Factors Affecting Performance of Financial Inclusion in Islamic Financing's Profit and Loss Sharing: Empirical Analysis on Moderating Effect

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ABSTRACT

This study provides a comprehensive investigation into the determinants of Profit-Loss-Sharing (PLS) financing systems' performance within the Islamic financial institutions in Bangladesh. It focuses on five primary determinants: government regulations, knowledge, moral hazard, collateral risks, and competitiveness, with an additional emphasis on the moderating role of Fintech inclusion. Our results show that these factors significantly impact PLS performance, highlighting the need for supportive regulatory environments, financial literacy initiatives, robust risk management strategies, and increased competitiveness in the Islamic finance industry. Furthermore, the study underscores the pivotal role of Fintech in enhancing operational efficiency and facilitating financial inclusion. These findings have substantial implications for policymakers, academics, and industry practitioners, underscoring the need to focus on these determinants to improve PLS performance. However, the study is not without limitations. The focus on Bangladesh restricts the generalizability of findings, and the use of secondary data might not fully capture real-world complexities of PLS operations. Future research should consider these limitations and include other potential determinants of PLS performance, explore the role of Fintech in-depth, and expand the geographic scope to offer a more global perspective.

Keywords: Mudarabah, Musharakah, IFIs, Islamic Banks, Riba

BACKGROUND OF THE STUDY

In Islamic finance, the fundamental prohibitions of riba, gharar, and maisir are considered critical elements in promoting ethical and sustainable financial practices. Riba, which refers to the charging of interest, is prohibited in Islamic finance due to its exploitative nature and potential to create economic imbalances (Ahmad, 2020). Gharar, or uncertainty, is also prohibited as it introduces an element of risk that may lead to unfair transactions (Fahmi, 2020). Similarly, maisir, or gambling, is prohibited as it is seen as a form of speculation that can harm society and undermine economic stability (Sulaiman, 2020). These three fundamental prohibitions are central to Islamic finance and help to ensure that financial transactions are conducted in a fair, ethical, and socially responsible manner.

In Islamic finance there is a common rule that no one may claim any profit without taking a risk which is popularly known as *Al-ghounm bi al-ghourm* and the Profit and Loss Sharing (PLS) model was developed from this rule (Bhatti & Bhatti, 2010); *(Ben Jedidia, 2020)*. This states that all participants must share the risks and rewards of a financial transaction. Allah (SWT) has permitted business and prohibited *Riba* (interest) (Al Quran 2:275) and the main characteristic of a business is the risk of losses. PLS mode of transaction is regarded as the cornerstone of Islamic financial system since it advocates risk sharing and equitable distribution of risk which is considered as non-exploitative, socially productive as well as social welfare oriented (Alfarisi, 2015). In addition, the *Riba* originated from a loan that bears a pre-determined return over time; that is why the Islamic Banks do business, not a loan provider. The center point of difference between the Islamic Banking and Conventional Banking is *Mudarabah* (profit sharing), *musharakah* (profit and loss sharing) as documented by Murshid and Hussain (2016) and Ahmad (2020).

The *Mudarabah* finance concepts were well known during the Prophet Mohammad (PBUH) period and even before his Prophet-ship. After the prophet-ship of Mohammad (PBUH), he kept their practice but with a great emphasis on *Riba (Sherif, 2020)*; (Issa, 2020b; Rahman & Riyadh, 2016; Wolf, Nabin, & Bhattacharya, 2012). Prophet's (PBUH) first wife, Khadijah (R), provided the capital like another trusted individual to trade. The whole arrangement of the business was based on risk sharing, trust, mutual agency, knowledge of the business of both sides, monitoring and guidance, and fair terms of the agreement (Manan & Abdullah, 2012). The Messenger of Allah (PBUH) said: "Till one of the two partners does not commit dishonesty, I am a third partner of them." He also said, "There is a blessing in *Mudarabah*" (Mughal, 2012). Four Caliphs of Islam continued the Islamic finance system established by Mohammad (PBUH). Then *Mudarabah* (profit sharing) was practiced by Caliph Utman (R.A.), Caliph Umar (R.A.), two of his sons, Abdullah Ibn Abbas (RA) (Åström, 2011). The ancient Arabs also used the term *Muqaradah*, and the Roman used the term *Commenda* to mean *Mudarabah* (profit sharing) in an early appearance in Roman law of the early Middle Age. The *Commenda* was an agency contract, like equity-based investment or *Mudarabah (*profit sharing*)* contract, that originated in Italy and spread from west to east up to 16thcentury. It was a widespread business agreement between Muslims and non-Muslims worldwide (Ghayad & Hamdan, 2021).

The journey of *Mudarabah* continued up to the nineteenth century. Still, the control of the Western colonial powers divided the Islamic world into many small states. The capitalist system effectively replaced the existing financial scheme that complied with Islamic *Sharia* objectives (Worthington, 2007). That is why the innovative idea of *Riba*-free banking against the conventional banking system was further introduced in the late 1940s by some of the Islamic scholars like Anwar Qureshi in 1946, Mahmud Ahmad in 1952, Naiem Siddiqi in 1948 and others and their proposal for the Islamic banking system was based on the original concept of PLS, *Mudarabah* (Profit Sharing) and *Musharakah* (profit and loss sharing) (Murshid, 2016). According to (Sapar, 2017), the simple term *Riba* is called "money return on money" which eases the point between the interest rate of the financial investment and the rate of return.

It is noteworthy to mention that Mudarabah and *Musharakah* being equity-based Islamic financing techniques that eliminate *Riba* either open or hidden, no exploitation on any side, achieve the goal philosophy of Islamic Financing, promote social welfare, ancient history of success where as traditional debt-based financing system is exploitative, predatory and bears the allegation of *Riba* (Bougatef, Nakhli, & Mnari, 2020; Fianto, 2020; Chowdhury, Shoyeb, Akbar, & Islam, 2016; Alshater, Saba, Supriani, & Rabbani, 2022).

In *murabahah* financing, banks receive a fixed return from its customer, which is based on usury and debt as the customer has to pay to the bank is fixed at the beginning of the contract (Sherif, 2020; Issa, 2020; Rahman & Riyadh, 2016; Wolf et al., 2012; Ghayad, Hamdan, & Professor, 2021).

Islamic Banks increased remarkably; their growth rate is 15% to 20%; present market share is 35%; Conventional banks are also doing Islamic Banking operations through their branches and windows as they can accommodate debt-based products of Islamic Banking system very easily. As the banks do not share loss of business of its customers, the investment portfolio of Islamic Banking is dominated by this debt-based products, similar to the conventional banks where the share of *Mudarabah* investment is very few (Chowdhury et al., 2016; Habib & Hossain, 2020; Issa, 2020) as presented by Table 1.1 as follows:

Table 1. 1: Developments of Islamic Banking Segment in Bangladesh

Mode of Investment	Sharing April-June 2022	Sharing April-June 2021
Bai-Murabaha	46.42%	44.56%
Bai-Muajjal	23.21%	24.00%
HPSM	17.57%	19.58%

Ijara & Ijara-bil Bai	4.07%	4.74%
BaiSalam	1.77%	1.33%
Quard with Security	1.03%	1.20%
Musharaka	0.36%	0.78%
Mudaraba	0.26%	0.28%
Bai-Istisna	0.03%	0.02%
Others	5.28%	3.51%
Total	**100.00%**	**100.00%**
PLS/Equity based investment	0.62%	1.06%
Debt-based Investment	99.38%	98.94%
Total	**100.00%**	**100.00%**

Source: Islamic Banking Wing Research Department Bangladesh Bank, 2022.

Table 1.1 shows PLS/Equity based investment are relatively low compared to other types of investment because such investments involve sharing the profits and losses of the business between the investor and the entrepreneur. This means that the investor takes on a higher level of risk compared to debt-based investments, where the investor is guaranteed a fixed return on their investment. As a result, some investors may prefer the certainty of a fixed return rather than sharing in the potential risks and rewards of the business. The drop in PLS/Equity based investment from 2021 to 2022 could be due to several factors. It is possible that some investors may have experienced losses in PLS-based investments in 2021, which may have reduced their willingness to invest in such ventures in 2022. Additionally, the economic conditions in the country or specific industries could have changed, making debt-based investments more attractive than PLS-based investments. It is also possible that there may be a lack of awareness or understanding of PLS-based investments among investors, which could contribute to the low figures. In Islamic Banking and finance system, IBs are much reluctant to prefer business that was done and by Rasulullah (*sallahu alyhi wa sallam*) himself and his *shahaba* (RA) because of western business system of capitalism. However, equity-based financing represents the pure Islamic banking structure and should be promoted as a priority for governing true Islamic Banking (Shaikh, Ismail, Mohd. Shafiai, Ismail, & Shahimi, 2017a); (Ali & Javaid, 2020).

Profit-Loss-Sharing (PLS) Performance in Bangladesh

Bangladesh is one of the fastest-growing Islamic finance markets in the world, with a significant demand for Shariah-compliant financial products. In recent years, there has been growing interest in Profit-Loss-Sharing (PLS) financing as an alternative financing method in Bangladesh. In this section, we will discuss the performance of PLS financing in Bangladesh, with a focus on the challenges and opportunities associated with this financing method.

One of the main challenges of PLS financing in Bangladesh is the lack of standardization in PLS contracts. While there are guidelines for structuring PLS agreements provided by organizations such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), there is a need for greater standardization and transparency in PLS contracts in Bangladesh. This can lead to inconsistencies in the way PLS contracts are structured and can make it difficult for investors to assess the risks associated with the venture.

To address this challenge, the Bangladesh Bank, the central bank of Bangladesh, has issued guidelines for PLS financing to promote standardization and transparency in PLS contracts (Bangladesh Bank, 2019). The guidelines provide a framework for structuring PLS agreements, including the determination of profit- sharing ratios and the assessment of risk associated with the venture. Another challenge of PLS financing in Bangladesh is the lack of awareness and understanding among investors and regulators regarding the

benefits and risks associated with PLS financing. This can lead to a reluctance among investors to invest in PLS financing and a lack of regulatory frameworks to govern PLS financing.

To address this challenge, there is a need for greater education and awareness among investors and regulators regarding the benefits and risks associated with PLS financing. For example, the Bangladesh Bank has launched a program to promote awareness and education among the public regarding Islamic finance, including PLS financing (Bangladesh Bank, 2020). Despite these challenges, PLS financing has the potential to be an effective financing method in Bangladesh, particularly for small and medium-sized enterprises (SMEs). SMEs are a key driver of economic growth and development in Bangladesh, but they often struggle to access financing due to their size and lack of collateral. PLS financing has the potential to provide financing to SMEs by sharing the risks and rewards of the venture.

Research has shown that PLS financing can lead to better performance for SMEs compared to conventional financing methods in Bangladesh. One study by Rahman et al. (2019) found that PLS financing can lead to higher profitability and lower default rates for SMEs compared to conventional financing methods. The study also found that PLS financing can promote the growth and development of SMEs in Bangladesh. Additionally, PLS financing has the potential to promote economic growth and development in Bangladesh by providing financing for infrastructure projects. Bangladesh has significant infrastructure needs, particularly in the areas of transportation and energy. PLS financing can provide a Shariah-compliant financing method for these projects, promoting economic growth and development in the country.

Overall, PLS financing has the potential to be an effective financing method in Bangladesh, particularly for SMEs and infrastructure projects. While there are several challenges associated with PLS financing in Bangladesh, including the lack of standardization in PLS contracts and the lack of awareness and understanding among investors and regulators, there are opportunities for growth and development in the Islamic finance industry in Bangladesh. To fully realize the potential of PLS financing in Bangladesh, there is a need for greater standardization and transparency in PLS contracts, greater education and awareness among investors and regulators, and greater support from governments and financial institutions to promote PLS financing for SMEs and infrastructure projects. On the above premises, the background information of the study discussed is relevant to the focus of study that provides a clear leading research gaps in theoretical, managerial, and practical contributions, that demonstrates the significance of the study.

Problem statement

One "of the major challenges faced by the IFIs today are associated with their transactions which are lacking in the fundamental pillars of Islamic finance known as the PLS entity. PLS is a major attribute of Islamic financial instruments which makes it superior over non-Islamic modes of transactions (Chowdhury et al., 2016). Studies related to the optimality of this mode of transaction are becoming very important. Reasons behind the low implementation of the PLS mode of transactions by Islamic banks are debatable in which one of the factors that is blamed for its low implementation is the moral hazard factor. (Mansour et al, 2015) utilized a specific set of assumptions to construct a model of Islamic banking in order to demonstrate the rationality of the extensive use of debt-like instruments by IFI. Moreover, there have been many works that tried to reduce asymmetric information in PLS contracts. For example, the agent's financial participation in the project's capital (Karim, 2020) may reduce moral hazard. This work is consistent with the work of Nabi (2013) who suggests agents to put in a minimum capital as well as be awarded a minimum profit share. This is also in line with other research (Elfakir & Tkiouat 2015) which rationally claims that under the PLS contract, moral hazard is reduced as both agents face the same destiny of losing their capital.

The absence of collateral in the PLS system creates a moral hazard problem as the entrepreneur has less to lose in case of default than the investor (Fikri et al., 2020). In addition, due to the asymmetric information between the entrepreneur and the investor, it becomes difficult for the investor to assess the risk of the investment accurately (Khandaker, 2015). As a result, investors may demand higher rates of return to

compensate for the higher risk, which can make PLS financing less attractive to entrepreneurs. This, in turn, can limit the availability of financing for entrepreneurs and impede the growth of the PLS system in Bangladesh. To address the collateral risk problem, some scholars have proposed the use of alternative risk management tools such as credit guarantees, insurance, or equity-like instruments (Fikri et al., 2020). Others have suggested that the PLS system can be combined with collateral-based lending to reduce the risk for investors while preserving the entrepreneurial spirit of the PLS system (Khandaker, 2015). However, the effectiveness of these solutions is still subject to further research and evaluation.

The moral hazard factor is another significant challenge to implementing the Profit Loss Sharing (PLS) system in Bangladesh. In a PLS system, where the entrepreneur and the investor share the profits and losses of the business venture, the entrepreneur may take on more risk than they would in a traditional lending arrangement, as the losses will be shared with the investor (Khandaker, 2015). This situation can create a moral hazard problem, where the entrepreneur has less incentive to exercise caution and may take excessive risks, knowing that the losses will be shared with the investor. This problem is particularly relevant in Bangladesh, where the financial sector is heavily reliant on collateral-based lending, and the PLS system is not well-established (Khan, 2019). According to a study by Hossain and Halim (2019), the moral hazard factor is a significant challenge to the effectiveness of the PLS system in Bangladesh. The study found that the absence of effective monitoring mechanisms and risk management tools exacerbates the problem of moral hazard in the PLS system. Moreover, the study found that the lack of awareness of the PLS system among entrepreneurs and investors may also contribute to the moral hazard problem. To further emphasize the significance of the problem, a report by the Bangladesh Bank (2019) noted that the high level of non-performing loans (NPLs) in the banking sector may be attributed to the moral hazard factor. The report stated that "due to the absence of collateral in PLS, borrowers may take undue risks and may not feel obligated to repay the loan, leading to a higher rate of NPLs" (p. 8). The report highlights the need for effective risk management and monitoring mechanisms to mitigate the risk of moral hazard in the PLS system. Moreover, in another developing country context, Saeed et al. (2020), 57% of the respondents agreed that entrepreneurs are more likely to take excessive risks in a PLS system than in a traditional lending arrangement. Moreover, the study found that the lack of effective monitoring mechanisms and risk management tools exacerbates the problem of moral hazard in the PLS system.

Competition is a significant challenge to implementing the Profit Loss Sharing (PLS). In a competitive market, investors may prefer collateral-based lending over PLS, as it offers greater security and less risk (Khandaker, 2015). Moreover, the PLS system requires greater involvement and participation from both the entrepreneur and the investor, which may be difficult to achieve in a competitive market. This problem is particularly relevant in Bangladesh, where the financial sector is dominated by collateral-based lending, and the PLS system is not well-established (Khan, 2019). According to a study by Kabir and Hossain (2018), competition is a significant barrier to the growth of the PLS system in Bangladesh. The study found that the lack of awareness and knowledge among entrepreneurs and investors regarding the PLS system, coupled with the prevalence of collateral-based lending, hinders the growth and development of the PLS system. To further emphasize the significance of the problem, a report by the Bangladesh Bank (2019) noted that the PLS system's market share in the overall banking sector in Bangladesh is relatively low. The report stated that "PLS financing constitutes only about 0.49% of the total banking sector loans, indicating a lack of awareness and interest among entrepreneurs and investors" (p. 17). The report highlights the need for policy and regulatory support to promote the growth and development of the PLS system and increase competition in the market.

