



Navigating Uncertainty: Assessing the Impact of Financial Risk Management on Organizational Performance: Evidence from Insurance Companies in Pakistan

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Abstract

In an era marked by economic volatility and global uncertainties, the effectiveness of financial risk management strategies is crucial for businesses, particularly in the financial services industry. This research investigates the relationship between financial risk management (FRM) practices and organizational performance, specifically within the insurance sector in Pakistan. Moreover, the study aims to explore the role of financial risk management in enhancing the performance of insurance companies operating in the Pakistani market. It establishes a research model based on Financial Risk Management (Market Risk, Operational Risk, Liquidity Risk, and Legal Risk) and Organizational Performance (ROE). Researchers surveyed 13 insurance companies in Pakistan using non-probability and convenience sampling techniques and analyzed the data using EViews. The results indicate a significant and meaningful link between organizational success and financial risk management. This study seeks to incorporate best practices and focuses on developing a comprehensive understanding of the influence of organizational performance and financial risk management strategies.

Keywords: Financial Risk, Risk Management, Organizational Performance, Financial Risk Management

1. Introduction

In the corporate and industrial world, various organizational structures exist, with insurance companies being among the most prominent. Many corporations manage their financial risk through their operations, decisions, goals, objectives, and actions. Insurance companies, in particular, risk losing market share if they do not carefully consider effective marketing strategies. Research on organizational performance is crucial as it not only identifies the primary financial and non-financial determinants of success or failure but also assesses other aspects such as departmental performance, management procedures, and employee welfare (Hung, Tsung, Huang, & Yang, 2010).

Financial risks come in many forms, including market risk, operational risk, liquidity risk, and legal risk, all of which organizations can address through strategic decisions. Many companies successfully integrate classical financial risk management into their business operations. Various factors influence market risk, operational risk, liquidity risk, and legal risk, such as interest rates, currency rates, stock or commodity prices, and more (Awin, Abdel-Raheem, & Tepe, 2018). Market risk, for instance, cannot be entirely eliminated through diversification; instead, organizations must make deliberate efforts to mitigate it. The four key market risk subcategories are equities, commodities, interest rates, and exchange rate risk.

Market risk is associated with fluctuations in exchange rates, interest rates, and asset prices, leading to unfavorable movements in asset values (Hull, 2018). Operational risk involves indirect and direct losses resulting from failed or inadequate internal processes, system failures, external events, or human errors (Hull, 2018). These risks directly impact organizational performance, as the performance of firms or companies can significantly deteriorate in the face of such events (Markowitz, 1952).

Liquidity risk is the risk associated with insufficient financial resources to meet obligations as they arise or securing resources at excessive costs. Legal risk arises from the potential for losses related to loans, employees, donations, and other factors. It's noteworthy that financial risk managers of insurance companies in Pakistan operate within the framework of the aforementioned operational divisions. This research investigates the role of financial risk management in organizational performance within the insurance companies of Pakistan. Company size is calculated using the natural log of the total number of employees (Durst, S., et al., 2019), and company age is determined by the natural log of years since company formation. The dummy-coded variable (Durst, S., et al., 2019) is also considered.

Several studies are currently underway in countries like Jordan, Nigeria, Serbia, India, and others. In developing nations such as Pakistan, research on insurance companies has primarily focused on smaller-scale assessments of

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profitability, risk management, and overall performance. However, there exists a significant need for comprehensive studies that delve into various aspects of insurance companies, elucidating factors like financial risk and others that impact company performance. Such studies not only help in minimizing losses but also contribute to profit enhancement.

This study specifically addresses the context of insurance businesses in Pakistan. Presently, the country boasts 13 insurance firms, all of which are life insurance companies. This research scrutinizes and analyzes these insurance businesses in Pakistan. The findings of this study, when concluded, can serve as a valuable guide to enhancing the role of financial risk management in organizational performance, particularly within the context of insurance companies in Pakistan. Bridging this knowledge gap is crucial as it empowers a new generation to adeptly manage financial risks, improve organizational performance, and foster the growth of insurance companies in Pakistan.

