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PRIMARY RESEARCH

Risk Management Practices in Islamic Banking Institutions: A Perspective from Developing Economies with a Focus on Pakistan

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Abstract

Purpose: This research aims to evaluate the risk management practices in the Islamic Banking Institutions (IBIs) of Pakistan. This objective is achieved by determining the potency of risk conception within the staff members of Pakistani IBIs; evaluating the usefulness of the techniques connecting with risk understanding (RU), risk identification (RI), risk assessment & analysis (RAA), risk monitoring & controlling (RMC); and exploring other fundamental features of risk management practices (RMP) in the IBIs of Pakistan.

Research Design: This research has used a survey methodology by using a questionnaire (self-administrated) for data collection.

Findings: The study's findings indicate that IBIs are efficient in managing various risks where managing equity investment risk, managing liquidity risk, and risk assessment & analysis are essential variables in the RMP.

Originality/Significance: In this study, the researchers intend to get a broader view of RMP in IBIs of Pakistan. The researchers intend to add in the available theoretical literature by employing the "Institutional Theory" in the field of Islamic Banking and Finance.

Research Implications: Moreover, risk management departments of IBIs are required to give more attention to the management of operational and market risk. IBIs are also needed to sharpen the expertise of their team in the risk management department for better management of operational risk (OR), liquidity risk (LR), equity investment risk (EIR), rate of return risk (ROR), market risk (MR), and credit risk (CR).

KAUJIE Classification: L31, T4
JEL Classification: G21, G32

INTRODUCTION

Financial institutions, due to their distinctive nature, carry unique risks. The growing convergence and complexity of financial activities along with evolving growth of

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technology have caused the multiplicity of risks (Oudat & Ali, 2021). When we talk about the risk, it is not something bad or undesirable, but the concept relating to risk has revolved in recent times. Previously it was said 'higher the risk, higher the profit', now it is said 'manage the risk to manage the profit. Risks are fundamental parts of financial institutions. The growth and survival of any financial institution hinge on its efficiency in managing the risks properly. Therefore, it is rightly said that financial institutions cannot eliminate the risks, but they can manage them. The component of risk may also bring various opportunities for financial institutions, and the gain from these opportunities depends on the efficiency of these institutions to manage their risk exposures. Risk and return are correlated with each other. A financial institution that follows a conservative approach may not utilize the funds properly, thus having a higher cost of capital. On the other hand, a financial institution with a huge risk appetite can over-lend, increasing the possibility of potential failure. Therefore, efficient risk management practices in a financial institution are vital in yielding better returns for the shareholders. These are also requisite for the firmness of the whole financial system (Akkizidis & Khandelwal, 2008).

Islamic banking's unique risk characteristics and the obligation to comply with *Sharīʿah* principles have made its risk management more challenging and complicated (Admati, 2014; Shah, Sukmana, & Fianto, 2021). The instructions have been given by Islamic Financial Services Board (IFSB) to the IBIs for building a risk management structure for efficiently measuring, understanding, controlling, identifying, monitoring, and analyzing different risk exposures either inherent in the Islamic financial instruments or arising from various day to day transactions while complying with *Sharīʿah* regulations (Ihyak, Segaf & Suprayitno, 2023). In this regard, sound practices are vital to ensure the effectiveness of controls and systems relating to the management of risks arising from the banking operations (Al-Bashir & Al-Amine, 2008).

As far as Pakistan is concerned, an effort was initiated to introduce an Islamic banking structure through a Presidential appeal to the Council of Islamic Ideology (CII) for developing a *Sharīʿah*-compliant financial arrangements (Lewis & Algaoud, 2001). The CII made the recommendation in 1980s to gradually transform the interest-based system. This experiment of 1980s faced many challenges for its implementation. However, this experiment's practical and useful experience helped to re-launch Islamic banking in Pakistan (El Tiby, 2011). So, the SBP floated the Islamic banking policy in December, 2001. Moreover, to boost the customer's confidence, the SBP also presented a broader and multi-tiered *Sharīʿah* compliant system containing: i) *Sharīʿah* board to approve policies and procedures, ii) *Sharīʿah* advisors for providing the direction, iii) *Sharīʿah*-based audit structure (Akhtar, 2007).

Risk management is a crucial element to maximize shareholders' wealth and survived in an era of complexities and black swans. In the Banking's discipline, where most of the work is done on conventional banking —(Ratnovski, 2013; Lee, 2015), Islamic banking risk management is yet to be explored '–(Rehman et al., 2018). When we talk about RMP in IBIs, majority of the research has been conducted in Gulf countries (Hassan, 2011; Al-Ajmi & Abu Hussain &, 2012; Abdullah et al., 2011), other countries (Rahman et al., 2016; Muhammad, 2016) and only some in Pakistan (Khalid & Amjad, 2012; Ahmad et al., 2013).