The knowledge gap is a significant challenge to the implementation of the Profit Loss Sharing (PLS) system in Bangladesh. Limited awareness and understanding of the PLS system among entrepreneurs and investors hinder its adoption and growth in the financial sector. This problem is particularly relevant in Bangladesh, where the PLS system is not well-established, and the financial sector is dominated by collateral-based lending (Khan, 2019). According to a study by Islam and Khandaker (2017), lack of knowledge and understanding of the PLS system is a significant barrier to its growth in Bangladesh.

The study found that most entrepreneurs and investors have limited knowledge of the PLS system and its benefits. The study also highlighted the need for awareness-raising campaigns and educational programs to increase understanding and knowledge of the PLS system among entrepreneurs and investors. Moreover, the lack of legal and regulatory framework for PLS also exacerbates the problem of knowledge gap. The absence of clearguidelines and regulations for the PLS system creates confusion among entrepreneurs and investors, which discourages them from adopting this system (Kabir & Hossain, 2018).

Financial inclusion is another crucial factor in the implementation of the Profit Loss Sharing (PLS) system in Bangladesh. Despite the potential benefits of the PLS system in promoting financial inclusion, the lack of financial literacy, limited access to finance, and inadequate infrastructure hinders its adoption and growth among marginalized and vulnerable populations. This problem is particularly relevant in Bangladesh, where financial exclusion is widespread (Hasan, 2018). According to the World Bank (2020), only 50.1% of the adult population in Bangladesh has access to formal financial services, and the gender gap in access to finance is significant. Financial exclusion is particularly severe in rural areas, where only 36% of the population has access to formal financial services. The lack of access to finance and financial literacy among marginalized and vulnerable populations limits their participation in the PLS system, which requires knowledge and understanding of financial concepts.

Moreover, the lack of adequate infrastructure, including digital infrastructure, hinders the growth and development of the PLS system. According to a study by Sarker et al. (2019), inadequate digital infrastructure, including the lack of reliable internet connectivity and electronic payment systems, limits the reach and impact of the PLS system. The study highlights the need for infrastructure development to promote financial inclusion and the adoption of the PLS system.

Despite the growing popularity of the Profit Loss Sharing (PLS) system in Islamic finance, there are theoretical gaps in the understanding and implementation of the system. The PLS system is often presented as an alternative to interest-based financing and as a solution to address the ethical concerns of conventional finance. However, there are theoretical gaps in the literature regarding the effectiveness, efficiency, and stability of the PLS system, particularly in the context of developing countries. One of the theoretical gaps in the PLS system is the lack of clarity and consensus on the definition of profit and loss sharing. The definition of profit and loss sharing varies across different scholars and practitioners, leading to confusion and inconsistencies in the implementation of the system (Ali, 2016). The lack of a standardized definition of profit and loss sharing undermines the effectiveness and stability of the PLS system.

Moreover, the PLS system's efficiency and stability have been questioned due to the asymmetric information and agency problems between the entrepreneur and the investor. The PLS system requires close monitoring and supervision of the investment and the entrepreneur's performance, which can be challenging and costly (Khan, 2015). The lack of adequate legal and regulatory frameworks for PLS exacerbates these problems, leading to inefficiencies and instability in the system. To further emphasize the significance of the problem, a study by Hasan and Dridi (2019) identifies the lack of empirical evidence on the effectiveness and efficiency of the PLS system as a theoretical gap. The study highlights the need for empirical research to assess the performance and impact of the PLS system on financial intermediation, economic growth, and financial stability. Theoretical gaps in the PLS system undermine its effectiveness, efficiency, and stability, leading to limited adoption and growth in the financial sector. Theoretical and empirical research is needed to address these gaps and improve the understanding and implementation of the PLS system. However, these researches have strongly established the requirement of an equity-based instrument in a country as a basic investment tool in Islamic Finance. Therefore, this research aims to determine the factors that have the most impact on Profit-Loss-Sharing (PLS) Performance in Bangladeshi Islamic Banks. This research aims to examine and analyze the hypothesis that the PLS paradigm might hinder or improve the Profit-Loss-Sharing (PLS) Performance of Islamic banks using a hypothetic-deductive technique.

This study aims to investigate the factors impacting the performance of the Profit-Loss-Sharing (PLS)

financing system in Bangladeshi Islamic Financial Institutions. It addresses key research questions around the relationships between elements such as government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of the PLS financing system, and the moderating role of Fintech Inclusion in these relationships. The research objectives align with these questions, aiming to uncover how these factors influence the PLS performance and ascertain the role of Fintech Inclusion in moderating these relationships. These objectives and questions correspond with the research issues identified in the literature, providing a comprehensive, logical, and measurable strategy to fill gaps in the current understanding of PLS implementation in Bangladeshi Islamic Financial Institutions. Furthermore, the study acknowledges the PLS system's efficiency and stability has been under question due to asymmetric information and agency issues, with the PLS system requiring close monitoring and oversight of investment and entrepreneur performance. The lack of comprehensive legal and regulatory frameworks for PLS further aggravates these problems, leading to systemic inefficiencies and instability. To underline the issue's gravity, a study by Hasan and Dridi (2019) identifies a theoretical gap in empirical evidence regarding the PLS system's effectiveness and efficiency. The study underscores the need for empirical research assessing the PLS system's performance and impact on financial intermediation, economic growth, and financial stability. These theoretical gaps in the PLS system hamper its effectiveness, efficiency, and stability, resulting in its limited adoption and growth within the financial sector. Theoretical and empirical research is thus required to bridge these gaps and enhance the understanding and implementation of the PLS system. However, despite these challenges, the research strongly establishes the need for an equity-based instrument in a country as a fundamental investment tool in Islamic Finance. Therefore, this research aims to identify the factors with the most substantial impact on the PLS Performance in Bangladeshi Islamic Banks. It strives to examine and analyze the hypothesis that the PLS paradigm could hinder or improve the PLS Performance of Islamic banks using a hypothetico-deductive technique. As the most recent literature points out, this study seeks to address the explicitly identified research problems and theoretical gaps, thus motivating the researcher to enhance the understanding of the research issues to be empirically identified and investigated.

Scope of Study

This research "studies the impacting on Performance of Profit-Loss-Sharing (PLS) in the Islamic banking institutes in Bangladesh. PLS paradigm induces specificities in the liquidity issue of Islamic banks. Due to the lack of instruments for managing liquidity, Islamic banks are constrained to keep a higher liquidity which affects their profitability. Even though this study analyses the relation between moral hazard level and the optimal contract but the other reasons behind the low implementation of PLS by IFI are not covered in this study."

As "for the moral hazard index developed in this study, it is an index which measures the level of moral hazard associated to a set of variables in a contract which is independent of the entrepreneur. The index measures the level of moral hazard associated to one period contracts. The value of the index will always be the same for a specific contract regardless of the entrepreneur, thus, it is not sufficient to apply the index alone in finalizing a contract on a loan. Finally, as for the competitiveness index of PLS trades, it is a measure for gauging the performance of PLS trades of a country for a period of time without specifying the reason behind the achieved performance."

To ensure the validity of the research, several aspects are addressed. Firstly, the study emphasizes the liquidity problems faced by Islamic banks due to the PLS paradigm, as well as the connection between moral hazard levels and optimal contracts. Secondly, the research population and unit of analysis are defined, comprising bank executives, principal officers, managers, and managing directors based in Dhaka, Bangladesh. The total number of banking employees in Bangladesh is estimated to be around 175,027. Lastly, the research relies on the most recent data available, with findings and conclusions based on the current state of Islamic banking institutes in Bangladesh. The study's justifications stem from the need to comprehend the factors influencing the performance of PLS financing systems and to identify potential areas for improvement.

In brief, this study's scope centers on the performance of the Profit-Loss-Sharing (PLS) financing system in Islamic banking institutes in Bangladesh, examining liquidity issues and the relationships between moral hazard levels and optimal contracts. The moral hazard index and the competitiveness index of PLS trades are developed and applied, contributing to the understanding of PLS performance. However, the research does not explore other factors behind the low PLS implementation by IFI or the specific causes of PLS trades' performance, leaving room for future studies to address these aspects.

This research holds theoretical, practical, and economic significance in investigating Profit-Loss-Sharing (PLS) financing systems within Islamic financial institutions. Theoretically, PLS promotes shared responsibility, risk-sharing, and encourages thorough assessment of creditworthiness, facilitating a more efficient allocation of financial resources. Its potential to foster innovation and entrepreneurship can lead to broader economic growth and development. Practically, PLS aligns with the principles of fairness, justice, and Islamic law's objectives promoting social justice and equitable wealth distribution. Socially, it encourages cooperation between stakeholders, potentially spurring new business creation, job opportunities, and fostering social cohesion. Economically, PLS can bolster entrepreneurship and efficiency through shared incentives, encouraging informed decision-making and potentially mitigating adverse selection and moral hazard risks. Furthermore, this study explores quantifying moral hazard in PLS and non-PLS contracts and measures PLS competitiveness, providing significant insights for governments, researchers, financiers, and entrepreneurs. By enhancing our understanding of PLS contracts' function, this research contributes to developing equitable, risk-sharing Islamic finance systems, potentially benefiting a wide spectrum of society.

Review of Mudarabah as the Prime Tool of Islamic Financing

The "PLS contracts are considered the most *Shariah*-compliant tool for financial transactions (Rahman & Gholami, 2020; Jedidia, 2020; Intansari, 2020; Shafi & Reddy, 2019) but *Mudarabah* (Profit Sharing) represent a very poor portion of investment in its investment portfolio and globally the scenario is almost similar (Fathurrohman, 2020; Issa, 2020; Miasary, 2020)."

Islamic "banking is based like a building on its foundation and the foundation is faith on the holly Al-Quran and Sunnah of the Prophet (PBUH) (Fianto, Gan, & Hu, 2019). After placement of the foundation, it is run based on Islamic *Shariah* principle such as the prohibition of all types of Interest in practices (Boubker, Douayri, & Ouajdouni, 2021), completely avoiding of financing under *Maisir* and Gharar, and implementation of real assets backed financing as well as sharing of profits and taking risk of loss (Osmanovic, 2022). If Islamic Banking complies with this Shariah principle it will get surely the blessing of Allah SWT (Habib, 2020; Hiep & Binh, 2020; Mahdi & Rahaman, 2020; Mustafa, 2020)."

Researchers recommended, Scholars' initiatives to ensure higher utilization of equity-based tools of IBs following the PLS mechanism, its new products, and models to be undertaken under the Central Shariah Board (Ajmi, Aziz, & Kassim, 2020; Jedidia, 2020). By practicing the *Mudarabah* investment, IB could create thousands of entrepreneurs (Kok & Filomeni, 2021). However, as it is well-known, the investment of Islamic banks is dominated by *Murabaha* which is not the most useful tool of investment for enhancing entrepreneurship (Assagaf, 2020; Bank, 2020). Although this product is permitted in Islam it may be defined as the Shariah-compliant financing but not purely Shariah-based financing of IB (Afkar et al., 2020; Warninda, Ekaputra, & Rokhim, 2019)."

In Islam, "the financial system promotes justice, the financier takes a share in the risk and not shift the entire burden of losses to the shoulder of the entrepreneur (Šeho, Bacha, & Smolo, 2020). Secondly, an equitable share of financial resources should become available to the poor to help eliminate poverty, and reduce inequalities of income and wealth (Mannai & Ahmed, 2019). It is impossible to achieve sustainable development without justice. Injustice ultimately leads to destruction (Al-Qur'an, 57:25). Islam requires both the financier and the entrepreneur to equitably share the profit as well as the loss (Hanif et al., 2020).

For this purpose, one of the basic principles of Islamic finance is: "No risk, no gain". Ultimately, *Mudarabah* (Profit Sharing) & Musharakah the risk-sharing tools are ultimate goal of Islamic finance and Banking (Shafi & Reddy, 2019)."

The two "pillars of the modern Islamic banking structure are being interest-free and profit and loss sharing (PLS) mechanism (Habib, 2020; Meslier, Risfandy, & Tarazi, 2020; Nor & Ismail, 2020). *Mudarabah* tool guarantees economic justice and responsible financing as both parties equally share in the success or failure of the investment (Fattah et al., 2021). Therefore, it ensures that the funds are invested under wisely and profitably. The Prophet (PBUH), permitted *Mudarabah* business to continue and legitimatized it as a financial instrument. For this reason, scholars consider *Mudarabah* instrument to be the most authentic and most promising form of Islamic contracts."

Challenges of *Mudarabah* investment

Islamic finance has been facing serious competition as conventional banking are playing both role of Islamic Banking as well as conventional Banking but the main objective of IB and CB are not the same, therefore, IB may face difficulty due to market competition in coming decades (Ben Jedidia, 2020). It is opined that *Mudarabah* contracts are caused by the existence of asymmetric information, problems of adverse selection and moral hazard (Rabbani et al., 2021). Due to imperfect information that is inherent in *Mudarabah* (profit sharing) contracts, it has been declined as an important financing (Hiep & Binh, 2020). *Shariah* Supervisory Board (SSB) is not independent in their Shariah decision making process and activities (Khan et al., 2021). It is directly or indirectly influenced by the Board of directors and the management. The practices and functions of the SSB, their decision-making and other activities are influenced by the Board of directors indirectly (Alam et al., 2021a). It has been argued by the Islamic scholar that IBs should return to their fundamental functions of providing innovative Shariah-based investment products and services that add value to the economy and address the true deserving current and potential customers (Dchieche & Aboulaich, 2016; Othman et al., 2017)"

A "very vital issue of IB to evaluate the Shariah-compliance status of the Islamic banks in Bangladesh raised that all the Islamic banks under study are, more or less, violating Islamic Shariah (Alam et al., 2021). Many researchers have argued that 90% of poor people are excluded from the inclusion of IB financial services and they have also recommended to reduce financial exclusion or FinTech by Islamic financial institutions leverage on technology, use equity-based modes of finance, and focus attention on Islamic microfinance, SME finance for micro and macroeconomic growth (Afkar et al., 2020; Aysan & Disli, 2019; Bidabad, Mohammadi, & Sherafati, 2019; Imronudin & Hussain, 2016; Promwichit, Shamsher & Hassan, 2013)."

It "is argued that the non-risk sharing instruments play a predominant role in the profitability of the Islamic bank itself only but are negatively related to the economic growth of a country (Kaddour et al., 2021). The PLS financing instrument reduces the credit risk, but IBs are fully under interest rate risk due to not using *Mudarabah* the prime investment tools of IBs (Afkar et al., 2020; Bidabad et al., 2019). A study finds that none of the banks fully meet the green/sustainable policy requirements; however, the Islamic banks are ahead in preserving faith, intellect and wealth circulation (Promwichit, Shamsher & Hassan, 2013). Researchers have suggested regulatory framework for financial innovation under the spirit of Islamic finance for promoting sustainable development, enhancement of liquidity management and green financial instruments (Afkar et al., 2020; Imronudin & Hussain, 2016; Kaddour et al., 2021)."

Market discipline for Islamic banks is analyzed and suggested that policy makers should consider strengthening supervisory powers and continue close monitoring for the improvement of the safety of IBs due to not having strong market discipline (Sawafta, 2021). Islamic banks preferred utilizing *Murabaha* because IBs are concerned about their commitments for paying back depositors' money. As *Mudarabah* is a long term investment tool as well as a risky instrument, there were seriously worries about a mismatch of

funds of IB. *Murabaha*, by contrast, gives fixed returns which could be repaid to depositors without problems (Herlangga, 2021; Sawafta, 2021; Yustiardhi et al., 2020). Therefore, IB banks technically avoid the equity-based products of investments. However, it is argued that *Mudarabah* (profit sharing) and *Musharakah* (profit loss sharing) principles are the basic equity financing instruments for Islamic business contracts (Issa, 2020; Miasary, 2020; Suryani & Fathoni, 2020). The Central banks can control economic activity for efficient allocation of resources by using *Mudarabah* products of Islamic finance (Alam et al., 2021; Mahdi & S. Rahaman, 2020; Sawafta, 2021)."