2. Literature Review

For several decades, researchers and financial scientists have engaged in discussions surrounding the intersection of financial risk management and organizational performance within insurance companies. Many academics pursue this objective by investigating the distinctions between Financial Risk Management and Organizational Performance, examining their direct impact on the procedures, progress, and operations of insurance companies, particularly those in Pakistan. In order to execute various operations, insurance companies must ensure the soundness of their business conditions. This includes proper handling of customers by agents and insurers, facilitating access to insurance, and maintaining financial viability (Macey & Miller, 1993)

2.1. Financial Risk Management and Organizational Performance

Over the past few decades, researchers and financial scientists have extensively debated the theme of Financial Risk Management and organizational performance in the insurance industry. Many researchers approach this subject by exploring the distinctions between Financial Risk Management and Organizational Performance. In current econometric research, the focus is on the application of financial risk management, particularly in assessing the accuracy of credit risk and individual market dynamics. This includes both applied and theoretical research on aggregation risk, optimal risk control, data incompleteness, and various other risk types (De las Heras Alarcón, Pennadam, & Alexander, 2005).

Among the various risks faced by insurance firms, financial risk is deemed the most critical and is categorized into five groups. The first category, market risk, centers on the potential decline in assets due to changes in major market conditions. The second type, credit risk, pertains to the danger that a firm may be unable to meet its obligations. Operational risk, the third type, involves losses caused by poor or ineffective central employees, events, systems, and operations. The fourth category relates to the risk associated with reduced cash flow, hindering enterprises from managing their debt reduction effectively. The fifth and final category encompasses legal and regulatory risks, which may arise from enforcing current laws or modifying existing legislation, such as tax laws (Cantor, 2001).

2.2. Insurance Company and Performance

The primary goal of insurance firms is to mitigate financial losses by reducing exposure in specific dependent and reinsurance areas (Shelbourne, Barnes, & Gray, 2012). These firms are inherently designed to handle and manage risks. Within the Insurance Company of Pakistan, their impact is evident in influencing the procedures, progress, and overall operations of these companies. In the insurance industry community, it is unsurprising that they serve an essential role, being closely monitored and highly regulated. Financial risk management plays a crucial role in enhancing company performance (Shelbourne et al., 2012).

2.3. Market risk and Organizational Performance

Market risk is influenced by various factors, including interest rates, currency rates, equities prices, and commodity prices (Awin et al., 2018). Market risk (MR) encompasses elements that can lead to losses affecting the overall performance of the market in which a firm operates. This type of risk is categorized into four main groups: exchange rate risk, interest rate risk, commodity risk, and stock risk. Exchange rate risk is determined by considering the average exchange rate of the currency and the rate of the foreign currency (Awin et al., 2018). In essence, market risk involves the potential negative impact on asset values due to fluctuations in options related to exchange rates, interest rates, and asset prices (Mendling et al., 2018).

2.4. Operational risk and Organizational Performance

Operational risk refers to the likelihood that a corporation may incur direct or indirect losses due to internal failures, inadequate systems, external events, or human factors (Mendling et al., 2018). These risks directly impact organizational performance, as suboptimal performance exacerbates the consequences of such occurrences (Markowitz, 1952). As defined by the Basel risk management committee, operational risk encompasses the potential for loss arising from faulty regulations, flawed processes, substandard equipment, and other factors. Human error is also considered a component of operational risk.

2.5. Liquidity Risk and Organizational Performance

When a company requires immediate cash and possesses assets on hand but faces challenges in selling them or accessing an efficient market, it encounters liquidity risk. In such situations, a company may suffer losses if it needs rapid cash but is unable to sell its assets due to a lack of customers or an inefficient market (Awin, 2018). To quantify liquidity risk, the following formula can be used (Barke, 2019). Liquidity risk refers to the possibility that a corporation's or organizations financial resources are inefficient, leading to the inability to meet obligations when they decline, or securing resources at an excessive cost.

