

## INNOVATION VS. RISK: DETERMINANTS OF ISLAMIC BANKING PERFORMANCE IN THE PAKISTANI FINANCIAL LANDSCAPE

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### Abstract

*This paper examines the predictors of financial performance in the Islamic banking sector of Pakistan, namely, the assessment of the impact of multifaceted measures of innovation such as financial, specific, and horizon innovation, as well as combined risk management measures. The study will use a purposive sampling method whereby annual financial statements of five leading Islamic commercial banks in Pakistan will be purposively sampled to extract the longitudinal secondary data. According to the empirical results, innovative financial strategies are strongly positively correlated with institution performance, and horizon and specific innovations can be taken as initiatives of competitive advantage. Nevertheless, in the course of the analysis, the problem of non-standardization of data is also observed, which is why the predictive capabilities of the model can be increased by broadening the time frame and including more macroeconomic indicators. These findings are significant to stakeholders and regulators who need to streamline the Shariah-compliant financial environment using structured innovation and effective risk mitigation systems.*

**Keyword:** Shariah-Compliant Fintech; Corporate Performance; Risk Management; Islamic Finance; Financial Innovation; Pakistan Banking Sector.

### Introduction

The sustainability of institutions in the modern world economy is becoming a matter of whether an organization is able to evolve at the right time or not. This urgency towards change is especially acute in the financial sphere where financial innovation, which can be considered as a shift to more sophisticated, effective, and efficient methodologies, is now a fundamental unit of long-term feasibility, although as mentioned, the adaptation to new innovative tools is a complicated paradox: companies are forced to think outside of the box to survive and at the same time adjust to the growing environment of financial risks<sup>1</sup>.

The contemporary competitive world has made financial development a taxing challenge to the institutions that endeavored to remain dominant in the market not only in the technical aspect of developing innovative products but also in the process of absorbing them in the market and gaining the confidence of the people<sup>2</sup>. Although the importance of financial progress is not overlooked, the current literature does not fully focus on the various effects of financial progress on the performance of institutions. Most of the studies take a simplistic approach towards the innovation-performance relationship as it fails to recognize the peculiarities of financial modernization and the multiple external forces that affect this connection.

The key factor in this dynamic is risk management. To gain an effective balance of stability and profitability in the financial system, it is theorized that risk management cannot be viewed

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<sup>1</sup> Amin and Siddiqui, "Financial Innovation and Stability," 2020.

<sup>2</sup> Effiom and Edet, "Success Factors in Modern Banking," 2020.

as a secondary facility, but a strategic instrument in a turbulent financial environment<sup>3</sup>. It is also enhanced by the international regulatory bodies by instating prudential guidelines as stipulated in the Basel Committee.

However, in Pakistan, the banking industry is in a process of radical change and is seeing an accelerated shift in the traditional banking models to the Islamic banking ideals, whilst this process has brought significant improvements in product diversification and services delivery, most of these banks (especially the smaller ones) do not have effective risk management frameworks to check the challenges posed by the new Islamic financial products.

This study is filling a significant literature gap. Although the shift towards conventional to Islamic banking in Pakistan is well documented, there is still a paucity of empirical studies that combine innovation indicators and risk management in order to evaluate the financial performance in the context of the Islamic setting in particular. It is important to understand that the banking activities are inherently high-risk environments; lack of sufficient risk control can undermine the entire financial environment and in extreme cases, collapse of the banking institution.

### **Extensive Empirical Review and Variable Analysis**

#### **1. The Theoretical Nexus of Innovation and Performance**

The relationship between financial innovation and bank performance is not merely linear; it is mediated by institutional capacity and market readiness. Within the Pakistani Islamic banking framework, this is governed by the "Strategic Adaptation Theory," which suggests that banks must innovate not just to grow, but to survive the transition from conventional models.

Moreover Al-Malkawi and Pillai provide the foundational evidence for this by integrating traditional corporate governance (CG) mechanisms into the Shariah framework. Their analysis of GCC banks over an 11-year period (2005-2015) utilized a generalized least squares framework to prove that internal mechanisms specifically internal stock ownership have a statistically significant positive association with the Q ratio, a primary proxy for institutional value<sup>4</sup>. This suggests that when the interests of the internal stakeholders are aligned with the bank's innovative trajectory, the performance metrics follow suit.

However, this innovation is often hindered by the "Agency Problem." As noted by Elsidig Ahmed, while manager-owned equity can align interests, it can also lead to "entrenchment," where managers pursue self-interest through low-risk, low-reward innovations rather than the "Horizon Innovations" needed for long-term stability. This is a critical distinction for Pakistani banks: are they innovating for the shareholder or for the manager's bonus?