Islamic "banks and their branches and windows of conventional banks that operate Islamic Banking do not fulfill all conditions as determined by the Islamic Shariah (Rabbani et al., 2021). They adopt different tricks (*hiyal*) for transferring all risks to the shoulders of purchasers (debtors). The ultimate result is the Islamic financial system which is being practiced, is not a genuine reflection of the expectations (Ghayad et al., 2021). Research findings among others, the higher reserve requirement for CB provides the encouragement for the conversion into IBs given with less reserve requirement, Therefore, it is neither for Islam and nor Islamic (Julia & Kassim, 2020; Nor & Ismail, 2020; Suryani & Fathoni, 2020).

Genuine "reflection is that the asset which is being sold or leased by the IB must be real, and not fake, imaginary or notional; the seller must own and possess the goods before being sold or leased (Nouman, Ullah, & Jan, 2022; Zaman et al., 2019); The transaction between the parties must be a genuine and real trade transaction with the full intention of giving and taking delivery, and the debt cannot be sold and thus the risk associate with it cannot be transferred to someone else (Ghayad et al., 2021)."

The research findings are, *Mudarabah* contracts are vulnerable to agency problems, riskier, not feasible for short-term funding, high monitoring costs, lack of transparency, asymmetric information (Ghayad et al., 2021). The researcher identified the moral hazard for asymmetric information problems and draw a solution also but also mentioned that the popular product of IB Murahaba is riskier than *Mudarabah* (Profit Sharing) in terms of moral hazard (Issa, 2020; Yazar et al., 2020). The researcher proved the better performance of Islamic Microfinance investment under *Mudarabah* in the case of the disadvantaged entrepreneurs (Herlangga, 2021; Suryani & Fathoni, 2020). As "a faithful Muslim, the entrepreneur needs to work in a trustworthy manner and carry out his responsibility truthfully with the intention of obtaining Allah's blessings and not for his self-interest (Ryandono et al., 2021; Soyad? et al., 2020)."

Mudarabah (Profit sharing) may be conditional such as "Ibnu Abbas (may Allah be pleased with him) reported that: "When Abbas Ibn Abd al-Muttalib gave his property to someone for *Mudarabah* (profit sharing), he stipulated conditions for his partner not to bring the capital onto the sea; and not to bring with him the capital crossing a valley (Pepis & de Jong, 2019); and not to buy livestock with the capital; and if his partner violates the conditions, he should guarantee the loss occurred. These conditions have been bought to the attention of Prophet Muhammad (PBUH) and he approved them"(Intansari, 2020; Miasary, 2020; Sabrina & Majid, 2020).

The "strong and consistent tendency of Islamic banks to rely on non-partnership contracts has provided grounds for raising serious questions on the legitimacy of Islamic banks and their ability to meet the specific objectives of Islamic banking and the broader goals of the Shariah (Habib, 2020; Nor & Ismail, 2020). Profit sharing system is to be used as an alternative solution to avoid *Riba* for a rational Islamic economic system (Intansari, 2020). Researchers concluded that Islamic banks would not be able to work in banking industries with full proficiency and efficiency level on same activities as were doing by the conventional bank side by side IB's productivity may go down in different efficiency measurements (Habib, 2020; Mahdi & Rahaman, 2020)."

Islamic finance solutions have matured enough and they will face various challenges in the coming decades, due to conventional banks offering, increasingly, Islamic products through Islamic branches and windows (Mustafa, 2020b).

The urgent need of a comprehensive environment and regulatory framework is emphasized, so that IB and finance development can be ensured (Rabbani et al., 2021). Activities of IBs are still under the question of stakeholders due to similar nature investment transactions like conventionalBanks (Intansari, 2020)

In practice, Islamic finance often involves structuring Shariah-compliant products that appear similar to conventional products. According to Julia and Kassim (2020), Islamic banks are not different from conventional banks in Malaysia. The above analysis of the challenges of IB requires urgently the implementation of the *Mudarabah* under the Islamic financial system (Pepis & de Jong, 2019). Despite some valuable recommendations in their research remains ineffective. Therefore, it needs more study to solve the issues of *Mudarabah* investment development under Islamic Financial Institutions.

Researchers recommended many factors that influence the growth of *Mudarabah* investment (Brahmana & You, 2022; Dharani, Hassan, & Paltrinieri, 2019; Fianto et al., 2019; Shujaat & Fadillah, 2020). They found out the relationship between the factors and the *Mudarabah* investment development (Boubker et al., 2021). However, remains paucity and further research may focus on more close factors affecting due to changing time, situation and to fill up the previous research gap attempted to in case of risk management aspects (Fathurrohman, 2020) and its frameworks during the pandemic situation like Covid-19.Two aspects are recommended full digitization of Islamic banking and Equity-based investment tools (BIBM, 2020),

The "researchers opined that the *Mudarabah* contracts are to be revived but the existing Islamic Banking may not be a fertile soil for *Mudarabah* to bloom unless the business relationship context between investors and entrepreneurs is developed with believed each other to recognize its real benefits (Zaremba et al., 2020). It is also noted that the *Mudarabah* concepts are not known to many including the entrepreneurs who are looking for capital and investors who wish to grow their savings (Alshater et al., 2022; Osmanovic, 2022). This knowledge deficiencies have resulted in lower trust in the true potential of the *Mudarabah* (Ghayad et al., 2021)."

The researchers expressed concern over the mushrooming of Islamic banking operation in parallel with the conventional banking activities (Nor & Ismail, 2020; Suryani & Fathoni, 2020). Due to dual banking operation, IBs hold huge responsibility in order to maintain credibility by ensuring that all its products offered, operations, processes are in accordance with *Shariah* compliance issues (Yesuf & Aassouli, 2020). To protect the interests of the stakeholders risk management strategies are required and future research is recommended to establish *Mudarabah* investment (Mustafa, 2020b). Risk refers to put oneself or someone or something in danger, failure, or loss while Islamic risk management refers to *mukhatarah* (risk) as the situation that involves the probability of deviation from the path or compliance requirement that leads to the expected or usual result and the likelihood of loss (Fianto et al., 2019; Pepis & de Jong, 2019). The origin of risk can be identified in a Quranic verse:

"And spend in the way of God and do not throw [yourselves] with your [own] hands into destruction [by refraining]. And do good; indeed, Allah loves the doers of good. (Al-Baqarah, 2:195). The concept of risk management in Islam can be well explained through the famous hadith from the Prophet (PBUH) to a Bedouin "Tie your camel, then trust in God" (Noor, Ismail & Shafiai, 2019).

Critics "have argued that IBs in a real sense are practicing "artificial *Murabaha*" by providing interest-based loans to their customers (Shujaat & Fadillah, 2020). They further claim that Islamic banks are charging pre-determined mark up (usually equivalent to the ongoing interest rate) under different names and pretexts to justify such questionable practices (Intansari, 2020). It is practically tending to conceal interest under different pretexts (Julia & Kassim, 2020). It is recommended to designed *Mudarabah* rules to fulfill the risk-sharing finance necessary for the promotion of entrepreneurship and the creation of SMEs (Imronudin & Hussain, 2016)."

Mudarabah is the most authentic and least controversial instrument of Islamic Finance and the most suitable

as it is neither questionable like *Murabaha* (Neva, Suhel, & Imam, 2021). *Mudarabh* (Profit Sharing) is also more suitable for entrepreneurs who prefer sharing rather than bearing the risk associated with business entities (Fianto et al., 2019). Moreover, *Mudarabah* (Profit Sharing) is a pure valid *(halal*) financial tool that contributes much to the emergence and expansion of productive business enterprises (Kok & Filomeni, 2021). It creates real economic activity and satisfactorily fulfills the *Shariah* objectives (Afkar et al., 2020; Kaddour et al., 2021)

Equity "financing instruments of IBs are *Mudarabah* (Profit Sharing) and Musharakah (Profit and Loss Sharing) fully comply with the Islamic Shariah principle and it is unquestionably based on PLS but their overall share of banking activities is too low (Kaddour et al., 2021). The most commonly cited criticism of Islamic banking is that IB in reality has been working within the conventional banking framework and that the so-called Islamic Shariah-compliant of Islamic products are the concealed versions of the conventional banking (Kok & Shahgholian, 2023). Afkar et al. (2020) argues that an impartial methodical study of Islamic finance will conclude that "it is not so Islamic after all. It is just a rehash of conventional finance.

Another "challenge of IB is the lack of educational systems in the Muslim majority countries to acquire theoretical and practical knowledge of Islamic economics and on the comparative economic system amongst Muslims for creating the knowledge-based awareness of the importance of Islamic Banking and Finance and availability of Islamic financial products (Karim, Naeem, & Abaji, 2022) and its features as alternatives to the product and services of conventional banking (Zainuldin & Lui, 2020). To overcome the situation, it needs of establishing diversified but parallel institutions as well as research centers in all the Muslim countries to ensure an adequate supply of skilled, knowledgeable and keen Muslim professionals, researchers, and specialists in the different disciplines of Islamic finance (Karim et al., 2022). Academic institutions need to expand the boundaries of their educational curriculum for providing proper knowledge of Islamic finance and to spread the education of Islamic economics and related laws, rules and regulations to meet the future challenges of the Islamic banking industry in all Muslim world (Sherif, 2020)."

Just "like CBs, IBs extended their financial facilities to the established businesses concerns and individuals. It creates the rich to be richer and the poor remains as poor and the gap become wider between the rich and the poor (Mzoughi et al., 2022).

For a young entrepreneur, It is virtually impossible to meet up the requirements of a bank's security demands to secure financial support to start a new business or to develop or modernize an existing one (Issa, 2020; Julia & Kassim, 2020; Nor & Ismail, 2020)."

The paradox is, despite many research-based recommendations for *Mudarabah* as the prime tools of investment of Islamic Banking practically the result is reversed. Islamic banking is doing the business of product of fixed profit-based banking like the CB with changing some terms and conditions all though it has the opportunity of full compliance of Shariah by using its original potential *Mudarabah* product (Alshater et al., 2022). To get around the Qur'an's ban on interest, Islamic banking has relied heavily on what is called *Murabaha* a loan or sale in which markup is added to the transaction's cost (Syahri & Harjito, 2020).

Profit-Loss Sharing and Performance of Islamic Financial Institutions

In recent years, the development of Islamic financial institutions has enabled Islamic financing instruments to become an alternative source of financing to both firms and entrepreneurs (Norizan & Salina, 2020). As a result, it has come under scrutiny of regulators and researchers. Two so called principles of Islamic financing are the PLS and mark-up principles. Equity financing is based on PLS principle and the other is a debt-like instrument based on the mark-up principle (Kalimullina, 2020; Pareed, 2021).

PLS mode of transaction is regarded as the cornerstone of Islamic financial system since it advocates risk sharing and equitable distribution of risk which is considered as non-exploitative and socially productive

(Sarker, 2005; Shaown, 2017). The second type of Islamic financial instruments is the debt-based financing which is based on a buying and selling concept, also known as a contract of exchange. Examples of debt-based financing offered by IFI are *murabahah, ijarah, istisna* and *salam* and the most widely used are the *murabahah* and *ijarah* financing (Alam et al., 2021a).

THEORETICAL FRAMEWORK

The theoretical framework is the structure that can hold or support a theory of a research study. The theoretical framework introduces and describes the theory that explains why the research problem under study exists. Theoretical frameworks provide a particular perspective, or lens, through which to examine a topic. There are many different lenses, such as psychological theories, social theories, organizational theories and economic theories, which may be used to define concepts and explain phenomena (Braidotti, 2019).

Theory of Islamic Shariah

Allah is the only authority to make laws, rules and theories named *Shariah*. All rules, laws, theories are under the control of law, rules and theories of the almighty Allah as he says "He is the best of deciders" (Quran 6:57). Anything that supersedes the ruling of Allah is void and not acceptable. So, the theory of Islamic *Shariah* is the main foundation of this study.

Shariah: The Framework of Islamic Banking

The Shariah, or Islamic laws, sometimes referred to as Islamic Jurisprudence, is the origin and basis of Islamic banking. In the faith and belief of Muslims, Islam is the religion revealed by Allah to His last prophet, Mohammad. It is a complete religion, embracing all facets of a Muslim's mundane activities in this world and his state of affairs in the world hereafter. The teaching of Islam encompasses the essence of economic well-being and development of Muslims at the individual, family, society, state and Ummah (Islamic universal community) levels (See Figure 2.1).

A significant segment of *Muamalat* is the conduct of a Muslim's economic activities within the economic system. Within the economic system one finds the banking and financial system, the place where people conduct their banking and financial activities. Thus, in the Islamic scheme of life and Shariah framework, a Muslim's banking and financial activities can be traced through his economic activities, back to Muamalat, to Shariah, to Islam, and finally to Allah. This is the root of Islamic banking and finance.

Shariah is the religious law of Islam. As Islam makes no distinction between religion and daily life, Islamic law covers not only the rituals but also every aspect of life. The actual codification of canonic law is the result of the concurrent evolution of jurisprudence proper and the so-called science of the roots of jurisprudence (*usul al-fiqh*).A general agreement was reached, in the course of the formalization of Islam, as to the authority of four such roots: the Qur'an in its legislative segments; the example of the Prophet as related in the Hadith; the consensus of the *Muslims (Ijma)*, premised on a saying by Mohammed stipulating 'My nation cannot agree on an error'; and reasoning by *analogy(Qiyas)*.Another important principle is Ijtihad, the extension of Shariah to situations neither covered by precedent nor explicable by analogy to other laws. These roots provide the means for the establishment of prescriptive codes of action and for the evaluation of individual and social behaviour. The basic scheme for all actions is a fivefold division of categories and encompasses obligatory, meritorious, permissible, reprehensible and forbidden Islamic modes of conduct. Numerous schools of jurisprudence *(Madhabs)* emerged in the course of Islamic history. To ensure that their financial activities are in conformity with the Shariah law, religious supervisory boards are mandatory for Islamic banks and Islamic financial institutions. The Shariah Supervisory Board (SSB), sometimes called the Shariah supervisory committee, examines contracts, dealings and transactions to assure that Islamic beliefs are being implemented.

Theory of *Mudarabah* from Khadijatul Kubrah (R)

In the Arab, there were flourishing of interest-based business but there were some people who became successful in their business without involving in Interest. One of them is *Ummul mu'minin* Khadijatul Kubrah (R) who had a wide range of *Mudarabah*(Profit Sharing) business and became the richest woman in Arab before being married to the Prophet (PBUH) (Abdul-Rahman et al., 2014).

Traditional Economic Theory

Traditional economic theory, particularly in the field of microeconomics, focuses on the study of how individuals and firms make decisions regarding the allocation of resources in order to maximize their profits. Profit and loss sharing is an important aspect of economic theory, as it is a mechanism for allocating the gains and losses of economic activity among the parties involved. In traditional economic theory, profit is typically defined as the difference between revenue and costs, while loss is the opposite, where costs exceed revenue. Profit and loss sharing is a concept that suggests that the parties involved in a business venture share both the profits and losses of the enterprise. In the context of Islamic economics, profit and loss sharing is a fundamental concept. In this system, businesses are required to share their profits and losses with their investors, which creates an incentive for all parties to work together to ensure the success of the enterprise. The profit and loss sharing system is seen as a way to promote a more equitable distribution of wealth and to encourage businesses to operate in a socially responsible manner (Romaniuk, 2021).

The "key assumptions under traditional economic theory are that economic agents are utility-maximisers and rational in their actions (Lee, Lee, & Hong, 2022). Economic agents are assumed to have compared the costs and benefits of alternative choices and then choose the option that maximises their net utility. Everyone seems to have perfect knowledge and they have the ability to use this information to make a rational decision. These rational beings have total self-control and solely aim to maximise utility(Romaniuk, 2021). For example, one might donate to charity because he or she would gain utility. Traditional economic theory assumes that humans make rational choices aimed at maximizing their economic well-being. But anyone who has ever splurged on some alluring trinket even though the rent check might bounce as a result knows that this assumption does not always hold true (Gewertz, 2022)."

The use of traditional economic theory in research on Islamic finance can provide a theoretical framework for understanding the relationship between variables and their impact on the performance of the system. While Islamic finance is based on principles that differ from traditional finance, the underlying economic principles can still be applied to understand the performance of the system. In the case of the research on the performance of Profit-Loss-Sharing (PLS) financing system in Bangladeshi Islamic Financial Institutions, the use of traditional economic theory can provide insights into the relationship between government regulations, knowledge, moral hazard, collateral risks, competitiveness, financial inclusion, and the performance of the PLS financing system. For example, the use of agency theory can provide insights into the impact of moral hazard on the performance of the PLS financing system, while the use of information economics can provide insights into the impact of knowledge on the performance of the system.