The financial system in Pakistan is still an under-explored area, especially for RMP, and requires in-depth empirical research to unfold secrets to cope with the impending financial crisis by utilizing this actual knowledge in developing better policies (Shafique, Hussain and Hassan, 2013). Khattak et al., (2013) explained that Islamic banking's risk management framework, practices, and policies need to be investigated. Researchers should delve into this area to improve its mechanism. Therefore, this study is conducted to explore RMP in the Islamic Banking Institutions and determined to contribute in the literature by escalating the understanding of risk management in the Pakistani banking sector.

Furthermore, there are few limitations on the available literature of RMP in the IBIs of Pakistan. Firstly, most of the research has concentrated on the five typical risk management facets in the Pakistani context: Credit Risk Management; risk Analysis & Assessment; Risk Controlling & Monitoring; and Risk Understanding. However, the regulatory authority has instructed all the IBIs to form a rigorous and thorough course of action for the management of risks, wrapping all vital facets emphasized by the IFSB, containing the management of Operational Risk; Credit Risk; Equity Investment Risk; Rate of Return Risk; Liquidity Risk; and Market Risk (SBP, 2008). Therefore, a gap exists in the available literature, which requires it to be filled by conducting another study that covers all essential factors of risk management emphasized by SBP in particular and IFSB in general. This research gap can be observed in Table I which leads towards the formation of Study Hypothesis.

Secondly, many research studies done in the Pakistani setting are conducted by taking the data from the risk management division team. However, risk management is not solely concerned with the risk management department of IBIs. Still, every employee, from the Cash officer to the President of the bank, is responsible for managing the risks at their level (KPMGI, 2009). Therefore, there is a potential research gap in the Pakistani context for examining the RMP more broadly and thoroughly by taking the data from the staff members of various departments in the IBIs. In this study, the researchers intend to get a broader view of RMP in IBIs of Pakistan by collecting and examining the data from the heads of various divisions in Pakistan's IBIs.

Finally, the researchers intend to add in the available theoretical literature on employing the "Institutional Theory" in the field of Islamic Banking. The homogeneity assumption of institutional theory (DiMaggio & Powell, 1983) provides a strong basis for examining the supervisory implication of the SBP for the risk management principles issued for IBIs. So, this research intends to investigate this homogeneity assumption from the perspective of risk management in IBIs of Pakistan, through which all the IBIs are instructed to draw and put into practice a rigorous and comprehensive plan of action for fulfilling the regulatory obligations of the SBP for risk management.

LITERATURE REVIEW

The Islamic Finance sector comprises of financial markets, banking institutions, asset management institutions, Islamic capital markets, Insurance *(Takāful),* brokerage houses. "Islamic Banking" is also a part of this immense field. Islamic finance aims to establish a

compact financial system that comprehends individuals, associations, and the state's requirements and form a strong foundation of a system in which wealth is equally distributed through *Sharīʿah*-compliant activities (Saba, 2017). In Islam, interest (Riba) is strictly prohibited. Islamic Sharīʿah (laws & principles) has forbidden all such activities, which include *Maysir* (gambling), *Riba* (interest), *Gharar* (uncertainty), and considers other activities like short selling, forward sale, and sale of debt unacceptable —(Lewis & Algaoud, 2001; Saba, 2017). Therefore, Islamic *Sharīʿah* is the sound base upon which all Islamic banks conduct business according to Islamic laws and principles. Islamic banking supports ethical, socially responsible, and ecological finance. It offers equity-based products and services backed by assets and strongly endorse risk distribution. Integration of real economy and financial stability are also an aim of Islamic banking, which stresses the financial annexation to benefit society.

The primary attempt to establish interest-free banks was made in Malaysia during 1940s, by investing pilgrims' savings according to Islamic *Sharīʿah*. The second effort was made by providing interest-free loans in Pakistani rural areas in the 1950s (Lewis & Algaoud, 2001). In Egypt (1963-1967), the unbeaten experiment took place in the form of MitGhamr saving bank, which later became the foundation of today's Islamic banking system by performing primary functions of providing advances, receiving deposits, and several other services (Schoon, 2016; El Tiby, 2011; Chachi, 2005). The development of modern Islamic banking can be divided into four periods (i) Establishment (1965-1976), (ii) The Spread (1977-2002), (iii) The International Recognition (2003-2009), and The Evaluation (2009 to date) (El Tiby, 2011). Five decades ago, the concept of Islamic banking was just a dream as an alternative to conventional banking; however, the industry of Islamic banking nurtured swiftly with assessed assets over $ 2 trillion covering non-financial as well as financial institutions, money and capital markets, and *Takāful* in over 90 jurisdictions throughout the globe, together with 50 Muslim countries, and over 700 institutions worldwide (Saba, 2017).

