of Islamic banks: it is that “the OR positively affects the BFP when using a modified variable RM (RM x OR → BFP) in Islamic banks.” The study demonstrated that OR does not positively affect BFP in Islamic banks when using a modified variable RM. The study showed that the relationship between OR and BFP is positive, where (beta value = 0.014; T = 0.226; P > 0.05), meaning that OR does not have a positive and significant effect on BFP when using RM as a modified variable in Islamic banks, but RM modifies the relationship. Between LR and BFP, as a result, it was concluded that the eighth hypothesis in the case of Islamic banks is unacceptable and unsupported.

H10: “FR positively affects BFP when using a modified variable RM (RM x FR → BFP) in conventional and Islamic banks.” In the case of commercial banks: “The FR positively affects the BFP in conventional banks when using a modified variable RM.” The study demonstrated that FR does not positively affect BFP in conventional banks when using modified variable RM. And the relationship between FR and BFP is negative, meaning that RM modifies the relationship between FR and BFP where (beta value = -0.071; T = 1.245; P > 0.05), meaning that FR does not have a positive and significant effect on BFP in traditional commercial banks when using variable RM. rate, and as a result it was concluded that RM modifies the relationship between FR and BFP, but the tenth hypothesis in the case of commercial banks is not accepted and not supported. In the case of Islamic banks: it is that “the FR positively affects the BFP when using a modified variable RM (RM x FR → BFP) in Islamic banks.” The study demonstrated that FR does not positively affect BFP in Islamic banks when using a modified variable RM. The study showed that the relationship between FR and BFP is positive, where (beta value = 0.009; T = 0.168; P > 0.05), meaning that FR does not have a positive and significant effect on BFP when using RM as a modified variable in Islamic banks, but RM modifies the relationship. Between FR and BFP, as a result, it was concluded that the tenth hypothesis in the case of Islamic banks is unacceptable and unsupported.

H11: “MR positively affects BFP when using a modified variable RM (RM x MR → BFP) in conventional and Islamic banks.” In the case of commercial banks: “MR positively affects BFP in conventional banks when using variable adjusted RM.” The study demonstrated that MR does not positively affect BFP in conventional banks when using modified variable RM. And the relationship between MR and BFP is negative, meaning that RM modifies the relationship between FR and BFP where (beta value = 0.057; T = 0.951; P > 0.05), meaning that MR does not have a positive and significant effect on BFP in traditional commercial banks when using RM as a modified variable. As a result, it was concluded that RM does not modify the relationship between MR and BFP, but the eleventh hypothesis in the case of commercial banks is unacceptable and unsupported. In the case of Islamic banks: it is that “MR positively affects BFP when using a variable adjusted RM (RM × MR → BFP) in Islamic banks.” The study demonstrated that MR does not positively affect BFP in Islamic banks when using a variable modified RM. The study showed that the relationship between MR and BFP is negative, where (beta value = -0.020; T = 0.269; P > 0.05), meaning that MR does not have a positive and significant effect on BFP when using RM as a modified variable in Islamic banks, except that RM is modified. The relationship between MR and BFP. As a result, it was concluded that the eleventh hypothesis in the case of Islamic banks is unacceptable and unsupported.

6. Conclusion

The research demonstrated that the CR ratio has no beneficial impact on the BFP in Islamic banks and that it has no positive impact on the BFP in conventional banks. The results of the study demonstrated that FR has a favorable impact on BFP in conventional banks and that it has no such effect in Islamic banks. The study's findings demonstrated that while LR has a negative impact on BFP in conventional banks, it has a positive impact on BFP in Islamic banks. According to the study, MR has no beneficial effect on BFP in conventional banks. Additionally, the study showed that MR has no beneficial effect on BFP in Islamic banks. According to the study, OR has a favorable impact on BFP in traditional banks. The research demonstrated that OR had no beneficial effect on BFP in Islamic banks. According to the study, risk management has a favorable impact on BFP in conventional banks. The study also showed how risk management in Islamic banks has a favorable impact on BFP. The following is the relationship between risk management procedures and BFP when a modified variable (RM) is used: "The study demonstrated that, when utilizing the modified RM variable, CR does not positively improve BFP in conventional banks. Using the adjusted RM variable, the study demonstrated that the risk ratio has no positive impact on BFP in Islamic banks. The research demonstrated that LR has no beneficial effect on BFP. The study also demonstrated that, when employing the variable RM rate in conventional banks, LR has no beneficial effect on BFP in Islamic banks. The results of the study demonstrated that, when the adjusted variable RM is used, OR has no beneficial effect on BFP in traditional banks. The study found that when the RM rate variable is used, OR has no positive impact on BFP in Islamic banks and that the link between OR and BFP is negative. The results of the study indicated a positive correlation between OR and BFP. The study demonstrates that, when employing the adjusted RM variable, FR does not positively improve BFP in conventional banks. The study found that when the RM rate variable is used, there is no positive correlation between FR and BFP in Islamic banks. Instead, the association between FR and BFP is negative. The results of the investigation indicated a favorable correlation between FR and BFP.

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