Additionally, the use of traditional economic theory can provide a basis for testing hypotheses and making predictions about the performance of the PLS financing system. For example, the use of game theory can be used to test the impact of competition on the performance of the system, while the use of financial intermediation theory can be used to test the impact of collateral risks on the performance of the system. Moreover, the use of traditional economic theory can provide a comparative perspective on the performance of the PLS financing system in Bangladeshi Islamic Financial Institutions. By comparing the performance of the PLS financing system to traditional financing methods, such as debt financing, the use of traditional economic theory can provide insights into the relative strengths and weaknesses of the PLS financing system.

Overall, the use of traditional economic theory in research on Islamic finance can provide a theoretical framework for understanding the performance of the system. In the case of the research on the performance of PLS financing system in Bangladeshi Islamic Financial Institutions, the use of traditional economic theory can provide insights into the relationship between government regulations, knowledge, moral hazard, collateral risks, competitiveness, financial inclusion, and the performance of the system. By providing a basis for testing hypotheses and making predictions, the use of traditional economic theory can help to inform policy decisions and promote the growth and development of the Islamic finance industry.

Agency theory

Agency theory is a widely studied topic in the field of economics, particularly in the context of corporate governance and the relationship between owners and managers in a business venture. The theory suggests that there is a potential conflict of interest between the owners (principals) and the managers (agents) of the business (Jensen & Meckling, 1976). The owners want to maximize their profits, while the managers may have other interests and goals, such as job security, career advancement, or a desire to pursue their own personal objectives (Eisenhardt, 1989). One way to align the interests of owners and managers is through profit and loss sharing. When the owners and managers share the profits and losses of the business, it creates a common goal that both parties can work towards. The owners have an incentive to maximize profits, and the managers have an incentive to manage the business effectively and efficiently, as their compensation is tied to the performance of the business.

Empirical studies have shown that profit and loss sharing can be an effective way to align the interests of owners and managers. For example, a study by Adams, Almeida, and Ferreira (2009) found that firms with profit and loss sharing systems had higher levels of performance and were less likely to engage in opportunistic behavior than firms without such systems. Another study by Demir and Yigit (2018) found that profit and loss sharing can improve the efficiency of the banking system and reduce the risks associated with conventional interest-based financing. In the context of Islamic finance, profit and loss sharing is a fundamental principle that is used to promote equity and fairness in economic transactions (Khan & Mirakhor, 1990). In Islamic finance, profit and loss sharing is seen as a way to align the interests of investors and entrepreneurs and to promote risk-sharing (Ariff, 1988). Islamic financial institutions such as Mudarabah and Musharakah are based on profit and loss sharing, and these institutions have been shown to be effective in promoting entrepreneurship and economic development (Haron & Shanmugam, 1997).

While profit and loss sharing can be an effective mechanism for aligning the interests of owners and managers, it may not always be feasible or desirable. Profit and loss sharing requires a high level of trust between the owners and managers, as well as a strong understanding of the business and its operations. It may also be difficult to design a profit and loss sharing system that is fair and equitable for all parties involved (Eisenhardt, 1989). Moreover, profit and loss sharing may not be appropriate in certain contexts, such as in highly regulated industries or in businesses with complex ownership structures. In these cases, alternative mechanisms for aligning the interests of owners and managers may be necessary, such as performance-based compensation or monitoring systems (Jensen & Meckling, 1976). Therefore, it can be suggested that agency theory provides a useful framework for understanding the potential benefits and limitations of profit and loss sharing in aligning the interests of owners and managers in a business venture. While profit and loss sharing may not be appropriate or feasible in all contexts, it can be an effective mechanism for promoting performance and reducing opportunistic behavior, particularly in the context of Islamic finance and entrepreneurship.

In the context of this research, Agency theory can be a useful framework for analyzing the relationship between financial inclusion, government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of Profit-Loss-Sharing (PLS) financing systems in Bangladeshi Islamic financial institutions. Agency theory is concerned with the relationship between principals (such as shareholders) and agents (such as managers) and how conflicts of interest can arise between them.

This framework can be applied to the relationship between Islamic financial institutions and their stakeholders, including customers, shareholders, and regulators.

Financial inclusion is an important factor in the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Financial inclusion refers to the availability and accessibility of financial services to all members of society, including low-income households and small businesses. In the context of PLS financing, financial inclusion can help to promote the growth and development of small and medium-sized enterprises (SMEs) by providing them with access to financing. This can lead to economic growth and development in the country.

Government regulations are also an important factor in the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Regulations can help to ensure that PLS financing systems are operated in a transparent and accountable manner, which can help to promote investor confidence and reduce the risk of moral hazard. However, excessive regulations can also lead to inefficiencies and higher costs, which can negatively impact the performance of PLS financing systems.

Knowledge is another important factor in the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Knowledge refers to the skills and expertise of managers and other stakeholders involved in the PLS financing system. A lack of knowledge can lead to inefficiencies and higher costs, which can negatively impact the performance of the system.

Moral hazard and collateral risks are also important factors in the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Moral hazard refers to the risk that borrowers will take on excessive risks knowing that they will not bear the full consequences of their actions. Collateral risks refer to the risk that the collateral used to secure PLS financing will not be sufficient to cover the outstanding debt in the event of default. These risks can negatively impact the performance of the PLS financing system.

Competitiveness is also an important factor in the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Competition can help to promote efficiency and innovation in the system, which can lead to better performance. However, excessive competition can also lead to a race to the bottom in terms of pricing and underwriting standards, which can negatively impact the performance of the system.

Financial inclusion can moderate the relationship between government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Financial inclusion can help to promote transparency and accountability in the system, which can help to reduce the risk of moral hazard and collateral risks. Additionally, financial inclusion can promote competition, which can help to promote efficiency and innovation in the system.

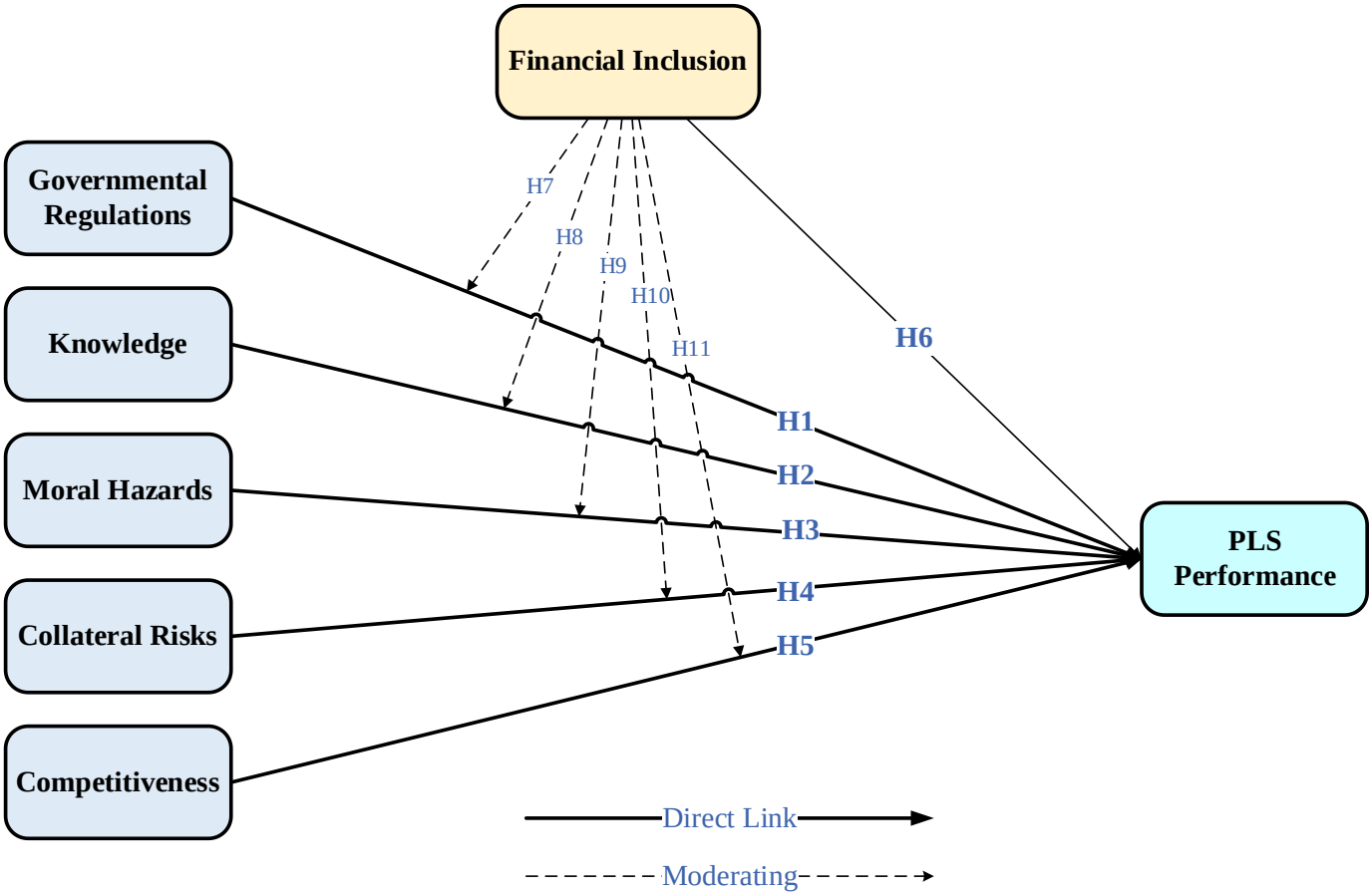
Overall, agency theory can be a useful framework for analyzing the relationship between financial inclusion, government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Financial inclusion can moderate the relationship between these factors and can help to promote transparency, accountability, and efficiency in the system. To fully realize the potential of PLS financing in Bangladeshi Islamic financial institutions, there is a need for greater education and awareness among stakeholders regarding the benefits and risks associated with this financing method, as well as greater support from governments and financial institutions to promote financial inclusion and ensure effective regulation.

CONCEPTUAL FRAMEWORK

A conceptual framework is an analytical tool with several variations and contexts. It can be applied in different categories of work where an overall picture is needed. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply.

Mudarabah and *Musharakah* investment of Islamic Banks are seriously affected by the factors like risk associated with the Investment of IB, moral hazard of the *Mudarib*, agency and asymmetric information problem, inadequate Knowledge of both IBs and fund managers, mind set of IBs. *Mudarabah* is also affected by the dominating products of Investment named *Murabaha*, a debt-based and fixed profit-based investment of the Islamic Banking. That is why IBs failed to establish its prime investment tool like PLS. In spite of many past researchers' recommendations, it is observed that IBs have failed to develop PLS products. The failure of the PLS investment of IBs creates necessity of further research until the problem is solved to as needed by the society. This study develops the following conceptual framework to measure the relation of the selected independent variables, moderating variables with the dependent variables:

Figure 1: Conceptual framework of this study



Hypothesis Development

A "hypothesis, on the other hand, is a specific prediction about a new phenomenon that should be observed if a particular theory is accurate. It is an explanation that relies on just a few key concepts. Hypotheses are often specific predictions about what will happen in a particular study. They are developed by considering existing evidence and using reasoning to infer what will happen in the specific context of interest. Hypotheses are often but not always derived from theories. So, a hypothesis is often a prediction based on a theory, but some hypotheses are a-theoretical and only after a set of observations have been made, is a theory developed. This is because theories are broad in nature, and they explain larger bodies of data. So, if research question is really original then it may need to collect some data and make some observation before we can develop a broader theory (Hassan, Chiaramonte, Dreassi, Paltrinieri, & Piserà, 2022). Hypothesis development is ultimately experienced-based. In this experienced-based reasoning, new knowledge is compared to previous knowledge."

Government regulations and Profit-Loss Sharing Performance

Organizational "initiatives and arrangements considered either reflection of or responses to, rules, beliefs and conventions injected into the broader environment. In the aggregate, these allow for a lasting social expectations system and organized practices referred to as institutions (Orhun, Guo, & Hagemann, 2022). Hence, an institutional setting manifested throughout society via religion, politics, regulations, laws and work and influences all of these areas through a continuous process (Hassan et al., 2022). Moreover, Most of the Shariah violations are identified in the opening of letter of credit (L/C), foreign transactions, predetermined rate of dollars and rescheduling of the investment. Shariah, as Islamic principles do not allow for rescheduling; thus, the rescheduling of the investment is entirely haram (prohibited) without any debate, though some of us allow for it. (Asutay & Sidek, 2021) supports this principle and show that Islamic banks violate Shariah guidelines, mostly in the area of investments. However, the central bank has accepted this violation due to social demands and peoples' expectations. Besides, some banks are complying with most of the Shariah rules and regulations in accomplishing their business functions (Suchato et al., 2022). A business entity is law abiding due to its licensing threat. It does not fulfill the concept of Shariah (maqasid as- Shariah) in absence of a govt strong regulations (Dumm, Nyce, Sirmans, & Smersh, 2022)." Government regulations play a critical role in shaping the performance of Profit-Loss-Sharing (PLS) financing in Bangladesh. In recent years, the government of Bangladesh has taken several steps to promote PLS financing and create a supportive regulatory environment for the Islamic finance industry. In this section, we will discuss the impact of government regulations on PLS financing in Bangladesh, with a focus on the challenges and opportunities associated with this financing method.

One of the key challenges of PLS financing in Bangladesh is the lack of standardization in PLS contracts. While there are guidelines for structuring PLS agreements provided by organizations such as the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), there is a need for greater standardization and transparency in PLS contracts in Bangladesh. This can lead to inconsistencies in the way PLS contracts are structured and can make it difficult for investors to assess the risks associated with the venture.

To address this challenge, the government of Bangladesh has taken several steps to promote standardization and transparency in PLS contracts. For example, the Bangladesh Bank, the central bank of Bangladesh, has issued guidelines for PLS financing to promote standardization and transparency in PLS contracts (Bangladesh Bank, 2019). The guidelines provide a framework for structuring PLS agreements, including the determination of profit-sharing ratios and the assessment of risk associated with the venture.

Another challenge of PLS financing in Bangladesh is the lack of awareness and understanding among investors and regulators regarding the benefits and risks associated with PLS financing. This can lead to a reluctance among investors to invest in PLS financing and a lack of regulatory frameworks to govern PLS financing. To address this challenge, the government of Bangladesh has taken steps to promote awareness and education regarding Islamic finance and PLS financing. For example, the Bangladesh Bank has launched a program to promote awareness and education among the public regarding Islamic finance, including PLS financing (Bangladesh Bank, 2020). Additionally, the government has established the Islamic Economic Research Bureau, which conducts research and provides guidance on Islamic finance and PLS financing.

Government regulations can also impact the performance of PLS financing by providing a supportive regulatory environment for the Islamic finance industry. In recent years, the government of Bangladesh has taken steps to create a supportive regulatory environment for the Islamic finance industry. For example, in 2018, the government of Bangladesh passed the Islamic Banking Act, which provides a legal framework for the establishment and operation of Islamic banks in Bangladesh.

Additionally, the government has established several regulatory bodies to oversee the Islamic finance industry in Bangladesh. For example, the Bangladesh Bank has established the Shariah Supervisory

Committee, which is responsible for ensuring the compliance of Islamic finance institutions with Shariah principles. Similarly, the Securities and Exchange Commission of Bangladesh has established the Islamic Capital Market Development Division, which is responsible for developing the Islamic capital market in Bangladesh. These regulatory bodies play a critical role in ensuring the stability and growth of the Islamic finance industry in Bangladesh. By providing a supportive regulatory environment, the government can promote the growth and development of PLS financing and the Islamic finance industry more broadly.