In Pakistan, the first Islamic Banking policy was launched by the State Bank of Pakistan in December 2001. This policy encouraged the market-driven and steady establishment of the Islamic system in parallel with conventional banking without significant distractions (Lewis & Algaoud, 2001). Moreover, SBP has initiated the rigorous multi-tier *Sharīʿah* compliant system comprising of a) *Sharīʿah* advisors; b) *Sharīʿah* Board for approval of guidelines; and c) *Sharīʿah* audit system to build the trust of individuals in Islamic banking (Akhtar, 2007). Growth of Islamic financial institutions is very significant since 2000s (Rashid, Akmal, & Shah, 2023). Currently, sixteen traditional banks provide Islamic banking services, and six pure Islamic banks are rendering services across Pakistan through 4,955 branches/sub-branches and 1,922 windows for Islamic banking. Islamic banking in Pakistan has captured a 19.4% share of the banking industry with 23.2% of total banking deposits by the end of December 2023. At the quarter end of 2023, the Islamic banking sector reported Rs.393.4 Billion profit before tax, which is nearly 202 billion more than the previous year (State Bank of Pakistan, 2024).

Islamic finance opponents opine that *Sharīʿah*-compliant products and services possess traditional risks and contain idiosyncratic risks, unique for Islamic banking. They

consider Islamic banking more precarious and adolescent than conventional banking (Errico & Sundararajan, 2002). Islamic banking is based on equity-financing rather than debt financing, so it is intrinsically more risky than traditional banking (Akkizidis & Khandelwal 2008). Interest-free financing is having the content of risk, so there is a need to thoroughly investigate all kinds of risks connected with *Sharīʿah* compliant products and services of Islamic banking in conjunction with the environment impacting risk tolerance, risk culture, and risk management (Eid, 2012). In addition to complying with *Sharīʿah* principles, IBIs also confront challenges to operationally define, recognize, effectively measure, thoroughly control and monitor risks across all Islamic products and asset classes. It is explained by Iqbal & Mirakhor 2011, Akram & Rahman, 2018 that there is need for a sturdy risk management system can facilitate IBIs to curtail their exposure towards several risks and enhance their potential in a highly competitive market. Due to Islamic finance's unique characteristics, it is not practicable to apply the same risk management approach as applied in traditional banking. In December 2005, Islamic Financial Services Board

TABLE 1: Previous Research on Risk Management Practices

Year	Authors	Country	Findings
2009	Rosman	N/A	The significant positive association between risk management factors & RMP
2016	Aldoseri and Worthington	Emerging markets	Developed a connection between RMP and financial positioning. Central bank help is required for cross-fertilization among emerging markets relating to RMP
2016	Rahman, Ibrahim, Tohirinand and Suryaputri	Malaysia and Indonesia	Significant differences were found between IBIs of RMP, RUM, RI, RAA, and RMC
2016	Muhammad	Malaysia and Nigeria	Significant differences were observed in terms of RUM and RAA with RMP. Moreover, training of employees and a sound legal system is required
2015	Rosman and Abdul Rahman	North African, Middle Eastern and Asian countries.	Good operational risk management by IBIs, inefficient management of EIR, differences were observed in RMP of DCR and OR
2013	Khattak, Rahman, Ullah and Ullah	Pakistan	A significant positive connection between RU&M, RI, RM, RA&A, and RMP. The insignificant positive link between CR and RMP.LR, OR, and MU, the dominant factors are affecting IBIs.
2012	Khalid and Amjad	Pakistan	RUM, RAA, RI, RM, and CRA have a significant positive impact on RMP. Risk management and risk monitoring are the key factors of RMP

This discussion leads to the development of the following comprehensive hypothesis:

publicized a document including fifteen doctrines of managing risk after realizing the importance of risk management in IBIs (Malim, 2015). This manuscript is entirely prepared in harmony with Basel Accord standards to address the novel risks associated with Islamic products (Eid, 2012) and contains a comprehensive guideline for managing: rate of return risk, liquidity risk, equity investment risk, credit risk, market risk and operational risk (IFSB, 2005).