2.6. Legal Risk and Organizational Performance

Legal risk entails the potential for loss in various situations, including loans, employment issues, contributions, and more. Examples of legal risks encompass standard changes, market-driven timetables, safety concerns, regulatory limits, and issues related to product warranties, among others (Saleem & Abideen, 2011).

2.7. Company Age and Organizational Performance

The age of the company is calculated using the natural logarithm of the number of years since its establishment (Durst et al., 2019). The relationship between company age and organizational performance is multifaceted and context-dependent. While older companies may benefit from accumulated experience and established reputations, younger companies often leverage innovation and adaptability for competitive advantage. The varying findings across studies underscore the need for a nuanced understanding of how company age interacts with specific industry dynamics and organizational contexts to influence performance outcomes.

2.8. Company Size and Organizational Performance

The company size is calculated by taking the natural logarithm of the total number of employees (Durst et al., 2019). The relationship between company size and organizational performance is intricate and contingent on various factors, including industry dynamics and organizational strategies. While larger companies may benefit from economies of scale and established market positions, smaller companies can leverage agility and innovation. The nuanced understanding of how company size interacts with specific organizational contexts is crucial for informed decision-making and strategic planning.

2.9. Organizational Performance and Insurance Companies

Organizational performance is defined as the achievement of aims and objectives set by employers, the delivery of services or acquisition of products as requested by consumers, and providing direction for the company's survival, growth, profitability, and development. The performance of an organization can be assessed by examining factors such as profit level, product quality, market share in comparison to other enterprises within the same industry, return on investment (ROI), return on assets (ROA), return on equity (ROE), export growth, gross profit, return on sales (ROS), sales growth, stock price, revenue growth, and market share, among others (Emekewue, 2008).

2.10. Return On Equity and Organizational Performance

The performance of an organization serves as the metric for gauging its success, assessing the company's overall operational health over a specified period. This evaluation is often used to benchmark the organization against others in the same industry. Researchers commonly employ return on assets (ROA) and return on equity (ROE) as preferred methodologies for measuring financial success. Return on assets is determined by the ratio of total revenue to total assets, while return on equity is calculated using the ratio of total income to common equity. Profitability is ascertained by dividing a company's expenditures and expenses by its revenue (Awin et al., 2018)

3. Theoretical Framework

The figures, 3.1 and 3.2, represent the theoretical and hypothetical models of the current study.