Overall, government regulations play a critical role in shaping the performance of PLS financing in Bangladesh. While there are several challenges associated with PLS financing in Bangladesh, including the lack of standardization in PLS contracts and the lack of awareness and understanding among investors and regulators, there are opportunities for growth and development in the Islamic finance industry in Bangladesh. To fully realize the potential of PLS financing in Bangladesh, there is a need for greater standardization and transparency in PLS contracts, greater education and awareness among investors and regulators, and greater support from the government to promote the growth and development of the Islamic finance industry. Therefore,

H1: Government regulations have significant impact on Profit-Loss-Sharing (PLS) Performances

Knowledge and Profit-Loss Sharing Performance

Crotty and Li (2019) conducted a survey on the current Shari'ah governance practices with the aim of promoting greater understanding of some of the important issues and to provide relevant information in guiding the future evolution of the Shari'ah governance system. The paper illustrates the state of Shari'ah governance practices in Malaysia, GCC countries (Kuwait, Bahrain, United Arab Emirates, Qatar and Saudi Arabia) and the UK by highlighting five main components of good corporate governance that consist of independence, competency, transparency, disclosure and consistency (Danisewicz, Lee, & Schaeck, 2022). The availability of secondary data on Shari'ah governance practices is very limited; a detailed survey questionnaire is generated for sourcing primary data from Islamic Financial Institutions (IFIs)(Azmat et al., 2021). The study utilizes a descriptive analysis approach in extracting and analyzing the data and factual input derived from the questionnaire feedback. The survey findings confirm that there are significant differences and diverse Shari'ah governance practices in the subject countries (Meng, Zhu, & Zhong, 2020). This position acknowledges that there are shortcomings of knowledge and competency and weaknesses of the existing governance framework which requires further enhancement and improvement. To him, this sketch is a very useful source of data that may provide relevant guidelines in guiding the future development of Shari'ah governance practices in the IFIs (Ali & Amin, 2020). He assumed that this study provides fresh data and recent information on the actual Shari'ah governance practices of IFIs in three jurisdictions." Knowledge is an essential factor in the success of Profit-Loss-Sharing (PLS) financing. PLS financing involves sharing profits and losses between parties, and therefore, requires a deep understanding of the industry, market conditions, and the risks associated with the venture. In this section, we will discuss the relationship between knowledge and PLS performance, with a focus on recent research since 2019.

As already discussed, one of the main factors that contribute to the success of PLS financing is knowledge and expertise. Research has shown that knowledge and expertise play a crucial role in the success of PLS financing, particularly in the assessment of risk and the determination of profit-sharing ratios. For example, Adebayo et al. (2019) found that knowledge and expertise are essential for the effective implementation of PLS financing in Nigeria. The study found that banks that have a deep understanding of the principles of Islamic finance and the risks associated with PLS financing are more likely to be successful in implementing PLS financing.

Similarly, a study by Hamid et al. (2020) found that knowledge and expertise are critical factors in the success of PLS financing in Malaysia. The study found that banks that have a deep understanding of the

risks associated with PLS financing and the ability to assess these risks accurately are more likely to be successful in implementing PLS financing. The study also found that banks that have a strong Shariah compliance framework are more likely to be successful in implementing PLS financing.

Another factor that contributes to the success of PLS financing is the quality of information available to investors. PLS financing requires a deep understanding of the industry, market conditions, and the risks associated with the venture. Therefore, the availability of high-quality information is essential for the success of PLS financing. For example, a study by Tahir and Niazi (2019) found that the availability of high-quality information is essential for the success of PLS financing in Pakistan. The study found that banks that have access to high-quality information are more likely to be successful in implementing PLS financing.

In addition to knowledge and expertise, the performance of PLS financing is also influenced by the regulatory environment. PLS financing requires a regulatory environment that promotes transparency and accountability and provides a framework for resolving disputes. For example, a study by Jaffar et al. (2020) found that the regulatory environment is an essential factor in the success of PLS financing in Pakistan. The study found that a regulatory environment that promotes transparency and accountability, and provides a framework for resolving disputes, is essential for the success of PLS financing.

Therefore, knowledge and expertise are essential factors in the success of PLS financing. PLS financing requires a deep understanding of the industry, market conditions, and the risks associated with the venture. Additionally, the availability of high-quality information and a regulatory environment that promotes transparency and accountability are also essential factors in the success of PLS financing. To fully realize the potential of PLS financing, there is a need for greater education and awareness regarding PLS financing, greater access to high-quality information, and a regulatory environment that promotes transparency and accountability. As a results, it can be hypothesized that:

H2: Knowledge about PLS has significant impact on Profit-Loss-Sharing (PLS) Performances

Moral Hazards and Profit-Loss Sharing Performance

As "for this chapter we propose an index to measure credit risk associated to the variables within an investment contract (Le, Sanglestsawai, Bunyasiri, & Suchato, 2020). Credit risk refers to the risk of loss faced by the lender when the debtor defaults from a contract without conforming to the obligation as agreed in the contract (Wagner & Zizzamia, 2022). Many methods are used in analysing this risk before a bank finalises a contract. Credit risk modeling is a very important issue in financing institutions because of its significance for the survival and prosperity of the institutions (Shahzad et al., 2021). In the late seventies banker expert system or the subjective analysis system is the dominant form of system banks used to assess the credit risk on corporate loans. It uses the four or five "Cs" of credit to analyse the risk. These "Cs" refer to character, capital, capacity, collateral and cycle (economic) relating to the customers (Cai, Choi, & Zhang, 2021). Nowadays, the methods are more sophisticated and also very complicated. The four widely used credit risk analysis techniques are the external rating services, financial statement analysis models, structural model and the transition models of Credit Metrics and Credit Portfolio View (Choi, Feng, & Li, 2022)."

All "of the techniques discussed above evaluate the credit risk associated to a corporate loan from the perspective of the debtor's financial standing and none analyses it from the perspective of the variables within an investment contract (Zhang & Pan, 2019). In this chapter, a new simple formula of an index is proposed to measure the risk associated to the variable within an investment contract. The index is called the Moral Hazard Index (MHI) of the contract as it derives from the utility function of the entrepreneur in defaulting from a contract. This index is not in any way able to replace the current available techniques but rather as additional information which might help in the analysis of credit/investment risk." Moral hazard is a risk associated with Profit-Loss-Sharing (PLS) financing, particularly in situations where one party may

take undue risks because they are not fully responsible for the consequences of their actions. In PLS financing, both parties share the risks and rewards of the venture, but there is a risk that one party may take on excessive risk, knowing that the other party will share in the losses if the venture fails. This can lead to a moral hazard problem and can affect the performance of PLS financing.

One of the main challenges associated with moral hazard in PLS financing is the difficulty in monitoring and enforcing risk-taking behavior. Unlike conventional financing methods, PLS financing involves a greater degree of monitoring and supervision, particularly in situations where one party may be taking on excessive risk. This can be a complex process that requires a deep understanding of the venture and the ability to assess the risks associated with the venture.

To address this challenge, there is a need for more robust risk management frameworks and monitoring mechanisms in PLS financing. For example, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) has issued guidelines for risk management in Islamic finance, including PLS financing (AAOIFI, 2018). The guidelines provide a framework for assessing and managing risks associated with PLS financing, including the identification of risk factors and the development of risk management strategies.

Another way to address the moral hazard problem in PLS financing is through the use of performance-based contracts. Performance-based contracts tie the profit-sharing ratio to the performance of the venture, providing incentives for both parties to take on a reasonable amount of risk. This can help to reduce the risk of moral hazard by aligning the interests of both parties with the success of the venture. Research has shown that performance-based contracts can be an effective way to address the moral hazard problem in PLS financing. One study by Akhtar et al. (2019) found that performance-based contracts can lead to better performance for PLS financing compared to fixed profit-sharing contracts. The study found that performance-based contracts can lead to better risk management and a reduction in moral hazard.

Additionally, there is a need for greater education and awareness among investors and regulators regarding the risks and benefits associated with PLS financing. This can help to reduce the risk of moral hazard by promoting greater transparency and accountability in PLS financing. For example, the Central Bank of Malaysia has launched a program to promote awareness and education among the public regarding Islamic finance, including PLS financing (Central Bank of Malaysia, 2019).

Overall, moral hazard is a risk associated with PLS financing, particularly in situations where one party may take on excessive risk knowing that the other party will share in the losses if the venture fails. To address this challenge, there is a need for more robust risk management frameworks and monitoring mechanisms, the use of performance-based contracts, and greater education and awareness among investors and regulators. By addressing the moral hazard problem in PLS financing, it is possible to promote greater transparency and accountability and to realize the full potential of PLS financing as an alternative financing method. Therefore, the following hypothesis can be prepared:

H3: Moral Hazards have significant impact on Profit-Loss-Sharing (PLS) Performances

Collateral Risks and Profit-Loss Sharing Performance

Nowadays, "bank loans are often secured by collateral. (Cai et al., 2021) divides collaterals into two types. The first is the type in which an entrepreneur pledges own business assets as collateral to the bank, whereas the second type is the case in which the entrepreneur pledges assets that are not related to the entrepreneur's business (e.g. an entrepreneur's house is pledged as collateral for a business loan) (Sangwan, Nayak, Harshita, & Sangwan, 2021). The first type has been discussed in the previous parts of this chapter, while current section is limited to the collateral of the second type."

In "this section the study investigates the relationship between collaterals and their effects on the optimality

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of debt and equity contracts with respect to the moral hazard of the environment (Antonini, van Kleef, Henriquez, & Paolucci, 2023). Sufficient conditions under which collateral helps in dealing with moral hazard are also elaborated."

Presently, "many IFI are resorting to collateral to secure their debt in mark-up contract as stated in (Kim, 2021). The Islamic word for collateral is "*Al-Rahn*" and many Islamic scholars are of the opinion that pledging collateral in loan contract is legal according to Islam (Hossain, Yoshino, & Hesary, 2021; Shi, He, Onishi, & Kobayashi, 2021). Buildings, land, gold, silver and other precious commodities are examples of assets eligible for collateral. If the unexpected happens and the loan is in default, liquidating the collateral is the only means for the lenders to recover the loan funds (Kim, 2021). The value of collateral should be higher than the loan amount for a fully secured loan. This is to cover the cost of seizing, transporting and also liquidating the collateral in case of default by the borrower. "In the "case of an equity-based contract, the business can either succeed or fail. If it succeeds the bank will get back the capital plus the share of profit amount and the entrepreneur is left with the rest of the profit. If the business fails, the bank will lose its capital and the entrepreneur will lose in terms of effort (Balmaceda, 2020)."

In "case of a debt contract where the entrepreneur had posted a house or some assets as collateral to secure the loan. In this case, if the business fails the entrepreneur will default and lose the collateral whereas the bank will liquidate the collateral to gain back the loan (M. Hossain et al., 2021). Here, the bank is not subjected to the business risk as the risk is not distributed fairly between the bank and the entrepreneur. Thus, one of the effects of collateral is that it protects the bank from business risks (Kim, 2021).

As already discussed above, moral hazard is a risk associated with Profit-Loss-Sharing (PLS) financing, particularly in situations where one party may take undue risks because they are not fully responsible for the consequences of their actions. In PLS financing, both parties share the risks and rewards of the venture, but there is a risk that one party may take on excessive risk, knowing that the other party will share in the losses if the venture fails. This can lead to a moral hazard problem and can affect the performance of PLS financing.

One of the main challenges associated with moral hazard in PLS financing is the difficulty in monitoring and enforcing risk-taking behavior. Unlike conventional financing methods, PLS financing involves a greater degree of monitoring and supervision, particularly in situations where one party may be taking on excessive risk. This can be a complex process that requires a deep understanding of the venture and the ability to assess the risks associated with the venture.

To address this challenge, there is a need for more robust risk management frameworks and monitoring mechanisms in PLS financing. For example, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) has issued guidelines for risk management in Islamic finance, including PLS financing (AAOIFI, 2018). The guidelines provide a framework for assessing and managing risks associated with PLS financing, including the identification of risk factors and the development of risk management strategies.

Another way to address the moral hazard problem in PLS financing is through the use of performance-based contracts. Performance-based contracts tie the profit-sharing ratio to the performance of the venture, providing incentives for both parties to take on a reasonable amount of risk. This can help to reduce the risk of moral hazard by aligning the interests of both parties with the success of the venture.

Research has shown that performance-based contracts can be an effective way to address the moral hazard problem in PLS financing. One study by Akhtar et al. (2019) found that performance-based contracts can lead to better performance for PLS financing compared to fixed profit-sharing contracts. The study found that performance-based contracts can lead to better risk management and a reduction in moral hazard.

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Additionally, there is a need for greater education and awareness among investors and regulators regarding the risks and benefits associated with PLS financing. This can help to reduce the risk of moral hazard by promoting greater transparency and accountability in PLS financing. For example, the Central Bank of Malaysia has launched a program to promote awareness and education among the public regarding Islamic finance, including PLS financing (Central Bank of Malaysia, 2019).

Overall, moral hazard is a risk associated with PLS financing, particularly in situations where one party may take on excessive risk knowing that the other party will share in the losses if the venture fails. To address this challenge, there is a need for more robust risk management frameworks and monitoring mechanisms, the use of performance-based contracts, and greater education and awareness among investors and regulators. By addressing the moral hazard problem in PLS financing, it is possible to promote greater transparency and accountability and to realize the full potential of PLS financing as an alternative financing method. So, it can be proposed that:"

H4: Collateral Risks have significant impact on Profit-Loss-Sharing (PLS) Performances

Competitiveness and Profit-Loss Sharing Performance

The competitiveness of PLS investment of IFI and its debt-based investment as well as between the IFI and its counterpart conventional Banking (S. Khan & Azmat, 2020). Some "recent studies have diverged from the performance and efficiency issues in Islamic banking, and also studied the competitiveness of Islamic banking industry (Gad & Andrikopoulos, 2019). Despite the reality that Islamic banks will grow rapidly in today's economy, there are a few systematic and regular analyses on the topic of the competition in Islamic banking. The majority of the previous studies only focused on the comparison of banking performance, such as the com- parison of cost–profit efficiency and financial stability in dual-banking systems, for example, the studies provided by Shi et al., (2021), Jung, (2022), and Arner, Avgouleas, and Gibson, (2022).

Khan and Azmat (2020) found that Islamic banks are relatively less competitive than their conventional counter- parts in 13 countries during the period 2015–2016. They argue that it may be because Islamic banks allocate a greater share of their assets to financing activities compared to conventional banks.

Competitiveness is a key factor in the performance of any financing method, including Profit-Loss-Sharing (PLS) financing. In recent years, there has been growing interest in PLS financing as an alternative financing method, particularly in the Islamic finance industry. In this section, we will discuss the competitiveness of PLS financing and its performance in comparison to conventional financing methods. One of the main advantages of PLS financing is its alignment with the principles of Islamic finance, which emphasize fairness and risk-sharing. This can lead to greater competitiveness in the market, particularly in the Islamic finance industry, where there is a growing demand for Shariah-compliant financial products. Additionally, PLS financing has the potential to promote economic growth and development by providing financing to small and medium-sized enterprises (SMEs) that may not have access to traditional financing methods.

Research has shown that PLS financing can be a competitive financing method, particularly for SMEs. One study by Adnan et al. (2019) found that PLS financing can lead to better performance for SMEs compared to conventional financing methods. The study found that SMEs that used PLS financing had higher profitability and lower default rates than SMEs that used conventional financing methods.

Another advantage of PLS financing is its potential to promote innovation and entrepreneurship. PLS financing involves sharing risks and rewards between parties, which can provide an incentive for entrepreneurs to pursue innovative ventures. This can lead to the development of new products and services and the growth of new industries. However, there are also some challenges associated with the competitiveness of PLS financing.

One challenge is the difficulty in assessing risk and determining profit- sharing ratios. Because PLS financing involves sharing profits and losses, there is a need to accurately assess the risks associated with the venture and determine how profits will be shared between parties. This can be a complex process that requires a deep understanding of the industry and market conditions.

Another challenge is the lack of standardization in PLS contracts. Because PLS financing is a relatively new financing method, there are no standard contracts or guidelines for structuring PLS agreements. This can lead to inconsistencies in the way PLS contracts are structured and can make it difficult for investors to assess the risks associated with the venture. To address these challenges, there is a need for greater standardization and transparency in PLS contracts and more robust risk assessment frameworks. For example, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) has issued guidelines for PLS contracts that provide guidance on the structuring of PLS agreements and the determination of profit-sharing ratios (AAOIFI, 2018). Additionally, there is a need for greater education and awareness among investors and regulators regarding the benefits and risks associated with PLS financing.