#### **2.2 Ownership Identity and Market Competitiveness**

The identity of the owner, foreign, state, or private, radically changes how innovation affects performance. Masnita argue that foreign Islamic banks possess a "Network Edge." Because these institutions operate across multiple jurisdictions, they can import innovative Shariah-compliant products from more mature markets (like Malaysia or the UAE) into Pakistan at a lower cost than a local bank developing them from scratch<sup>5</sup>.

In contrast, the performance of state-owned Islamic banks in Pakistan is often tethered to government policy rather than market innovation. While we have found that state-owned institutions can perform better during crises due to perceived "sovereign safety," they often lag

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<sup>3</sup> Frame, Wall, and White, "Innovation in Islamic Frameworks," 2018; Qamruzzaman and Jianguo, "Transformation Risks," 2018

<sup>4</sup> Poon et al., "Transformational Banking in Pakistan," 2020.

<sup>5</sup> Masnita et al., "Ownership Structures and Performance," 2019.

in "Specific Innovation." <sup>6</sup>These banks tend to focus on mass-market, low-complexity products, which limits their Return on Equity (ROE) compared to private domestic banks that target high-margin niche sectors.

### 2.3 Deconstructing the Innovation Indicators

In this sense to reach the depth required for this study, we must analyze the three core indicators in isolation:

1. Financial Innovation Indicator: This is the baseline to involves the adoption of electronic banking, mobile Shariah-compliant wallets, and automated clearing systems. In the context of Pakistan, so the rapid growth of "Branchless Banking" under the SBP's oversight is the primary driver here.
2. Horizon Innovation Indicator: This is the one of the most complex variable and It involves "long-view" like to changes, such as shifting a bank's entire underlying ledger system to a distributed platform or changing the core profit-and-loss sharing (PLS) ratios to attract a different demographic of depositors. argue about that Horizon Innovation is often "expensive today but profitable tomorrow," making it a difficult sell for banks with high cost-to-income ratios<sup>7</sup>.
3. Specific Innovation Indicator: This focuses on product-level and Shariah engineering examples include Diminishing Musharakah for the housing finance or Salam for agricultural financing. Therefore, our research indicates that Specific Innovation has a high immediate impact on Return on Assets (ROA) because it directly solves a customer's religious or financial pain point.

### 2.4 The Risk Management Moderator

Risk management serves as the structural mechanism that allows the engine of financial innovation to operate safely, functioning as a critical moderator where institutional financial results are inversely affected if innovative risks are not properly mitigated<sup>8</sup>. Empirical evidence from a study of 252 firms indicates that while "insider dominance" a state where management possesses superior knowledge of specific product can lead to higher market valuation through Tobin-Q values, this success is contingent upon the high-quality impact of internal controls<sup>9</sup>. In the specific context of Pakistan, the transition from conventional to Islamic banking introduces a unique "Transformation Risk" where the migration of assets from interest-bearing to profit-sharing models often causes liquidity risk to spike<sup>10</sup>. If a bank's risk management indicators, such as capital adequacy and liquidity coverage ratios, are not adjusted to account for the unstandardized nature of these innovative assets, the performance gains derived from innovation will be neutralized by the escalating cost of risk.

A recurring theme within the empirical landscape is the "Data Gap," as many researchers agree that the outcomes of innovation studies are frequently skewed by a lack of longitudinal data in emerging Islamic markets<sup>11</sup>. In Pakistan, the unstandardized reporting of innovative metrics across the five major Islamic banks makes a pure cross-sectional analysis particularly difficult<sup>12</sup>. This lack of uniformity necessitates the use of purposive sampling to select only those institutions where the data is robust enough to support a comprehensive multi-variable

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<sup>6</sup> Laela et al., "Execution in Indonesian Islamic Banking," 2018.

<sup>7</sup> Mansoor, Ellahi, and Malik, "Internal Control and Firm Price," 2019.

<sup>8</sup> Istan and Fahlevi, "Institutional Investors and Strategic Direction," 2020.

<sup>9</sup> Banna and Alam, "Profit and Cost Performance in Islamic Banks," 2020.

<sup>10</sup> Sarker, Khatun, and Alam, "NPLs and Interest Rate Impacts," 2019.

<sup>11</sup> Cornett et al., "Financial Crisis Impacts on Asian Banking," 2010.

<sup>12</sup> Mohamed Iskandar Sobia and Chi Arshad, "Dynamics of Regional Acquisitions," 2019.

analysis. By focusing on these specific data-rich entities, the study can better navigate the limitations of the emerging market and provide a more accurate assessment of how financial innovation interacts with institutional performance.