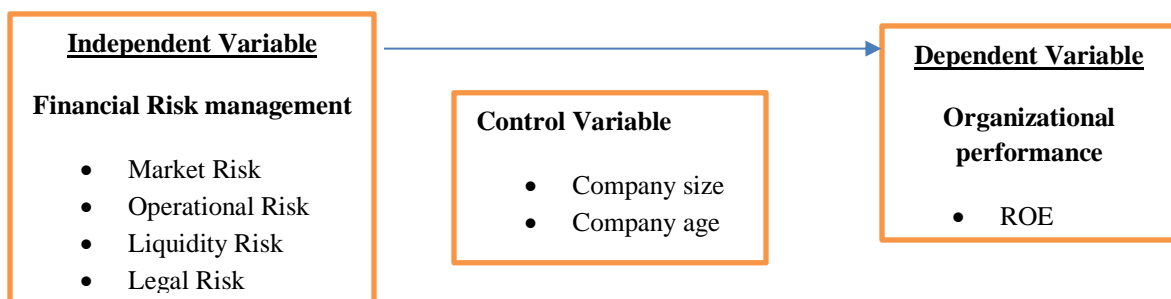


Figure. 3.1: Theoretical Framework

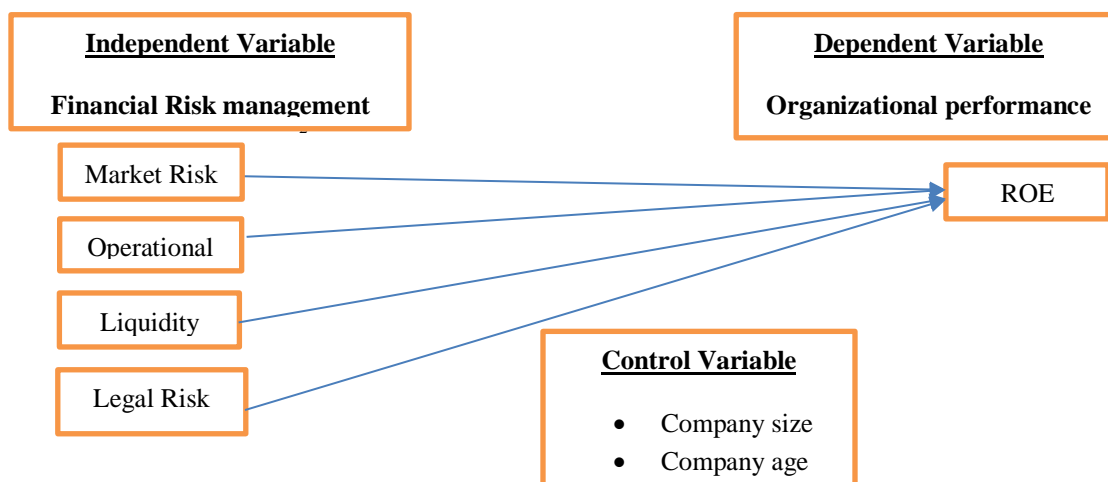


Figure. 3.2: Hypothesized Model

3.1. Hypothesis Development

H₁: There is a significant relationship between market risk and organizational performance

H₂: There is a significant relationship between operational risk and organizational performance

H₃: There is a significant relationship between liquidity risk and organizational performance

H₄: There is a significant relationship between legal risk and organizational performance

4. Research Methodology

The experiment was conducted in a completely natural setting without any artificial elements. The scales utilized in this investigation were developed based on secondary research. In the current study, a data sheet was prepared for the analysis of data after collecting qualitative data from the financial statements or annual reports of 13 insurance companies in Pakistan. Upon finalization, the data was imported from the Excel sheet to EViews for the analysis and testing of hypotheses.

5. Results and Discussions

The analysis of the collected data was performed using EViews, and the results are interpreted. The collected data were subjected to the following analyses.

5.1. Descriptive Statistics

Descriptive statistics were employed to assess consecutive properties of the data. The research focused on financial risk management's impact on organizational performance, specifically through a case study of an insurance company in Pakistan spanning the period from 1990 to 2022.

Table- 5.1: Descriptive Statistics

	LROE	LOPR	LLR	LLQR	LDEL	LCS	LCA
Mean	0.956	0.93	0.571	0.655	0.533	0.7006	0.558
Median	0.960	0.890	0.5940	0.708	0.480	0.7100	0.590
Maximum	3.020	2.390	2.6040	1.800	2.00	3.300	1.780
Minimum	0.080	0.000	0.0220	0.000	-1.400	0.020	0.040
S.D.	0.39	0.40	0.26	0.20	0.44	0.51	0.23
Skew	0.261	0.707	1.0856	0.071	0.228	1.9412	0.086
Kurtosis	4.445	3.475	11.610	4.843	4.651	9.948	3.709
Jarque – Berra	42.22	39.810	1409.682	61.09	52.511	1132.451	9.539
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.0084
Sum	410.41	395.97	245.02	281.22	228.90	300.56	239.55
Sum Sq. Dev.	64.63	70.179	28.497	16.94	81.696	111.41	23.403
Observations	429	429	429	429	429	429	429

The table presents descriptive statistics for various insurance companies in Pakistan from 1990 to 2022 (Table 5.1). The mean value of the years is indicated as 0.96%. Consequently, the insurance companies in Pakistan exhibited positive financial results from 1990 to 2022 in the research. The assessment of the insurance company's performance is based on the return on equity. The estimated results reveal that all variables exhibit positive skewness, and the kurtosis has a positive estimate for all selected variables. The anticipated skewness and kurtosis are statistically

insignificant, and the null hypothesis of no normality is not rejected. According to Jarque-Bera, each variable shows restricted covariance and a zero mean, confirming that the selected variables are normally distributed.