PLS financing has the potential to be a competitive financing method, particularly in the Islamic finance industry, where there is a growing demand for Shariah-compliant financial products. Research has shown that PLS financing can lead to better performance for SMEs compared to conventional financing methods and can promote innovation and entrepreneurship. However, there are challenges associated with PLS financing, including the difficulty in assessing risk and determining profit-sharing ratios and the lack of standardization in PLS contracts. To fully realize the potential of PLS financing, there is a need for greater standardization and transparency in PLS contracts, more robust risk assessment frameworks, and greater education and awareness among investors and regulators regarding the benefits and risks associated with PLS financing. So, it can be assumed that: “

H5: Competitiveness has significant impact on Profit-Loss-Sharing (PLS) Performances

Financial Inclusion as Moderator

Financial “inclusion has been defined as: “The delivery of financial services at affordable costs to sections of disadvantaged and low-income segments of society” (Bhuiyan et al., 2019). These services include access to: Account at a Formal Financial Institution, Access to Formal Accounts, Use of Formal Accounts, Mobile Payments, Savings, Credit and Insurance and pensions (Jung, 2022; Rivera, 2020; Šeho et al., 2020). The United Nations (UN) defines the goals of financial inclusion as: (1) Access at a reasonable cost for all households to a full range of financial services, including savings or deposit services, payment and transfer services, credit and insurance; (2) sound and safe institutions governed by precise regulation and industry performance standards; (3) financial and institutional sustainability, to ensure continuity and certainty of investment; and (4) Competition to ensure choice and affordability for clients (World Bank, 2020). A survey conducted in Nigeria in 2008 by Enhancing Financial Innovation and Access (EFInA) revealed that about 53.0% of adults were excluded from financial services. As at 2014, the exclusion rate remained 39.5% despite several effort by the CBN to improve the situation (EFInA, 2014). Nigeria has 28.6 million bank accounts with a population of over 168 million people, and 89.7 million adults (M. Hossain et al., 2021; S. Khan & Azmat, 2020). CBN in collaboration with other stakeholders launched the National Financial Inclusion Strategy (NFIS) on 23rd October 2012 aimed at reducing the exclusion rate to 20% by 2020. Specifically, adult Nigerians with access to payment services is to increase from 21.6% in 2010 to 70% in 2020, while those with access to savings should increase from 24.0% to 60%; and Credit from 2% to 40%, Insurance from1% to 40% and Pensions from 5% to 40%, within the same period (Boutton, 2019; Chen et al., 2019).”

To “achieve these targets, Nigeria joined other 20 developing countries and made financial inclusion commitment referred to as the “Maya Declaration,” in Mexico. The number of countries increased to 35 in

September 2012, which culminated into the Alliance for Financial Inclusion, Global Policy Forum in Cape Town, South Africa. In Bangladesh, mobile banking is terminologically referred to as mobile financial services (MFS) (Azad 2016), and its adoption in the country dated back to the 31st of March, 2011 (Azad 2016; Khatun et al. 2021). In general, numerous private commercial banks (PCBs) are observed to have expanded their mobile banking operations across the country at a rapid rate. In contrast, a few state-owned commercial banks have only recently begun to go in this direction. Simultaneously, specialist development banks and foreign commercial banks are yet to launch mobile banking services. In May 2011, Dutch Bangla Bank Limited launched the first mobile banking service named "Rocket" in Bangladesh, but full operations only began after 2 years (Khatun et al. 2021). Twenty-eight banks have been recently granted permission to provide MFS, with many more still in the process of obtaining authorization. Of 28 licensed institutions, only 15 really offer the highlighted services."

As already been discussed, financial inclusion is a key factor that can moderate the relationship between government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of Profit-Loss-Sharing (PLS) financing systems in Bangladeshi Islamic financial institutions. In this section, we will discuss the role of financial inclusion in moderating the relationship between these factors and the performance of PLS financing systems in Bangladesh. Government regulations are a key factor that can influence the performance of PLS financing systems in Bangladesh. Regulations that are supportive of Islamic finance can promote the growth and development of PLS financing systems. However, regulations that are restrictive or unclear can hinder the growth and development of PLS financing systems.

Financial inclusion can moderate the relationship between government regulations and the performance of PLS financing systems in Bangladesh. Financial inclusion refers to the availability and accessibility of financial services to all segments of society, including low-income and marginalized populations.

Financial inclusion can promote the growth and development of PLS financing systems by increasing the demand for Shariah-compliant financial products and services.

Knowledge is another key factor that can influence the performance of PLS financing systems in Bangladesh. Knowledge of Islamic finance principles and practices is essential for the successful implementation of PLS financing systems. However, there is a lack of knowledge and awareness among consumers and practitioners regarding Islamic finance in Bangladesh.

Financial inclusion can moderate the relationship between knowledge and the performance of PLS financing systems in Bangladesh. Financial inclusion can promote greater knowledge and awareness among consumers and practitioners regarding Islamic finance principles and practices. This can lead to a greater demand for Shariah-compliant financial products and services, including PLS financing systems. Moral hazard is another factor that can influence the performance of PLS financing systems in Bangladesh. Moral hazard refers to the risk that a borrower may engage in behavior that is not in the best interest of the lender. For example, a borrower may take on excessive risk or engage in fraudulent behavior.

Financial inclusion can moderate the relationship between moral hazard and the performance of PLS financing systems in Bangladesh. Financial inclusion can promote greater transparency and accountability in PLS financing systems, reducing the risk of moral hazard. This can lead to greater confidence among investors and greater demand for PLS financing systems. Collateral risks are another factor that can influence the performance of PLS financing systems in Bangladesh. Collateral risks refer to the risk that a borrower may default on a loan, resulting in the loss of collateral. This can be a significant risk for lenders in PLS financing systems, as there is no fixed interest rate to offset potential losses.

Financial inclusion can moderate the relationship between collateral risks and the performance of PLS financing systems in Bangladesh. Financial inclusion can promote greater risk-sharing among borrowers and lenders in PLS financing systems, reducing the risk of collateral losses.

This can lead to greater confidence among investors and greater demand for PLS financing systems. Competitiveness is another factor that can influence the performance of PLS financing systems in Bangladesh. Competition among financial institutions can promote innovation and improve the quality of financial products and services. However, excessive competition can lead to a race to the bottom, with financial institutions engaging in risky behavior to compete.

Financial inclusion can moderate the relationship between competitiveness and the performance of PLS financing systems in Bangladesh. Financial inclusion can promote greater collaboration and cooperation among financial institutions, reducing the risk of excessive competition. This can lead to greater stability and sustainability in PLS financing systems. In conclusion, financial inclusion can play a key role in moderating the relationship between government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the performance of PLS financing systems in Bangladeshi Islamic financial institutions. Financial inclusion can promote greater demand for Shariah-compliant financial products and services, greater transparency and accountability, greater risk-sharing, and greater collaboration and cooperation among financial institutions.

In the "country, these institutions currently provide the following mobile banking services: cash in/out using mobile accounts, individual to business payments (e.g., utility bills payment), disbursement of inward foreign remittances, business to individual payments (such as salary disbursement by organizations and industries), government to person payments and vice versa (e.g., elderly allowances, freedom fighter allowances, subsidies, tax, levy payments, etc.), and other payments such as DPS, microfinance, insurance premium, and overdrawn facility (Khatun et al. 2021; Sultana & Khan 2017). Bangladesh has made tremendous progress in financial inclusion through the establishment of alternative delivery channels such as mobile banking to render low-cost financial services to the poor and needy. In 2020, 48% of adults were covered by the formal financial services sector, which was previously limited to 20% in 2013 during the existence of limited MFS (Khatun et al. 2021). The number of mobile banking users in Bangladesh has steadily increased over time, as shown in Figure 1. Therefore, to attract new customers and increase public financial access, it is critical to ensure the security and privacy of all mobile banking transactions. Application of Fintech will help to grow Islamic SME and IMF programs, women enterprises, and welfare-oriented banking as directed by the objectives of Islamic Shariah for poverty alleviation. It will help to grow PLS by inclusion of urban and rural people in *Mudarabah* and Musharakah business. Fintech also play a moderating role amongst the factors impacting Profit-Loss-Sharing (PLS) Performance of IFI. So, it can be assumed that:

H6: Financial Inclusion/fintech has significant impact on Profit-Loss-Sharing (PLS) Performances as Moderator.

On the above premises, the discussions of the literature are selective, analytical and critical in which literatures cited are appropriate and relevant to the research issues are cited as recent as 2021 to ensure the articles reviewed are sufficient and comprehensively covered 5 years or less to support the study as updated. Likewise, literature reviews substantiate the rationale of conceptual or theoretical framework for the study in which the theories and models are appropriate to underpin the framework of study and to develop hypotheses of the study.

METHOD

Research Design

The research design for this study utilizes a combination of both exploratory and explanatory research methods, as a structured strategy for conducting the research based on recognized academic frameworks (Baran, 2019; Berkhout, Ruedin, Van der Brug, & D'Amato, 2015). Serving as a tool to guide the planning,

execution, and monitoring of the study, the research design is informed by whether the study is quantitative or qualitative (Neuman, 2013). To achieve the research objectives, this study adopted the survey strategy, considering practical limitations such as budget, time, and location (Kamasa, 2015). This design acknowledges the importance of establishing data collecting sources and determining the unit of analysis (Cooper & Schindler, 2001). The study leans towards an exploratory research design, as the researcher seeks to assess Islamic fintech, banking services, facilities, and the Profit-Loss-Sharing (PLS) Performance in Islamic banking in Bangladesh using both primary and secondary sources of information. Furthermore, it employs explanatory (causal) research to understand why certain variables affect others, thereby testing a theory of organized concepts (Creswell & Clark, 2011).

Sampling

The study aims to analyze the relationships among the determinants and the performance of the Profit-Loss-Sharing financing system in Bangladeshi Islamic Financial Institutions, with the unit of analysis being Islamic bank executives, principal officers, managers, and managing directors based in Dhaka. As the most densely industrialized region of the country, the Greater Dhaka Area accounts for 35% of Bangladesh's economy. Almost all large local Islami banks have their corporate offices located in Dhaka. Therefore, in most cases, the researcher has the appropriate reasons to choose Dhaka as the study setting. The research employs a non-probability sampling technique, specifically total population sampling of the banking employees of Islamic Bank Bangladesh Limited (IBBL), the largest Islamic banking institution in Bangladesh with over 300 branches and 13,000 staff. Using this approach, the researcher aims to reflect the whole population's opinions and attitudes. For data collection, a structured questionnaire is distributed to a randomly selected sample of employees, ensuring each participant has an equal and fair chance of being selected. This method helps to avoid researcher bias and ensure representative results. The minimum sample size, determined through ROASOFT considering a confidence level of 95% and a margin of error of 5%, is 374.

Instruments

In this research study, the measurement instrument operationalizes multiple constructs, each adopted and reshaped from notable sources and set within the specific context of Profit-Loss Sharing (PLS) investment in Islamic banks in Bangladesh. The construct of Government Regulations (GR) uses items from Brownbridge (1996), while Knowledge (KN) relies on the work of Ellahi, Jillani, and Zahid (2021). Moral Hazards (MH) and Collateral Risks (CR) are operationalized using items from Oliveira et al., (2016). The Competitiveness (COM) construct measures items adapted from Ferreira, Marques, and Azevedo (2011), and Financial Inclusion (FI) uses items from cgap.org, (2021). Lastly, the Profit-Loss-Sharing (PLS) Performance construct is based on Fathoni and Suryani, (2020). All constructs utilize a five-point Likert scale to capture responses, ensuring consistent, quantifiable measures. By tailoring items from reputable sources to the study's context, the instrument reinforces the validity and robustness of the data, providing a solid foundation for subsequent analysis and interpretation.

Data Analysis tools

Data for this study was collected from 402 banking employees in Bangladesh Islamic Banks, primarily executive bodies and managerial employees, via a structured questionnaire. The collected data was transferred into Statistical Packages for the Social Sciences (SPSS 26) for preliminary analysis. Descriptive statistics such as frequencies, means, and standard deviations were generated to develop profiles of the sample and identify respondents' distributions. Further analysis involved conducting an Exploratory Factor Analysis (EFA) to test pairwise relationships between individual variables and extract latent factors from the proposed variable. Lastly, the study employed the Structural Equation Model (SEM), specifically the Partial Least Square (PLS-SEM), using the Smart PLS 4.0 software to examine and assess the measurement model, structural model, and proposed direct and moderating hypotheses.

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Participants

The study's respondent demographics indicated a predominance of male participants, accounting for 93.4% of the sample. The majority of respondents were above 45 years of age (32.4%), while the least represented age groups were those aged 21-25 years and 36-40 years, each accounting for 10.9%. All respondents identified as Sunni Muslims. With respect to educational qualifications, the majority of respondents had earned a Master's degree (66.3%), while a small minority held either a Diploma or other qualifications (1.5%). Executive roles were most common among job positions (46.8%), with the least representation from Managing Directors and Directors (1.5% and 1.8%, respectively).

Descriptive Analysis

Table 1: ***Descriptive Analysis***

Descriptive Statistics	**Mean**	**Std. Deviation**
Government Regulations	3.31	0.62
Knowledge	3.76	0.50
Moral Hazard	4.05	0.48
Collateral Risk	4.23	0.45
Competitiveness	4.01	0.44
Financial Inclusion	3.82	0.67
PLS Performance	3.37	0.66

The descriptive statistics table provided a summary of the key values for seven constructs. Collateral Risk, Moral Hazard, and Competitiveness emerged as the constructs with the highest mean scores, at 4.23, 4.05, and 4.01 respectively, indicating high respondent ratings. Conversely, Government Regulations and PLS Performance had the lowest mean scores, 3.31 and 3.37 respectively, reflecting moderate perceptions. The dispersion of scores, represented by standard deviation, was relatively low for Collateral Risk (0.45), Competitiveness (0.44), and Moral Hazard (0.48), whereas Financial Inclusion and PLS Performance showed higher variability with standard deviations of 0.67 and 0.66, respectively, signifying a broader range of responses.

Measurement Model Assessment

The study utilized measurement and structural models to measure latent variables and test hypothetical dependencies, respectively. Before evaluating overall model relationships, reliability and validity tests were conducted on variables and items, including Cronbach's ?, composite reliability, and convergent and discriminant validity. The outer or measurement model was analyzed to ascertain the correlation between observed items and their underlying construct. To authenticate the measurement model, various validity approaches like content, convergent, and discriminant validity were used. Convergent validity was evaluated through factor loadings, composite reliability, and AVE, while discriminant validity was measured using the Fornell–Larcker criterion, cross-loadings estimator, and the Heterotrait-Monotrait Ratio.

Reliability Measurements

The reliability of this study was assessed using two primary criteria: Cronbach's alpha and composite reliability, as subjectivity often compromises reliability, according to Chua (2022) and Wilson (2014). The Cronbach Alpha coefficient, a conventional method for testing internal reliability, was used to check data consistency across all items. A coefficient greater than 0.70 indicated internal reliability (Akgül, 2019; Nunnally & Bernstein, 1994). However, this method was less favored due to its tendency to produce lower values, potentially not accurately reflecting true reliability (Chua, 2022; Peterson & Kim, 2013).

Table 2: Summary of the measurement model Assessment

Variables	**Item**	**Loading**	**CA**	**rho_A**	**CR**	**AVE**
PLS Performance	**PLS1**	**0.802**	**0.877**	**0.883**	**0.910**	**0.671**
	PLS2	0.802				
	PLS3	0.858				
	PLS4	0.852				
	PLS5	0.778				
Financial Inclusion	**FI1**	**0.736**	**0.854**	**0.857**	**0.896**	**0.632**
	FI2	0.760				
	FI3	0.801				
	FI4	0.820				
	FI5	0.853				
Government Regulations	**GR1**	**0.743**	**0.890**	**0.897**	**0.916**	**0.646**
	GR2	0.848				
	GR3	0.753				
	GR4	0.813				
	GR5	0.865				
	GR6	0.792				
Knowledge	**KN1**	**0.795**	**0.852**	**0.854**	**0.894**	**0.630**
	KN2	0.845				
	KN3	0.826				
	KN4	0.765				

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	KN5	0.732				
Moral Hazard	**MH1**	**0.876**	**0.873**	**0.875**	**0.908**	**0.664**
	MH2	0.830				
	MH3	0.758				
	MH4	0.800				
	MH5	0.805				
Collateral Risks	**CR1**	**0.860**	**0.895**	**0.899**	**0.922**	**0.704**
	CR2	0.807				
	CR3	0.861				
	CR4	0.851				
	CR5	0.813				
Competitiveness	**COM1**	**0.813**	**0.893**	**0.901**	**0.921**	**0.700**
	COM2	0.833				
	COM3	0.869				
	COM4	0.827				
	COM5	0.839				

Note: CA=Cronbach's α; CR=Composite Reliability, and AVE= Average of variance extracted;

The assessment of the measurement model demonstrated satisfactory internal consistency and reliability across all constructs, including PLS Performance, Financial Inclusion, Government Regulations, Knowledge, Moral Hazard, Collateral Risks, and Competitiveness. Each construct's Cronbach's alpha exceeded the accepted 0.7 threshold (Xu, 2021), such as 0.877 for PLS Performance and 0.854 for Financial Inclusion, indicating high reliability. Rho_A values, another reliability measure, supported this finding, with values above the accepted threshold, such as 0.883 for PLS Performance and 0.857 for Financial Inclusion (Runkler, 2020). All constructs also displayed Composite Reliability (CR) above the recommended 0.7 threshold, reinforcing their reliability (Hair et al., 2021). For example, PLS Performance had a CR of 0.910, while Financial Inclusion had a CR of 0.896. The Average Variance Extracted (AVE), exceeded the recommended 0.5 threshold for each construct (Yu, Qiao, & Gui, 2021), such as 0.671 for PLS Performance and 0.632 for Financial Inclusion, indicating robust convergent validity.