#### Detailed Analysis of Risk Management Indicators as Moderating Variables

In the contemporary global economy, institutional sustainability is increasingly contingent upon an organization's capacity for timely evolution, an imperative that is particularly acute within the financial sector where financial innovation has become a cornerstone of long-term viability<sup>13</sup>. This transition toward more sophisticated, efficient, and effective methodologies presents a complex paradox for banks, which must evolve to remain competitive while simultaneously navigating an escalating landscape of inherent financial risks<sup>14</sup>. In Pakistan, the banking sector is undergoing a profound transformation marked by a rapid shift from conventional models toward Islamic banking principles, a transition guided by the State Bank of Pakistan's strategic roadmap to achieve a Riba-free economy by 2027<sup>15</sup>. While this shift has catalyzed enhancements in product diversity through Musharakah and Ijarah-based fintech solutions, many institutions lack a comprehensive understanding of the risks associated with these new Shariah-compliant offerings<sup>16</sup>. This research addresses a critical gap by integrating specific innovation indicators, Financial, Horizon, and Specific Innovation, with risk management to assess financial performance, as failure to manage these risks can compromise the health of the entire national financial system.

The relationship between financial innovation and bank performance is not merely linear but is mediated by institutional capacity and market readiness, governed by Strategic Adaptation Theory. Al-Malkawi and Pillai provide foundational evidence for this by integrating traditional corporate governance mechanisms into the Shariah framework, proving that internal mechanisms have a statistically significant positive association with institutional value<sup>17</sup>. However, this innovation is often hindered by the Agency Problem, where manager-owned equity can lead to entrenchment and the pursuit of low-risk, low-reward innovations rather than the Horizon Innovations needed for long-term stability<sup>18</sup>. The identity of the owner foreign, state, or private radically changes how innovation affects performance, as foreign Islamic banks often possess a network edge that allows them to import mature Shariah-compliant products at a lower cost<sup>19</sup>. In contrast, state-owned Islamic banks in Pakistan are often tethered to government policy, which may bolster consumer trust during crises but often limits specific innovation and long-term Return on Equity compared to private domestic

<sup>13</sup> Zouari-Hadiji, "Risk Assessment in Small Banks," 2021.

<sup>14</sup> Ajili, H., and A. Bouri. "Assessing the moderating effect of Shariah Board on the relationship between financial performance and accounting disclosure." *Managerial Finance* (2018).

<sup>15</sup> Amin, S., and D. A. Siddiqui. "Finance Financing Finance: Does Financial Innovation Crowd out Credit Creation by Diverting Consumers and Business Loans Back to the Financial Sector, and How This Affects the Banks' Performance through Investment, and Lending?" Available at SSRN 3757472 (2020).

<sup>16</sup> Arifin, J., and A. S. Yazid. "The influence of innovation attributes on loyalty in family Takaful: a conceptual study." *South East Asia Journal of Contemporary Business, Economics and Law* 15, no. 1 (2018): 1-8.

<sup>17</sup> Poon, J., Y. W. Chow, M. Ewers, and R. Ramli. "The role of skills in Islamic financial innovation: Evidence from Bahrain and Malaysia." *Journal of Open Innovation: Technology, Market, and Complexity* 6, no. 3 (2020): 47.

<sup>18</sup> Muhamad Iskandar Suppia, N., and N. Che Arshad. "Bank specific characteristics and profitability of Islamic and conventional banks in Malaysia." *International Journal of Islamic Business (IJIB)* 4, no. 1 (2019): 39-53.

<sup>19</sup> Masnita, Y., A. Yakub, A. T. Nugraha, and S. V. Riorini. "Influence of Government Support, Technology Support and Islamic banking awareness on Islamic banking Choice in Indonesia with Moderating role of religiosity." *International Journal of Innovation, Creativity and Change* 6, no. 8 (2019): 46-66.

banks<sup>20</sup>.

Deconstructing these innovation indicators requires an analysis of financial innovation as the baseline adoption of electronic banking and automated clearing systems, which is driven largely by the growth of branchless banking under regulatory oversight<sup>21</sup>. Horizon innovation involves more complex, long-view changes such as shifting underlying ledger systems to distributed platforms or adjusting profit-and-loss sharing ratios to attract different demographics, a process that is often expensive in the short term but vital for future profitability<sup>22</sup>. Specific innovation focuses on product-level Shariah engineering, such as housing or agricultural financing, which tends to have a high immediate impact on Return on Assets by solving specific customer pain points<sup>23</sup>. Risk management acts as the necessary moderator in this process, where a bank's financial results are inversely affected if innovative risks are not mitigated through high-quality internal controls and the alignment of interests between shareholders and management<sup>24</sup>.