5.2. Correlation Matrix

The Correlation Matrix presented mean, median, maximum, standard deviation (S.D), skewness, kurtosis, Jarque-Bera (J-Bera), probability, sum, and sum squared deviation. This research was conducted based on 429 observations, from which these descriptive statistics were derived.

Table 5.2: Correlation Matrixes.

	LROE	LOPR	LLR	LLQR	LDEL	LCS	LCA
LROE	1						
LOPR	0.502	1					
LLR	0.131	0.137	1				
LLQR	-0.147	0.181	-0.040	1			
LDEL	0.022	0.105	-0.04	0.149	1		
LCS	0.021	0.082	0.010	-0.113	0.471	1	
LCA	0.117	0.209	-0.049	0.016	-0.126	0.061	1

Table 5.2 illustrates that all variables have a positive impact on each other but exhibit insignificant correlation. In this model, we examine whether these variables display a very strong or high correlation with life expectancy. The risk factors are contingent upon organizational performance, and they correlate with each other. Therefore, the insurance company of Pakistan considers these variables for improvement due to their significant impact on each other. Enhancing these factors is expected to contribute to the improvement of organizational performance. Table 5.2 indicates that there is no multicollinearity in the study.

5.3. Variance Inflation Factor

The VIF (Variance Inflation Factor) indicates the correlation of variables in the regression model. If the VIF value falls between 1-10, it suggests reasonable multicollinearity in the regression model. A VIF value of 1 implies no multicollinearity among the factors. Values greater than 1 indicate moderate correlation among variables, and if it approaches 10, it signifies severe multicollinearity.

Table 5.3: Variance Inflation Factor

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
LROE(-1)	0.0010	11.112	1.565
LOPR	0.001	19.121	3.094
LOPR(-1)	0.002	20.912	3.368
LLR	0.002	9.214	1.565
LLR(-1)	0.002	10.346	1.754
LLR(-2)	0.002	9.273	1.573
LLQR	0.004	19.233	1.625
LLQR(-1)	0.005	23.590	1.989
LLQR(-2)	0.004	19.078	1.608
LDEL	0.001	8.046	3.239
LDEL(-1)	0.001	7.637	3.071
LCS	0.008	57.163	18.630
LCS(-1)	0.014	105.89	35.648
LCS(-2)	0.007	55.883	19.365
LCA	0.006	23.463	3.505
LCA(-1)	0.009	36.390	5.415
LCA(-2)	0.006	24.057	3.565
C	0.004	47.021	NA

In this model, we refrain from making any removals if all centered VIF values are less than 10, as multicollinearity won't be evident in this scenario. Consequently, we disregard this model. This implies that relying solely on deletions is insufficient for addressing multicollinearity. Control variables must be employed to enhance the performance of the Regression Model. Policy variables are crucial as they depend on the research question and research objectives. Sometimes, the researcher may choose not to change or exclude a variable or alter the measure of variables. Therefore, a fourth way to address multicollinearity is to increase the sample size. By expanding the range, multicollinearity is eliminated in this model. Subsequently, we consider this model to be reliable.

5.4. Granger Causality Test

In this model, we conducted the Granger causality test using EViews software. We utilized the F-statistic and probability to assess whether these prices have an impact or not, determining causality between them. The Granger Causality test aims to ascertain whether we can predict one time series using information from another series. If we can predict a series using lagged values from another series, it suggests that the latter series Granger causes the former.