All Islamic Financial Institutions must maintain a complete and meticulous risk management system under BOD and executives' strict supervision to identify, report, measure, monitor, and control all risks. These institutions are also required to maintain proper capital against various risk exposures. Furthermore, Islamic banks are bound to comprehend their risk management system with *Sharīʿah* rules and regulations. Similarly, the SBP, by following the instructions of IFSB, provided principles regarding the RMP for IBIs of Pakistan in 2008 (Butt, Ayub, Asif, Shabbir, & Raja, 2022). International best practices based on these principles signify the importance of recognizing various risk exposures and developing a risk management system for sustainable growth. In this vein, several researchers have examined RMP in Islamic finance. The following table provided a summary of related research in a very concise manner:

H_1: There is a significant positive relationship between Risk management practices, with risk understanding, risk identification, risk assessment & analysis, risk monitoring & controlling, Managing Liquidity Risk, Managing equirt investment risk, managing rate of return risk, managing market risk, managing operational risk and managing credit risk.

Moreover, various authors (Ishtiaq, 2015; Collier & Woods, 2011; Collier, Berry, & Burke, 2007) have used institutional theory to justify the application of risk management in organizational settings. According to these studies institutionalization gain ascendancy when the strategies related to the management of risk become exceptionally homogenous in most organizations. The implementation of this mechanism can be forced by regularity authorities but putting direct and indirect pressures on the organizations (Powell & DiMaggio, 1991; Ishtiaq, 2015). Because of this reason usage of institutional theory gives a fair reason for applying risk management in Islamic banks.

METHODOLOGY

This research has observed a positive philosophical position. For this, the researchers have utilized quantitative techniques for examining different essential factors of RMP in IBIs of Pakistan. As far as ontological considerations are concerned, the researchers have assumed an objectivist position by observing Pakistan's IBIs as organizations. The top-down research approach has been used to address the research problem. For data collection, this study has used survey methodology by using self-administered questionnaires and performed a quantitative analysis to achieve the set objectives. The study population consists of all the Islamic Banking Institutions of Pakistan. In Pakistan, Islamic Banking Institutions are divided into two categories, i.e., 16 conventional banks offering Islamic banking products and services, and the five full-fledged Islamic banks. Purposive sampling technique has been used to gather responses from risk managers and individuals of different divisions of selected institutions serving at management rank. This is because managing the

risk is the responsibility of risk managers, and each staff member has this duty (State Bank of Pakistan, 2008). Thus, contemplating the reality, data have been collected data have been collected the managers of various departments of Islamic Banking Institutions including compliance, investment management, operations, quality management, credits, foreign trade, audit, treasury and risk management, special asset management.

In this study, the questionnaire has been distributed to three hundred and fifteen (315) managers selected randomly from various divisions mentioned above. This randomly drawn sample of 315 managers comprises two hundred and forty (240) individuals serving Islamic branches of traditional banks and seventy-five (75) individuals working in pure Islamic banks. The response rate was eighty percent (80%), as two hundred and fifty-one (251) questionnaires were complete and useable, which is sufficient to draw results. Various statistical techniques have been employed to analyze the data quantitatively, like correlation analysis and multiple regression analysis. Descriptive statistics have also been used to see different patterns in data and explain the facts accordingly. Software packages like E-Views 9 and SPSS 22 have been employed to draw results. The analysis comprehensively addressed multiple regression assumptions, including autocorrelation, homoscedasticity, multicollinearity, and linearity, to test the hypothesis. Internal consistency of variables has been obtained through Cronbach's alpha coefficient values and measurement validity. It has been obtained by incorporating remarks and feedback of relevant experts and recommendations of professional bankers.

The underlying theoretical perspective of embracing the RMP is to cope-up with the regulatory pressure. The institutional theory has been employed by Collier and Woods (2011), Collier, Berry and Burke (2007), Ishtiaq (2015) to clarify the application of RMP in organizational settings. These scholars have clarified the prevalence of institutionalization through homogeneous risk management strategies in most organizations.

Data Collection and Analysis

The present research intends to focus on the different RMP facets regarding the stream of existing literature, theories, and practices. As far as Pakistan is concerned, all the Islamic banks have to comply with the risk management guidelines put forward by SBP directing IBIs for the development and implementation of a comprehensive risk management framework to recognize, measure, examine, evaluate and govern risks. IBIs are also required to develop an extensive structure to manage EIR; OR; RORR; LR; and CR. keeping in view these aspects, significant associations have been projected between different facets of risk management and RMP '–'(Hassan, 2011; Rehman, Benamraoui, & Dad, 2018; Khalid & Amjad, 2012).