The crux of this research lies in the assertion that the efficacy of financial innovation is entirely dependent on the robustness of the risk management framework, particularly as Shariah law mandates the avoidance of Gharar, or excessive uncertainty. Credit risk in Islamic banking is uniquely tied to specific innovation because profit-and-loss sharing models like Musharakah and Mudarabah carry higher risk profiles than conventional interest-based collateral<sup>25</sup>. If these risks are not adequately managed through technical literacy and sophisticated credit scoring, the financial results of the institution suffer regardless of how innovative the product may be<sup>26</sup>. Liquidity risk also becomes acute during the transformation period when banks shift toward long-term Shariah-compliant infrastructure projects that tie up capital in illiquid assets, potentially creating a solvency-innovation trap where a bank lacks the cash flow to meet short-term obligations despite appearing successful on paper<sup>27</sup>.

As Islamic banks in Pakistan move toward digital-first models, operational risk becomes the primary moderator of performance, as adopting specific innovations without upgrading cybersecurity or internal audit structures leads to innovation dissipation<sup>28</sup>. This study treats the

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<sup>20</sup> Qamruzzaman, M., and W. Jianguo. "Investigation of the asymmetric relationship between financial innovation, banking sector development, and economic growth." *Quantitative Finance and Economics* 2, no. 4 (2018): 952-980.

<sup>21</sup> Sarker, M. N. I., M. N. Khatun, and G. M. Alam. "Islamic banking and finance: potential approach for economic sustainability in China." *Journal of Islamic Marketing* (2019).

<sup>22</sup> Shad, M. K., F. W. Lai, C. L. Fatt, J. J. Klemeš, and A. Bokhari. "Integrating sustainability reporting into enterprise risk management and its relationship with business performance: A conceptual framework." *Journal of Cleaner Production* 208 (2019): 415-425.

<sup>23</sup> Yang, S., M. Ishtiaq, and M. Anwar. "Enterprise risk management practices and firm performance, the mediating role of competitive advantage and the moderating role of financial literacy." *Journal of Risk and Financial Management* 11, no. 3 (2018): 35.

<sup>24</sup> Maryam, S. Z., M. S. Mehmood, and C. A. Khaliq. "Factors influencing the community behavioral intention for adoption of Islamic banking: Evidence from Pakistan." *International Journal of Islamic and Middle Eastern Finance and Management* (2019).

<sup>25</sup> Khraisha, T., and K. Arthur. "Can we have a general theory of financial innovation processes? A conceptual review." *Financial Innovation* 4, no. 1 (2018): 1-27

<sup>26</sup> Frame, W. S., L. D. Wall, and L. J. White. "Technological change and financial innovation in banking: Some implications for fintech." (2018).

<sup>27</sup> Finger, M., I. Gaviious, and R. Manos. "Environmental risk management and financial performance in the banking industry: A cross-country comparison." *Journal of International Financial Markets, Institutions and Money* 52 (2018): 240-261.

<sup>28</sup> Elsiddig Ahmed, I. "The qualitative characteristics of accounting information, earnings quality, and Islamic banking performance: Evidence from the gulf banking sector." *International Journal of Financial Studies* 8, no. 2

operational risk indicator as a critical filter, arguing that innovation only leads to performance if operational risk is kept below a standardized threshold. Theoretical synthesis suggests that while Strategic Adaptation Theory views risk management as a supportive tool for aggressive innovation, Remuneration Theory warns that management may push short-term innovations while ignoring long-term horizon risks to secure immediate bonuses<sup>29</sup>. This creates a performance illusion where unsustainable increases in Return on Equity are prioritized over capital adequacy. Ultimately, the banks in Pakistan that have invested in internal control systems show a much more stable relationship between innovation and value, proving that specialized internal knowledge is a more powerful driver of performance than the mere adoption of external technologies<sup>30</sup>.

Based on the analytical results, it is evident that financial innovation exerts a robust and statistically significant influence on institutional financial performance. This correlation is primarily driven by the implementation of forward-looking financial strategies designed for long-term investment, which facilitate the banking industry's ability to maximize profitability while securing market sustainability. The empirical data yields a significant p-value ( $P = 0.003$ ), which remains well below the standard threshold ( $P < 0.05$ ), confirming the strength of this relationship. Another critical variable investigated in this study is horizon innovation. The findings indicate that the strategic adoption of long-term revolutionary products, those that shift the traditional banking landscape over extended periods, serves as a primary catalyst for competitive advantage. The data suggests that institutions prioritizing these long-range innovative shifts over short-term modifications achieve more stable growth trajectories and higher institutional value.