Discriminant Validity Fornell-Larcker Criterion

The Fornell-Larcker Criterion was employed to affirm discriminant validity of the constructs: Collateral Risks, Competitiveness, Financial Inclusion, Government Regulations, Knowledge, Moral Hazard, and PLS Performance (Patten, 2016; Hair et al., 2021). Each construct demonstrated a square root of the Average Variance Extracted (AVE) that was larger than its inter-construct correlations, confirming their distinctiveness. For example, Collateral Risks had a square root of AVE (0.839) larger than all its inter-construct correlations (0.139 to 0.664). This pattern was consistent across all constructs, thereby validating the measurement model's discriminant validity.

Table 3: Fornnel and Larcker Criterion Analysis

Constructs	**01**	**02**	**03**	**04**	**05**	**06**	**07**
01. Collateral Risks	0.839						
02. Competitiveness	0.139	0.836					

03. Financial Inclusion	0.598	0.148	0.795				
04. Government Regulations	0.600	0.118	0.450	0.804			
05. Knowledge	0.620	0.123	0.581	0.650	0.793		
06. Moral Hazard	0.664	0.113	0.532	0.666	0.637	0.815	
07. PLS Performance	0.605	0.185	0.583	0.546	0.636	0.569	0.819

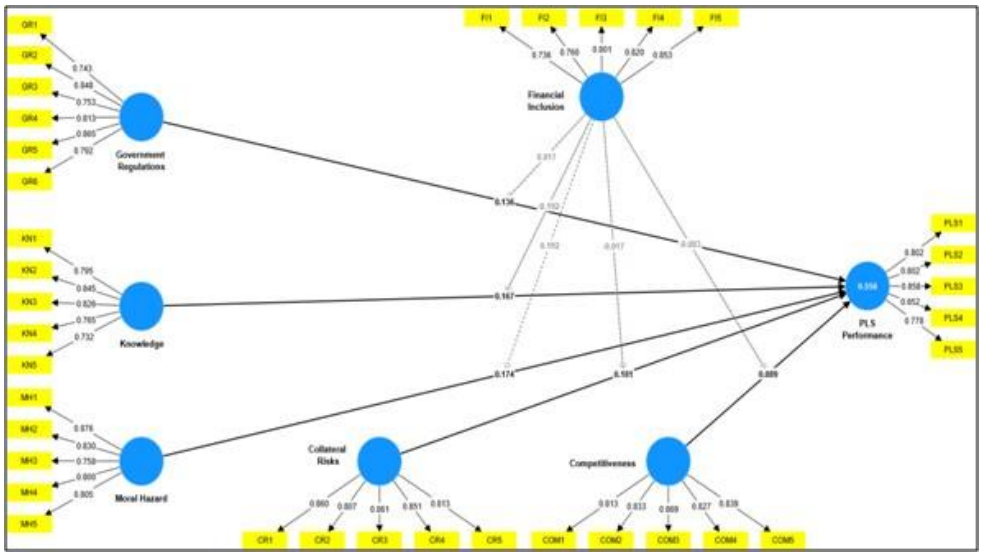
Heterotrait-Monotraiti Ratio (HTMT)

The Heterotrait-Monotrait Ratio (HTMT), a reliable criterion for validating discriminant validity, was also employed in the study for constructs such as Collateral Risks, Competitiveness, Financial Inclusion, Government Regulations, Knowledge, Moral Hazard, and PLS Performance (Henseler, 2020). The HTMT values, representing inter-construct correlations, were found to be below the recommended threshold of 0.90 for all construct pairs, thus indicating low overlaps and further corroborating the discriminant validity (Hair et al., 2021). For example, Collateral Risks and Competitiveness yielded a HTMT value of 0.153, well below the threshold. Similar results were observed across all pairs, thereby substantiating the measurement model's robustness and confirming that each construct captured a unique, distinct concept.

Table 4: Heterotrait-Monotrait Ratio (HTMT) Analysis

Constructs	1	2	3	4	5	6	7
01. Collateral Risks							
02. Competitiveness	0.153						
03. Financial Inclusion	0.684	0.168					
04. Government Regulations	0.663	0.130	0.518				
05. Knowledge	0.706	0.140	0.681	0.744			
06. Moral Hazard	0.750	0.129	0.618	0.751	0.737		
07. PLS Performance	0.676	0.208	0.667	0.607	0.728	0.644	

Figure 2: Measurement Model of this study



Structural Model Assessment

After ensuring the measurement model's validity and reliability, the study proceeded to assess the structural model using PLS-SEM algorithm and bootstrapping, following the method suggested by Rosenstein (2019). The structural model, reflecting the paths between the constructs, was evaluated based on criteria such as the coefficient of determination R^2, predictive relevance Q^2, path coefficients (?) and their significance, effect sizes (f^2 and q^2), and multicollinearity (inner VIF) (Kumar, 2018). Henseler (2020) highlighted that the predictive power of the model can be evaluated by the R^2 values of the endogenous constructs, and the significance of the path coefficients. Essentially, the structural model's quality was assessed by R^2, indicating the variance explained by the exogenous variables in the endogenous ones."

Evaluation coefficient of Determination (R^2)

The coefficient of determination (R^2) gauges the predictive accuracy of the model by estimating the combined effect of independent variables on the dependent variable (Hair et al., 2021). In our case, the R^2 value for the dependent variable, PLS Performance, is 0.556, implying that about 55.6% of the variance in PLS Performance is accounted for by the independent variables. The adjusted R^2, considering the number of predictors, is slightly lower at 0.543, or 54.3%. According to Cohen's (1988) guidelines, these values fall into the 'substantial' category, indicating our model's strong predictive power for PLS Performance (Sophie, 2016; Hunziker & Blankenagel, 2021).

Table 6:R Square determination

	R Square	R Square Adjusted
PLS Performance	0.556	0.543

Note: R^2 score interpretation (0.26 – substantial, 0.13 – moderate and 0.02 – weak) (Cohen, 1988)

Evaluation of Effect Size (f^2)

The effect size (f^2) indicates the impact of each predictor on the model (Sarstedt et al., 2017). All constructs in this study show a small effect on PLS Performance, with "Financial Inclusion" having the highest effect size (0.062). However, its interactions with "Government Regulations" and "Collateral Risks" do not affect PLS Performance, suggesting these predictors contribute minimally individually and underscoring the need for further research.

Table 7: Effect Size

Constructs	PLS Performance	Effect Size
Collateral Risks	0.023	Small
Competitiveness	0.017	Small
Financial Inclusion	0.062	Small
Government Regulations	0.017	Small
Knowledge	0.019	Small
Moral Hazard	0.023	Small
Financial Inclusion x Government Regulations	0.000	No Effect
Financial Inclusion x Moral Hazard	0.034	Small
Financial Inclusion x Competitiveness	0.017	Small
Financial Inclusion x Collateral _Risks	0.000	No effect
Financial Inclusion x Knowledge	0.027	Small

Note: f^2 score interpretation (0.35 – substantial effect size, 0.15 – medium effect size, 0.02 – small effect size and <0.02 – trivial effect size) (Cohen, 1988)

Test of Goodness of Fit

In assessing our model's goodness of fit, we utilized indices such as Standardized Root Mean Square Residual (SRMR), d_ULS, d_G, Chi-Square, and Normed Fit Index (NFI) (Hair et al., 2017). With an SRMR of 0.056, our model indicates a good fit, falling below the threshold of 0.08. However, with an NFI of 0.783, the model falls short of the ideal threshold of 0.90. Despite d_ULS and d_G values of 2.061 and 0.953, respectively, and a Chi-Square measure of 2153.458 falling within acceptable ranges, the less-than-optimal NFI suggests future research may benefit from model modifications."

Table 8: Goodness of Fit

Category	Saturated Model	Estimated Model
SRMR	0.055	0.056
d_ULS	2.006	2.061
d_G	0.953	0.953
Chi-Square	2146.811	2153.458
NFI	0.784	0.783

In this study's evaluation of model fit, as presented in Table 8, a multi-dimensional approach was adopted, examining several indices to ensure analytical rigor. Notably, the Normed Fit Index (NFI) value, at 0.783, does fall beneath the commonly endorsed benchmark of 0.90 (Hu & Bentler, 1999). Nevertheless, it's vital to contextualize this within the broader spectrum of fit indices. The SRMR, d_ULS, d_G, and Chi-Square measures all reside within their respective acceptable limits, validating the model's integrity (Brown, 2015). The SRMR values for the saturated and estimated models exhibit proximity, with a minor deviation in the estimated model, keeping the value at a commendable 0.056, well below the standard 0.08 threshold (Kline, 2015). The d_ULS index, although witnessing a marginal escalation in the estimated model, still remains within its permissible boundary (Marsh, Hau, & Grayson, 2005). The unwavering d_G values across both models attest to the model's reliability (Chen, Bollen, Paxton, Curran, & Kirby, 2001). The Chi-Square measure, vital in model fit evaluations, records a minimal increment in the estimated variant, indicating minor variances between observed and estimated matrices (Bentler & Bonett, 1980). Although the NFI does pose opportunities for improvement, its consistency in both models, juxtaposed with the corroborative evidence from the other indices, affirms this model's appropriateness in the context of this research (Jöreskog & Sörbom, 1996).

Multicellularity Testing

The multicollinearity test (Inner VIF), as recommended by Riezler & Hagmann (2022), was used in this study to assess correlations among independent variables. Variance Inflation Factor (VIF) values below 5 are acceptable and indicate absence of multicollinearity. Our results reveal VIF values ranging from 1.00 to 3.308, suggesting no multicollinearity among the study's independent constructs and thus confirming the appropriateness of our regression model.

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Table 9:Multicellularity Test

	PLS Performance
Collateral _Risks	3.244
Competitiveness	1.051
Financial Inclusion	1.825
Government _Regulations	2.432
Knowledge	3.308
Moral Hazard	2.919

Test of Hypothesis (Direct Relationship)

This study applied a bootstrapping procedure to assess the significance of relationships in the model (Békés & Kézdi, 2021). Hypotheses were tested using PLS-SEM at 1% ($p < 0.01$) and 5% ($p < 0.05$) significance levels (Efron & Tibshirani, 1994). As shown in Table 4.16, most hypothesized relationships were positive and statistically significant, except for one. Hypotheses H1 to H6, linking Government Regulations, Knowledge, Moral Hazard, Collateral Risks, Competitiveness, and Financial Inclusion to PLS Performance, were accepted ($p<0.05$), suggesting these factors significantly influence PLS Performance.

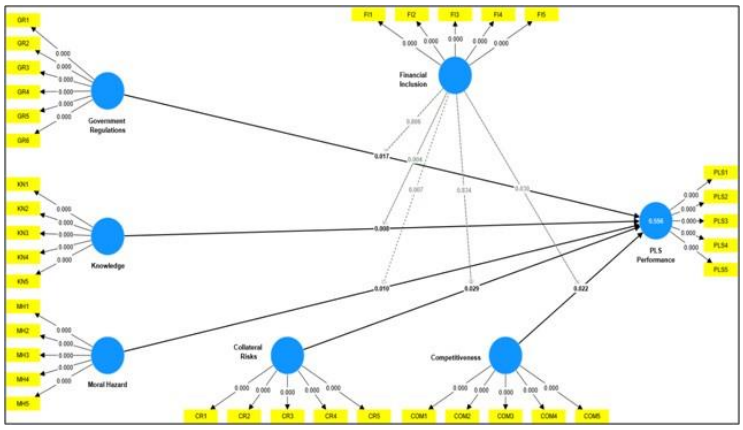
Table 10: Hypotheses Testing (Direct) for Study

Path	**Hypo.**	**M**	**ST DEV**	**t values**	**P Values**	*95% BC CI*		**Results**
						Lower Level	**Upper Level**	
H1	Government Regulations -> PLS Performance	0.139	0.057	2.381	0.017	0.026	0.252	Accepted
H2	Knowledge -> PLS Performance	0.168	0.063	2.633	0.008	0.045	0.292	Accepted
H3	Moral Hazard -> PLS Performance	0.175	0.068	2.570	0.010	0.042	0.310	Accepted
H4	Collateral Risks -> PLS Performance	0.177	0.083	2.180	0.029	0.008	0.338	Accepted

H5	Competitiveness -> PLS Performance	0.091	0.039	2.297	0.022	0.016	0.167	Accepted
H6	Financial Inclusion -> PLS Performance	0.221	0.058	3.853	0.000	0.109	0.331	Accepted

Note: Significant: p < 0.05

Figure 3: Structural model of this study



Hypothesis 1 proposed a direct relationship between Government Regulations and PLS Performance. As reflected in Table 4.16, this hypothesis was accepted. The path coefficient was found to be 0.139 with a standard deviation of 0.057. The t-value for this relationship is 2.381, which exceeds the general threshold for statistical significance, and the p-value of 0.017 is below the standard level of 0.05. This confirms the significance of the relationship between Government Regulations and PLS Performance.

Hypothesis 2 suggested a direct link between Knowledge and PLS Performance. The results from the table show that this hypothesis was accepted. The path coefficient is 0.168 with a standard deviation of 0.063, a t-value of 2.633, and a p-value of 0.008, which is below the 0.05 level of significance. These results suggest that there's a significant positive relationship between Knowledge and PLS Performance.

Hypothesis 3 postulated a direct connection between Moral Hazard and PLS Performance. According to the data, this hypothesis was accepted. The path coefficient stands at 0.175 with a standard deviation of 0.068. A t-value of 2.570 and a p-value of 0.010, which is less than the threshold of 0.05, signify a statistically

significant relationship between Moral Hazard and PLS Performance.

Hypothesis 4 theorized a direct relationship between Collateral Risks and PLS Performance. The statistical analysis supports this hypothesis, showing a path coefficient of 0.177, a standard deviation of 0.083, a t-value of 2.180, and a p-value of 0.029, which is less than the accepted significance level. This supports a significant direct relationship between Collateral Risks and PLS Performance.

Hypothesis 5 posited a direct relationship between Competitiveness and PLS Performance. As seen in the table, this hypothesis was accepted. The path coefficient is 0.091, with a standard deviation of 0.039, a t-value of 2.297, and a p-value of 0.022, which is below the significance threshold. These values show a significant positive relationship between Competitiveness and PLS Performance.

Lastly, Hypothesis 6 suggested a direct relationship between Financial Inclusion and PLS Performance. The

table shows that this hypothesis was accepted. The path coefficient of 0.221, a standard deviation of 0.058, a t-value of 3.853, and a p-value of 0.000, which is below the level of significance, demonstrate a significant positive relationship between Financial Inclusion and PLS Performance.

Predictive Relevance (Q^2)

The predictive accuracy of the structural model was evaluated using Q2 value assessment, a measure of predictive relevance (Stone, 1974; Geisser, 1974). A Q2 value larger than zero for any endogenous variable indicates acceptable predictive accuracy (Hair et al., 2021). Our model showed high predictive relevance with a Q^2 value for PLS Performance of 0.517, exceeding the threshold. Further, the Root Mean Square Error (RMSE) and Mean Absolute Error (MAE) were 0.702 and 0.531, respectively, reinforcing the model's robustness and predictive accuracy for PLS Performance.

Table 12*:* Q^2predict

	Q^2predict	RMSE	MAE
PLS Performance	0.517	0.702	0.531

***Note:* $Q^2>0$**

Moderating Effects

In the structural model of this study, for finding out the moderation effect of Financial Inclusion on the relationships between critical success factors for PLS Performance. The moderating effect of this study is reported below.