Demographic Characteristics

Demographic attributes of respondents range from gender to experience of employees in Islamic banks and their overall experience in the banking sector. The respondents' stream comprises 64 respondents from Islamic banks whereas 187 respondents were from conventional banks having Islamic windows. The majority of respondents belong to the male category, while the 21.1% representation of females reflects a sound gender mix. Respondents fall in the age range of 24-29 years with 65% of them were in the age range of

39-40 years. The respondents' category seems to be highly qualified, with most of them (70%) holding the master's degree. The Islamic banks in Pakistan have evolved in the last decade; thus employees working there have limited working experience, ranging between 2-13 years. However, these employees have 2-34 years of overall experience in the banking sectors.

Descriptive Statistics

TABLE 2: Cumulative Results of Various Risk Management Practices

S #	Variable	Average Mean	Average Standard Deviation
1	Risk Understanding (RU)	3.98	0.716008
2	Risk Identification (RI)	4.00	0.408438
3	Risk Assessment & Analysis (RAA)	4.07	0.468740
4	Risk Monitoring & Controlling (RMC)	3.95	0.545325
5	Managing Credit Risk (MCR)	4.02	0.457463
6	Managing Market Risk (MMR)	3.82	0.593605
7	Managing Liquidity Risk (MLR)	4.06	0.411780
8	Managing Operational Risk (MOR)	3.90	0.528811
9	Managing Equity Investment Risk (MEIR)	4.12	0.538026
10	Managing Rate of Return Risk (MRRR)	3.99	0.543776
11	Risk Management Practices (RMP)	4.07	0.448067

Table 2 illustrates the descriptive statistics (average values of mean and standard deviation) of the variables relating to RMP to assess the strength of risk understanding of the employees and above all the valuation of active processes explaining identification, monitoring, understanding, governing, valuation and analysis of numerous risks in the Islamic banking system of Pakistan. The mean value (3.98) of risk understanding exhibits the greater risk understanding level of employees of IBIs as these values are greater than "3", the mid-point of 5-likert scale. The results are in line with the studies of (Khalid & Amjad, 2012). Moreover, the lower values of standard deviation (0.716008) of these variables explain the closeness of observation to the mean, hence resulting in lower differences form mean. The mean and standard deviation values (4.00; 0.408438) of risk identification also demonstrate similar results, thereby illustrating the higher tendency of employees in identifying the risk. The study results are backed by the researches of – (Khalid & Amjad, 2012; Khattak et al., 2013). Risk assessment and analysis have comparatively more significant mean and lower standard deviation values, indicating the proficiency of IBIs in evaluating likely customers' due diligence level. The above-mentioned authors also support these results. Previous research (Abu Hussain & Al-Ajmi, 2012) also supported these results. As far as managing credit risk is concerned, the mean and standard deviation values represent the proficient evaluation of the credit portfolio of clients and good management of credit risk by IBIs. Similarly, IBIs are demonstrating good performance regarding managing market risk. The mean value (4.06) of IBIs is found to be greater than the mid value, indicating the efficient liquidity risk management of these

banks. Likewise, the mean value (3.90) also exhibits the good operational risk management of IBIs and lower standard deviation (0.52) is the sign of fewer disparities in the data points. Besides, the mean value (4.12) of equity investment risk is demonstrating the efficient risk management potential of IBIs and the lower standard deviation is leading towards minimal variance. The IBIs are signifying the effectual rate of return risk management referring to their respective mean values. In addition, the effective implementation of risk management practices has also been observed as suggested by the mean value (4.07).

Correlation Analysis

The Pearson correlation results have been mentioned in the following table to assess the connection between the addressed variables.

TABLE 3: Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10	11
1. RMP	1										
2. RU	.31**	1									
3.RI	.32**	.16**	1								
4. RAA	.21**	-.004	.24**	1							
5. RMC	.23**	.10	.05	.03	1						
6. MOR	.16*	-.004	.10	-.03	-.06	1					
7. MLR	.22**	.12*	.12*	.09	.04	.05	1				
8. MCR	.28**	.09	.10	.09	.18**	.10	.09	1			
9. MMR	.29**	.06	.16**	.08	.04	-.03	.09	.13*	1		
10. MEIR	.21**	-.008	.08	.02	.15*	-.02	-.06	.09	.01	1	
11. MRRR	.26**	.17**	.05	.05	.01	-.01	.07	.07	.20**	.002	1

The values mentioned above represent the correlation among RMP and RU; RI; RAA; RMC; MCR; MOR; MLR; MMR; MEIR; and MRRR. The values of correlation coefficient are falling below 0.33, thus exhibiting the absence of multicollinearity among independent variables.