Table 5.4: Granger Causality Test

NULL HYPOTHESIS	OBS.	F-STATISTICS PROB.	
LOPR DOES NOT GRANGER CAUSE LROE	429	6.43	0.001
LROE DOES NOT GRANGER CAUSE LOPR		0.50	0.61
LLR DOES NOT GRANGER CAUSE LROE	429	5.33	0.005
LROE DOES NOT GRANGER CAUSE LLR		0.000	0.99
LLQR DOES NOT GRANGER CAUSE LROE	429	1.63	0.12
LROE DOES NOT GRANGER CAUSE LLQR		1.303	0.272
LDEL DOES NOT GRANGER CAUSE LROE	429	0.490	0.612
LROE DOES NOT GRANGER CAUSE LDEL		0.053	0.95
LCS DOES NOT GRANGER CAUSE LROE	429	4.18	0.02
LROE DOES NOT GRANGER CAUSE LCS		1.64	0.19
LCA DOES NOT GRANGER CAUSE LROE	429	3.16	0.04
LROE DOES NOT GRANGER CAUSE LCA		0.02	1.00
LLR DOES NOT GRANGER CAUSE LOPR	429	3.44	0.03
LOPR DOES NOT GRANGER CAUSE LLR		0.08	0.92
LLQR DOES NOT GRANGER CAUSE LOPR	429	0.65	0.52
LOPR DOES NOT GRANGER CAUSE LLQR		1.46	0.23
LDEL DOES NOT GRANGER CAUSE LOPR	429	0.15	0.86
LOPR DOES NOT GRANGER CAUSE LDEL		2.62	0.07
LCS DOES NOT GRANGER CAUSE LOPR	429	0.74	0.48
LOPR DOES NOT GRANGER CAUSE LCS		2.60	0.08
LCA DOES NOT GRANGER CAUSE LOPR	429	0.17	0.84
LOPR DOES NOT GRANGER CAUSE LCA		0.63	0.53
LLQR DOES NOT GRANGER CAUSE LLR	429	1.26	0.29
LLR DOES NOT GRANGER CAUSE LLQR		1.25	0.29
LDEL DOES NOT GRANGER CAUSE LLR	429	0.008	0.991
LLR DOES NOT GRANGER CAUSE LDEL		0.28	0.76
LCS DOES NOT GRANGER CAUSE LLR	429	0.22	0.81
LLR DOES NOT GRANGER CAUSE LCS		1.58	0.21
LCA DOES NOT GRANGER CAUSE LLR	429	5.16	0.006
LLR DOES NOT GRANGER CAUSE LCA		0.50	0.61
LDEL DOES NOT GRANGER CAUSE LLQR	429	1.110	0.330
LLQR DOES NOT GRANGER CAUSE LDEL		1.18	0.31
LCS DOES NOT GRANGER CAUSE LLQR	429	1.08	0.34
LLQR DOES NOT GRANGER CAUSE LCS		0.22	0.80
LCA DOES NOT GRANGER CAUSE LLQR	429	0.33	0.71
LLQR DOES NOT GRANGER CAUSE LCA		0.20	0.82
LCS DOES NOT GRANGER CAUSE LDEL	429	6.30	0.002

NULL HYPOTHESIS	OBS.	F- STATISTICS	PROB.
LDEL DOES NOT GRANGER CAUSE LCS		0.05	0.95
LCA DOES NOT GRANGER CAUSE LDEL	429	2.13	0.12
LDEL DOES NOT GRANGER CAUSE LCA		0.25	0.78
LCA DOES NOT GRANGER CAUSE LCS	429	1.20	0.30
LCS DOES NOT GRANGER CAUSE LCA		0.84	0.43

5.5. ARDL Bound Test

In the model below, the F value is 5.00, which falls between the Upper and Lower Bound Critical Values at the 10% and 1% significance levels (1.99). Therefore, a long-run association between variables is observed.