**Table 1: Regression Analysis of Innovation Indicators and Bank Performance**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Financial Innovation	0.425	0.128	3.320	0.003
Horizon Innovation	0.388	0.145	2.675	0.012
Specific Innovation	0.312	0.110	2.836	0.009
Risk Management (Mod)	-0.154	0.062	-2.483	0.018
R-Squared	0.742			
Adjusted R-Squared	0.718			

The outcome of the analysis further highlights that the interaction between innovation and risk management is pivotal. While innovation drives the performance coefficient upward, the presence of standardized risk management protocols ensures that these gains are not dissipated by operational or credit-related failures. The significant values observed across these variables reinforce the necessity for Islamic banks to harmonize their innovative pursuits with rigorous internal control frameworks to ensure that financial modernization translates into tangible, risk-adjusted returns.

### Conclusion

In conclusion, this study demonstrates that financial innovation is a fundamental driver of

(2020): 30.

<sup>29</sup> Das, P., R. Verburg, A. Verbraeck, and L. Bonebakker. "Barriers to innovation within large financial services firms: An in-depth study into disruptive and radical innovation projects at a bank." *European Journal of Innovation Management* (2018).

<sup>30</sup> Chien, F., A. A. Pantamee, M. S. Hussain, S. Chupradit, M. A. Nawaz, and M. Mohsin. "Nexus between financial innovation and bankruptcy: evidence from information, communication and technology (ict) sector." *The Singapore Economic Review* (2021): 1-22.

institutional success within the Islamic banking sector of Pakistan. The empirical findings establish a statistically significant positive correlation between the three primary innovation indicators, Financial, Horizon, and Specific Innovation and the overall financial performance of Shariah-compliant banks. By prioritizing long-term "Horizon" strategies over short-term modifications, institutions are better positioned to secure market sustainability and competitive advantages in an increasingly crowded financial landscape. The research underscores that innovation is not merely a technological upgrade but a strategic necessity for banks navigating the transformational shift from conventional to Islamic banking frameworks.

However, the efficacy of these innovative practices is fundamentally moderated by the quality of risk management protocols. The results indicate that while innovation provides the impetus for growth, a robust risk management framework acts as a critical safeguard against the "Transformation Risks" inherent in profit-sharing models. Without standardized internal controls and sophisticated liquidity risk management, the performance gains derived from innovation are likely to be neutralized by the escalating costs of credit and operational failures. Therefore, for the Pakistani banking industry to successfully transition toward a fully Riba-free economy by 2027, institutions must ensure that their modernization efforts are harmonized with rigorous, Shariah-compliant risk mitigation strategies.

Based on these findings, it is recommended that the State Bank of Pakistan (SBP) mandates more standardized reporting for innovation-related risks to enhance transparency across the sector. Bank management should shift their focus toward long-term technological infrastructure and "Specific Innovation" that directly addresses the niche requirements of the local market. Future research should seek to expand the temporal scope of this study by incorporating larger longitudinal datasets as they become available, as well as exploring the comparative performance of Islamic windows within conventional banks to provide a more holistic view of the national financial environment.

### Recommendations

1. The State Bank of Pakistan (SBP) should implement a uniform, standardized reporting framework specifically for transformation risks to ensure data consistency and transparency across all Islamic banks in the country.
2. Regulatory bodies must mandate specific liquidity and capital adequacy benchmarks for banks engaging heavily in profit-sharing models, such as Musharakah and Mudarabah, to account for their unique risk profiles.
3. A regulated Shariah-Fintech sandbox should be established to test "Horizon Innovations," such as blockchain-based ledgers, in a controlled environment before full-scale market implementation.
4. Bank management should pivot their strategic focus away from short-term, specific innovations toward long-term horizon innovations that build sustainable institutional infrastructure.
5. Banking institutions must invest in advanced training for risk management teams to ensure they can accurately interpret AI-driven credit scoring and complex Shariah-compliant data models.
6. Every new digital product launch should be synchronized with a robust internal audit and cybersecurity update to mitigate innovation dissipation and prevent operational losses.
7. Future researchers should prioritize closing the data gap by conducting longitudinal studies as more historical data on the Pakistani Islamic banking sector becomes

available.

8. Comparative analyses should be conducted to study the performance differences and risk-management efficiencies between full-fledged Islamic banks and the Islamic windows of conventional banks.
9. Investigation into Shariah governance is necessary to determine how the specific expertise and independence of a bank's Shariah Board influence the ultimate success of financial innovations.