Multiple Regression Analysis

The following multivariate model has been developed to estimate the regression statistics:

$$\mathrm{RMP_i} = \beta_0 + \beta_1 \mathrm{RU_i} + \beta_2 \mathrm{RI_i} + \beta_3 \mathrm{RAA_i} + \beta_4 \mathrm{RMC_i} + \beta_5 \mathrm{MCR_i} + \beta_6 \mathrm{MOR_i} + \beta_7 \mathrm{MLR_i} + \beta_8 \mathrm{MMR_i} + \beta_9 \mathrm{MEIR_i} + \beta_{10} \mathrm{MRRR_i} + \varepsilon_i$$

TABLE 4: Results of Multiple Regression Analysis

R^2	0.399
Adjusted R^2	0.374
F	15.923
Significance	0.0000
Durbin Watson	2.005

White Heteroscedasticity Consistent Standard Errors and Covariance

Predictor Variable	Beta	t-value	Significance
Constant	-0.0257	-1.100	0.272
MRRR	0.0935	3.091	0.002***
MLR	0.1096	2.892	0.004***
MEIR	0.1128	3.763	0.000***
RU	0.1118	4.442	0.000***
MCR	0.1080	2.859	0.004***
RAA	0.1077	2.558	0.011**
RI	0.1257	3.218	0.001***
MMR	0.0960	3.448	0.000***
MOR	0.0940	3.127	0.002***
RMC	0.1190	2.802	0.005***

The above table shows the regression results regarding the variables of the study. All the predictor variables are exhibiting a significant positive association with the dependent variable. The coefficient of determination is illustrating that all the predictors cause 39.9% changes in RMP, and remaining variations are triggered by other factors held constant in the model. Detailed interpretation of these results is explained in the forthcoming paragraphs.

The coefficient of risk understanding (0.1118) is indicating the positive impact on RMP. The values of Pearson correlation also explain the same association. It asserts that the understanding of different conventional and non-conventional risks is a significant aspect of RMP. Moreover, the top management of IBIs must focus on their staff's risk understanding to improve RMP in their respective banks. Previous researchers back the results '–(Hassan, 2009; Khalid & Amjad, 2012; Rehman et al., 2018). The association between RI and RMP was also significant, and the correlation values also exhibited the same findings. RI was considered to be the vital facet of RMP in the IBIs of Pakistan. The results are in accordance with the findings of –(Khalid & Amjad, 2012; Khattak et al., 2013). The regression coefficient of RAA (0.1077) illustrated the significant positive effect of RAA on the RMP, followed by similar correlation results. IBIs need to devise and implement a detailed framework concerning RAA in Pakistan. Previous researchers also supported these results –'–(Rehman, Benamraoui, & Dad, 2018; Khalid & Amjad, 2012; Hassan, 2009; Khattak et al., 2013). Considering the impact of RMC on RMP, a similar trend was observed for both regression and correlation coefficient, i.e. the significant positive association (0.1190) which led to the formulation and implementation of adequate RMC mechanism by IBIs. The results are in line with the studies of (Abu Hussain & Al-Ajmi, 2012; Hassan, 2011).

The connection between MOR and RMP was also observed as a significant and positive as per the correlation and regression values. It implies that IBIs have to generate and execute an effective policy to manage and regulate the operational risk. The results are in harmony with previous research results (Shafique et al., 2013; Abdullah et al., 2011;

Wahyudi et al., 2015; IFSB, 2005). As far as the effect of MLR on RMP is concerned, the linkage between the variables was observed to be the significant and positive. Moreover, the correlation coefficient also demonstrated the same outcomes. It infers the emphasis of IBIs in effective implementation of MLR in Pakistan, and the findings are supported by (Shafique et al., 2013; Ghenimi et al., 2017; Wahyudi et al., 2015; Ismal, 2010; IFSB, 2005). Moving towards the impact of MCR on RMP, the value of regression coefficient (0.1080) also implies the significant positive bonding between the predictor and criterion variable. The Pearson correlation also demonstrated the similar trend. It shows the involvement of IBIs in refining RMP's efficacy level to give due importance to credit risk management. These findings are in line with the arguments presented by previous researches ——(Shafique et al., 2013; Akkizidis & Khandelwal, 2008; Khalid & Amjad, 2012; Misman et al.;2015).