$$EC = LROE - (0.6381*LOPR + 0.0833*LLR - 1.1798*LLQR + 0.0205*LDEL - 0.0614*LCS - 0.0007*LCA + 1.1219)$$

Table 5.5: ARDL Bound Test

VAR	COEFF	STD.ERROR	T-STAT	PROB.
LOPR	0.64	0.14	5.00	0.0000
LLR	0.08	0.23	0.37	0.71
LLQR	-1.18	0.327	-3.597	0.000
LDEL	0.020	0.140	0.145	0.88
LCS	-0.061	0.122	-0.501	0.61
LCA	-0.000	0.225	-0.003	0.99
C	1.121	0.291	3.843	0.000
EC = LROE - (0.6381*LOPR + 0.0833*LLR - 1.1798*LLQR + 0.0205*LDEL - 0.0614*LCS - 0.0007*LCA + 1.1219)				
F-BOUNDS Test		Null Hypo: No levels association		
Test STAT	Value	Signif.	I (0) ASYMP n=1000	I (1)
F-STATS	5.00	10%	2.00	3.00
K	6	5%	2.3	3.28
		2.5%	3.00	3.6
		1%	3.00	4.00
Real Sample Size	429	Limited SAMP: n=80		
		10%	2.088	3.103
		5%	2.431	3.518
		1%	3.173	4.485

In the integrated model, the coefficients exhibit a mix of significance levels—some are statistically significant with a p-value less than 0.05, while others are not. In this test, the significance threshold is set at 10%, which influences the positive or negative impact on each other.

5.6. Heteroskedasticity Test and Breusch-Pagan-Godfrey

A regression model must be free from heteroskedasticity. If not, we conclude that the data exhibits homoscedasticity. Heteroskedasticity implies that the data has more variability, more dispersion than the majority of the data. In this model, we analyze cross-sectional regression.

Table 5.6: HETERO TEST: BRUESH-PAGAN GODFREY

F-STATS.	4.170	PROB. F(17,409)	0.0000
OBS*R-SQU	63.082	Prob. CHI-SQUARE	0.0000
Scaled Explained SS	758.959	Prob. Chi-SQUARE	0.0000

In Model Ho, where the null hypothesis is included, the p-value is more than 0.05, suggesting that Ho does not have heteroskedasticity. If the p-value is less than 0.05, it indicates the presence of heteroskedasticity in the model. In this case, the low p-value suggests that this model has heteroskedasticity. To address heteroskedasticity in this model, two methods were employed. The first method is weighted least squares, and the second is the HAC test. We adjusted the regression model over propositional or size factors, considering all possible variables. In this model, the HAC method has been applied to remove errors, and now the probability value is 0.0000, suggesting that there is no heteroskedasticity in this model.

6. Conclusion

This study recommends that insurers adopt a multifaceted approach to address the impact. Financial risk management practices are emphasized in this research to develop an effective study assessing the influence of organizational performance and financial risk management strategies. The researchers examined the impact of market risk, liquidity risk, operational risk, legal risk, business age, and company size on insurance firm organizational performance. The findings contribute to a literature review, benefiting the education sector and providing valuable insights for policymakers and regulators in the banking sector, introducing new literature on market risk, operational risk, liquidity risk, legal risk, company age, and company size. Consequently, it aids in shaping future plans for insurance companies.

Qualitative methodologies were employed to assess the extent to which financial risk management influences organizational performance. Data for this study were collected from relevant secondary sources. Pakistan's insurance industry shows promising potential for expansion and growth. Future research can enhance insurance firms by exploring internal and external factors, such as risk mitigation, loss ratio, investment ratio, volume of capital, and more, which other researchers can incorporate into this model. Return on assets (ROA) can be employed to comprehend and convey this model, while profitability factors are utilized to assess and analyze organizational performance. Primary and quantitative research methods can further illuminate and communicate this research. The paper delves into the significance of financial risk management in organizational performance, specifically in the context of insurance companies in Pakistan. It suggests further investigation into the role of human resources in the financial risk management process, aiming to contribute to expanding knowledge in the field.

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