The MMR and RMP investigation also led to the significant positive association (0.0960) between the variables and Pearson correlation also supported this linkage. SBP instructs the IBIs to follow the specified rules in improving the policies, framework and mechanism of MMR. The previous researchers backed the current research findings "(Ayoub, 2013; Wahyudi et al., 2015; Shafique et al., 2013; El Tiby, 2011). In addition, the regression results revealed the significant positive linkage between MEIR and RMP as per the coefficient value (0.1128) and it is in complete harmony with the Pearson correlation leading IBIs to improve the MMR framework in Pakistan. Substantial evidence has been found in the previous literature (Eid & Asutay, 2016; El Tiby, 2011; IFSB, 2005). Finally, MRRR also established a significant positive impact on RMP with regression coefficient of 0.0935 and Pearson correlation confirmed such relationship. It asserts that MRRR has a considerable impact on RMP in IBIs of Pakistan. Moreover, it also implies that IBIs can enhance RMP by effectively devising the policies for MRRR. These results support the previous literature arguments (Akkizidis & Khandelwal, 2008; El Tiby, 2011; Eid & Asutay, 2016; IFSB, 2005).

The regression results explaining the association of RMP with various predictors have also been supported and validated by homogeneity assumption of institutional theory. It asserts that the homogeneous strategies can be taken as obligatory by coercive isomorphism through which regulators placed compressions on the institutions through encouragement, guidelines and directions –(Buchko, 2011; Ishtiaq, 2015; Powell & DiMaggio, 1991). In Pakistan's context, IBIs are directed by SBP in terms of risk management strategies to develop a framework for their staff to properly understand and implement RMP.

Assumptions of Ordinary Least Square Regression

The research has progressed with the execution of regression assumptions, mentioned as under:

Multicollinearity

The values of Variance Inflation Factor relating to all predictors are less than 5, leading to the absence of multicollinearity in the data.

TABLE 5: Multicollinearity

Variable	Tolerance	VIF
RU	0.922	1.085
RI	0.868	1.152
RAA	0.923	1.084
RMC	0.931	1.074
MOR	0.959	1.042
MLR	0.950	1.053
MCR	0.916	1.092
MMR	0.915	1.092
MEIR	0.956	1.046
MRRR	0.929	1.076

Autocorrelation and Heteroscedasticity

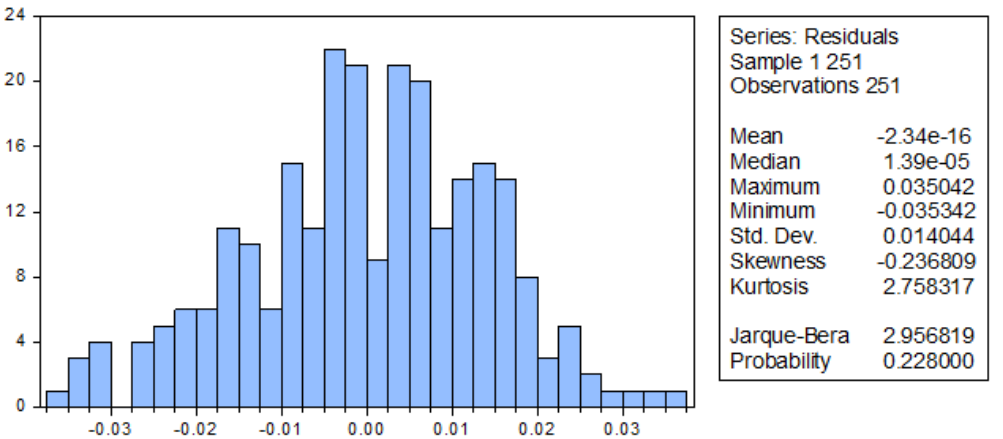

FIGURE 1. Jarque-bera Statistics

The Durbin-Watson statistic is around 2.00, representing that data is free from autocorrelation. Moreover, White's Heteroscedasticity-consistent standard errors and covariance have been used to maintain the data's consistency and reliability by correcting the variance and covariance of regression estimates.

Reliability Analysis

TABLE 6: Internal Consistency of Variables

No.	Variable	Cronbach's Alpha Coefficient
1	RMP	0.883
2	MOR	0.910
3	RU	0.798
4	MRRR	0.875
5	RAA	0.832
6	MCR	0.862
7	RI	0.804
8	MLR	0.915
9	RMC	0.703
10	MMR	0.904
11	MEIR	0.902

Cronbach's Alpha is the statistical measure to check the reliability of the data. It focuses on the internal consistency of the measures used in the study. The value is found to be above the acceptance level i.e. 0.7, thus exhibiting that the instrument is reliable.

Validity Analysis

The current research has fulfilled the content validity criteria in a sense it has taken the majority of the statements from the available literature, and these were tested at the time of the pilot study. Moreover, Cronbach's alpha asserted the consistency of questions and the dimension. The validity of the measures is also improved by consulting the professional bankers and incorporating their valuable advice. Besides, the statistical validity is also the point of focus and achieved through literature review and detailed information concerning various data analysis techniques and procedures by attending the relevant workshops. Besides, the expertise of data analysts has been availed to achieve satisfactory results. The statistical techniques range from descriptive statistics, regression assumptions, correlation to multiple regression analysis.

CONCLUSION

By analyzing the data, the researchers conclude that the employees of IBIs of Pakistan with the responsibility to take or manage various risks have reasonable awareness and knowledge regarding the risk management practices. The Persons correlation analysis shows that all the explanatory variables (RU, RMC, RAA, RI, MRRR, MEIR, MMR, MLR, MOR, and MCR) are positively associated with the response variable (RMP). Regression analysis concludes that all the explanatory variables have a significant positive association with the response variable. The study indicates that MEIR, MLR, and RAA are the significant variables in the RMP.

Moreover, the study also confirms the homogeneity assumption of institutional theory, which assumes uniformity in the development of institutional rules and regulations to comply with the regulatory requirements of regulators (Ishtiaq, 2015; Collier & Woods, 2011). Given this assumption, risk management guidelines and principles provided by the SBP are pertinent to every IBI of any size and business. In this concern, all IBIs must build up and put into practice a comprehensive system for RU, RMC, RAA, RI, MRRR, MEIR, MMR, MLR, MOR, and MCR in Pakistan. Considering the positive association between RMP and various aspects of risk management, which has been found in this study, an inference can be drawn that the management of Pakistani IBIs can improve the potency of RMP by concentrating on these aspects of risk management.

Pakistan, where two parallel banking systems are prevailing, the growth of Islamic banking is very consistent, giving cutthroat competition to the dominating conventional banking system. However, this growth exposes the Islamic banking system to various risks that cannot be ignored and requires a rigorous mechanism with respect to risk management practices and their various aspects. Risk management departments of IBIs are required to give more attention to operational and market risk management. According to the research, the IBIs are needed to sharpen their staff's expertise in the risk management department to manage better operational risk, market risk, equity investment risk, liquidity risk, rate of return risk and credit risk. Moreover, they must make concrete efforts to agitate all

employees about their risk management responsibility irrespective of their job for improved risk identification, risk understanding, risk assessment and analysis, risk monitoring, and controlling.

Implications, Limitations and Future Directions

This research has examined several important RMP elements including managing market risk, managing liquidity risk, managing the rate of return risk, managing credit risk, managing equity investment risk, and managing operational risk. Studying these elements of risk management in Islamic banking is crucial. Four frequently studied risk management features including risk identification, risk understanding, risk assessment and analysis, risk monitoring, and controlling, became the focus of research in Pakistan. Hence, by researching the overlooked areas in literature, this study explores some other risk management elements primarily in IBIs of Pakistan and contributes to the literary work through analyzing primary data.

This study gauge and analyze the information collected from a number of managers related to different banking departments and provides a comprehensive outlook of RMP in Pakistan's Islamic banking. In Pakistani context, the research studies available in the literature were conducted by focusing on data collected from the risk management department members specifically (Khalid and Amjad, 2012). Therefore, rather than targeting risk managers, this study brings new insights by engaging diversified employees from different departments of IBIs to look at the potency of risk understanding.

The primary data collected through questionnaires from two hundred and fifty managers of different departments restricted up to managerial positions and did not include non-managerial staff. This is due to limited accessibility and time constraints. Future research can be carried out by including non-managerial staff, along with the managers. It will not only improve the sample size but also present more comprehensive results. Individuals of the regulatory authority responsible for the supervision of RMPs may also be included to complement the diversified results.

The focus of this study has been restricted to exploring the affiliation between RMP and several aspects of risk management, including managing credit risk, managing market risk, managing rate of return risk, managing operational risk, managing liquidity risk, managing equity investment risk, risk identification, risk assessment and analysis, risk understanding, and risk monitoring and controlling. Although, several other features like board structures, the board size, and quality of management have not been investigated in this research. So, all these features can also be considered and studied in future research.

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