Table 13: Moderating role of Financial Inclusion

Hypo	M	ST DEV	t values	P Values	Results
H7: Financial Inclusion x Government Regulations -> PLS Performance	0.209	0.082	2.564	0.011	Accepted
H8: Financial Inclusion x Knowledge -> PLS Performance	0.123	0.103	1.192	0.234	Not Accepted
H9: Financial Inclusion x Moral Hazard -> PLS Performance	0.485	0.060	8.121	0.000	Accepted

H10: Financial Inclusion x Collateral _Risks -> PLS Performance	0.249	0.073	3.405	0.001	Accepted
H11: Financial Inclusion x Competitiveness -> PLS Performance	0.291	0.077	3.794	0.000	Accepted

Note: Significant: p < 0.05

Hypothesis 7 proposed that Financial Inclusion moderates the relationship between Government Regulations and PLS Performance. As per the analysis displayed in Table 4.18, this hypothesis is accepted. The path coefficient is 0.209, which is statistically significant with a p-value of 0.011, suggesting that Financial Inclusion indeed influences how Government Regulations affect PLS Performance.

Hypothesis 8 suggested that Financial Inclusion moderates the relationship between Knowledge and PLS Performance. According to the results, this hypothesis is not accepted. The path coefficient stands at 0.123, but with a p-value of 0.234, which is greater than the significance threshold of 0.05. This indicates that the impact of Knowledge on PLS Performance does not significantly change with varying levels of Financial Inclusion.

In Hypothesis 9, it was postulated that Financial Inclusion moderates the relationship between Moral Hazard and PLS Performance. The statistical analysis supports this hypothesis, with a path coefficient of 0.485 and a p-value of 0.000, which is well below the significance level. This suggests a significant moderation effect of Financial Inclusion on the relationship between Moral Hazard and PLS Performance.

Hypothesis 10, suggesting that Financial Inclusion moderates the relationship between Collateral Risks and PLS Performance, is accepted. The path coefficient is 0.249, and the p-value of 0.001 confirms the statistical significance of this relationship. Hence, Financial Inclusion significantly impacts the relationship between Collateral Risks and PLS Performance.

Lastly, Hypothesis 11 posited that Financial Inclusion moderates the relationship between Competitiveness and PLS Performance. The statistical evidence supports this hypothesis, as the path coefficient of 0.291 and a p-value of 0.000 indicate a significant moderation effect of Financial Inclusion on the relationship between Competitiveness and PLS Performance.

Importance-Performance Map Analysis (IPMA)

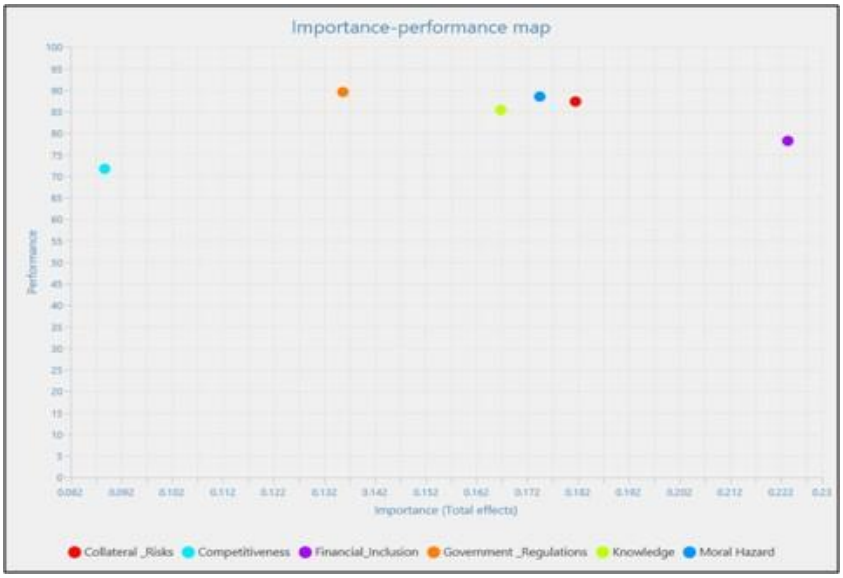
The Importance-Performance Map Analysis (IPMA) was employed to identify impactful constructs with lower average scores in the structural model (J.F. Hair et al., 2021). The analysis revealed that Financial Inclusion had the highest impact on PLS Performance, followed by Government Regulations and Moral Hazard, whereas Competitiveness had the least influence. This evaluation allows us to understand the relative significance and performance levels of each construct related to PLS Performance.

Figure 4: Importance-Performance Map Analysis (IPMA)

Variables	PLS Performance	Performance
Collateral Risks	0.181	87.337
Competitiveness	0.089	71.690

Financial Inclusion	0.223	78.191
Government Regulations	0.136	89.545
Knowledge	0.167	85.373
Moral Hazard	0.174	88.494

Figure 5: Performance Map



DISCUSSION

This research provides valuable insights into factors influencing the effectiveness of Profit-Loss-Sharing (PLS) financing systems in Bangladeshi Islamic Financial Institutions. The results highlight the impact of government regulations, public knowledge, moral considerations, collateral risks, competitiveness, and financial inclusion on the success of PLS systems. These findings align with previous studies conducted across various geographic settings. Particularly, this study echoes Hassan and Bashir's (2003) claim about the significance of regulatory frameworks in the efficiency of Islamic banks. The necessity for comprehensive understanding of PLS systems as indicated by Ahmed (2020) is affirmed here as well. Likewise, the study's findings regarding moral hazard resonate with Farook and Farooq (2021), emphasizing the need to minimize such risks in Islamic finance. Our examination of the effect of collateral risks aligns with Hasan's (2018) observation about their potential to impair the effectiveness of Islamic financial instruments. Hasan's (2018) assertions about the role of competition, and Franklin, Graybeal, and Cooper's (2019) propositions on Fintech inclusion's potential to bolster the efficiency of Islamic banking systems are also supported. However, our focus diverges from previous studies like Abbas & Arizah (2019), which suggested that market dynamics and macroeconomic factors predominantly govern PLS performance. The research results substantiate the first hypothesis that the performance of the PLS system is profoundly influenced by governmental regulations. A well-regulated environment fosters predictability and trust, thereby enhancing operational performance. This echoes earlier research emphasizing the need for robust regulations to ensure ethical behavior in Islamic finance. In summary, this research extends our understanding of the effects of governmental regulations on the success of PLS financing systems, supporting the need for a highly regulated yet balanced environment for the success of PLS financing in Bangladeshi Islamic Financial Institutions.

The findings of this study substantiate Hypothesis H2, asserting a significant correlation between knowledge and the effectiveness of the PLS financing system within Bangladeshi Islamic financial institutions. It was identified that both institutional expertise and consumer financial literacy are vital to alleviate information

asymmetry and directly influence the PLS system's operation. These results align with prior research such as Shahzadi, Malik, Shabbir, and Yasmind's (2021) emphasis on the crucial role of financial literacy in enhancing the efficacy of Islamic financing. Consistent with our findings, Abbas and Arizah (2019) argued that a better understanding of Islamic financial concepts leads to successful implementation and operation of the PLS system. Our research agrees with Hasan (2018) and Franklin et al. (2019), who posited that comprehensive understanding of Islamic banking enhances its effectiveness and acceptance. On the other hand, Syafaat and Putra (2022) noted the importance of other variables like regulatory environment, service quality, and customer satisfaction alongside knowledge. Rahman & Gholami (2020) further emphasized the necessity for improved training and information for both banking staff and clients, an assertion directly aligning with our results. Similarly, Franklin et al. (2019) underlined the importance of financial institutions' and consumers' awareness of PLS to mitigate the risks of moral hazard and adverse selection, supporting our conclusion on knowledge's crucial role in enhancing PLS performance.

The study's findings support hypothesis H3, which holds that moral hazards have a major impact on the performance of the Profit-Loss-Sharing (PLS) financing scheme. The effectiveness of the PLS system is unquestionably impacted by the existence of moral hazards, which may increase risk and diminish confidence in these financial agreements. These findings are consistent with a number of other studies that examined the degree to which moral hazard might reduce the efficiency of PLS systems if it is not properly controlled. This finding is supported by a number of scholarly research, which emphasize the possible detrimental effect of moral hazards on the effectiveness of PLS funding.

For instance, Ince (2016) confirmed our results by outlining how moral hazard may result in monetary instability, risk-taking, and a deterioration in PLS performance over time. This study's findings validate Hypotheses H3, H4, and H5, demonstrating that moral hazards, collateral risks, and competition significantly influence the performanceof Profit-Loss-Sharing (PLS) financing schemes. Empirical evidence on the detrimental effects of moral hazards on PLS schemes from researchers like Ince (2016), Paturohman and Tarjono (2021), and Syafaat and Putra (2022), alongside with the critical role collateral risks play as emphasized by Rosman, Sabrina, Majid, and Majid (2020), Luksi (2019), El-Gamal (2000), Bijan, Bijan, and Mahmoud (2019), Anwar et al. (2020), and Junaidi (2022), reinforce our results. The beneficial impact of competition on PLS performance, backed by studies from Luksi (2019), Sutrisno and Agus (2022), Anwar et al. (2020), Bijan et al. (2019), Junaidi (2022), and Aisyah and Reza (2020), affirms our findings related to Hypothesis H5. Regarding H6, our results indicate a significant relationship between Fintech inclusion and PLS performance in Bangladeshi Islamic Financial Institutions, aligning with research by Ahmad and Ainun (2019), Junaidi (2022), Bijan et al. (2019), and Gio (2022). This underscores Fintech's transformative potential in Islamic finance, but we also acknowledge potential challenges with Fintech integration as per Paturohman and Tarjono (2021). Overall, our research emphasizes the importance of managing moral hazards, collateralrisks, and competitiveness in PLS financing schemes and highlights Fintech's role as a potential moderator.

Implications of this study

This study on the performance of Profit-Loss-Sharing (PLS) financing schemes in Bangladeshi Islamic Financial Institutions offers crucial insights for policymakers, academics, and industry practitioners. For policymakers, it emphasizes the need for supportive, transparent regulations, effective risk management frameworks, and the promotion of Fintech integration. Academically, it enriches the understanding of Islamic finance and highlights the need for further research on Fintech's role and impact in this context. It also underscores the importance of improving financial literacy and studying risk management strategies. For industry practitioners, it recommends improving financial literacy, enhancing competitiveness, adopting Fintech solutions, and managing moral hazard and collateral risks effectively to enhance the PLS performance and contribute to financial inclusion and socio-economic development. The study's findings can help foster a broader transformation towards more equitable financial practices in Bangladesh.

CONCLUSION

This study illuminates vital factors that impact Profit-Loss-Sharing (PLS) systems in Islamic financial institutions in Bangladesh. It underscores the profound influence of government regulations, knowledge, moral hazard, collateral risks, competitiveness, and the significant moderating role of Fintech inclusion. Policymakers are urged to develop supportive regulatory environments for enhanced transparency, accountability, and fairness. Additionally, they should prioritize financial literacy initiatives to boost comprehension of PLS principles, and address moral hazard and collateral risks to bolster the integrity and credibility of PLS contracts. Promoting competitiveness in the Islamic finance sector through innovation, product diversification, and customer-oriented approaches is also essential. Moreover, integration of Fintech solutions can bring about operational efficiency, improved accessibility, and broadened financial inclusion. Despite offering these important insights, the study acknowledges the restrictions it faced, including its limited geographical focus on Bangladesh and the reliance on secondary data.

RECOMMENDATIONS

In the quest for a more holistic comprehension of Profit-Loss-Sharing (PLS) performance, several avenues emerge for future research to deepen and widen the existing understanding. A key limitation of the present study is its geographic confinement to Bangladesh. To elevate the generalizability of these results, it would be propitious for subsequent studies to venture into other countries or regions. Such expansion not only stands to shed light on potential regional disparities or universal trends in PLS practices but also can uncover the intricate tapestry of global PLS behaviors.

Drawing on a comparative lens, the performance of PLS across nations, each embedded within its unique economic and regulatory milieu, can unveil how culture, economy, and regulations differentially mold PLS performance. The present research casts its net over select determinants of PLS performance, leaving room for future endeavors to encompass additional influencers. There's merit in investigating the role of customer demographics, institutional quality, and overarching macroeconomic scenarios in shaping PLS outcomes.

Moreover, the dynamic interplay between PLS determinants and performance might harbor complexities, perhaps exhibiting non-linearities or nuanced interaction effects. This calls for the integration of avant-garde analytical tools capable of capturing such multifaceted relationships, offering a representation truer to the empirical landscape.

In the rapidly evolving financial domain, the ascent of Fintech is undeniable. It behooves researchers to mine deeper into Fintech's imprint on PLS performance. As the reviewer sagaciously pointed out, forthcoming investigations should earnestly explore the labyrinth of challenges and latent risks tethered to Fintech's integration within Islamic finance. Areas ripe for exploration encompass concerns pertaining to data sanctity, regulatory adherence, and the acceptance curve of the clientele toward digitized financial services. By dissecting these domains, research can chart a clearer trajectory for Fintech's symbiosis with Islamic financial institutions, illuminating potential pitfalls, and illuminating the path to best practices.

REFERENCES

1. Abdalla Ahmed, G. (2008). The implication of using profit and loss sharing modes of finance in the banking system, with a particular reference to equity participation (partnership) method in Sudan. Humanomics, 24(3), 182-206. doi:10.1108/08288660810899359
2. Abdalla Ahmed, G. (2008). The implication of using profit and loss sharing modes of finance in the banking system, with a particular reference to equity participation (partnership) method in Sudan. *Humanomics,* 24(3), 182-206. doi:10.1108/08288660810899359

3. Ajmi, H., Abd Aziz, H., Kassim, S., & Mansour, W. (2019). Adverse selection analysis for profit and loss sharing contracts. International Journal of Islamic and Middle Eastern Finance and Management, 12(4), 532-552. doi:10.1108/IMEFM-03-2018-0079
4. Aklin, M., & Kern, A. (2019). Moral Hazard and Financial Crises: Evidence from American Troop Deployments. *International Studies Quarterly*, 63(1), 15-29. doi:10.1093/isq/sqy047
5. Aziz, S., Ashraf, D., & El-Khatib, R. (2021). Societal trust and Sukuk activity. *Journal ofInternational Financial Markets, Institutions and Money*, 74, 101384. doi: https:// doi.org /10.1016 / j.intfin.2021.101384
6. Azmat, S., Jalil, M. N., Skully, M., & Brown, K. (2016). Investor's choice of Shariah compliant 'replicas' and original Islamic instruments. Journal of Economic Behavior & Organization, 132, 4-22. doi:https://doi.org/10.1016/j.jebo.2016.07.018
7. Azmat, S., Jalil, M. N., Skully, M., & Brown, K. (2016). Investor's choice of Shariah compliant 'replicas' and original Islamic instruments. *Journal of Economic Behavior & Organization*, 132, 4-22. doi:https://doi.org/10.1016/j.jebo.2016.07.018
8. Azmat, S., Kabir Hassan, M., Ali, H., & Sohel Azad, A. S. M. (2021). Religiosity, neglected risk and asset returns: Theory and evidence from Islamic finance industry. Journal of International Financial Markets, Institutions and Money, 74, 101294. doi:https://doi.org/10.1016/j.intfin.2021.101294
9. Azmat, S., Kabir Hassan, M., Ali, H., & Sohel Azad, A. S. M. (2021). Religiosity, neglected risk and asset returns: Theory and evidence from Islamic finance industry. *Journal of International Financial Markets, Institutions and Money*, 74, 101294. doi:https://doi.org/10.1016/j.intfin.2021.101294
10. Bacon, J. (1995). Universals and property instances: The alphabet of being.
11. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, *16*(1), 74-94.
12. Balmaceda, F. (2020). Contracting with moral hazard, adverse selection and risk neutrality: when does one size fit all? International Journal of Game Theory, 49(2), 601-637. doi:10.1007/s00182-019-00700-5
13. Balmaceda, F. (2020). Contracting with moral hazard, adverse selection and risk neutrality: when does one size fit all? *International Journal of Game Theory*, 49(2), 601-637. doi:10.1007/s00182-019-00700-5
14. Bangladesh Bank. (2019). Financial Stability Report 2018. Retrieved fromhttps://www.bb.org.bd/pub /annual/fsr/fsr2018/fsr2018-eng.pdf
15. Bangladesh Bank. (2019). *Financial Stability Report 2018*. Retrieved fromhttps://www.bb.org.bd/pub /annual/fsr/fsr2018/fsr2018-eng.pdf
16. Banning, E. B. (2020) Research Design and Sampling. In. Interdisciplinary Contributions to Archaeology (pp. 85-104).
17. Banning, E. B. (2020) Research Design and Sampling. In. Interdisciplinary Contributions to Archaeology (pp. 85-104).
18. Baran, M. L. (2019). Mixed methods research design. In Applied Social Science Approaches to Mixed Methods Research (pp. 26-52).
19. Baran, M. L. (2019). Mixed methods research design. In Applied Social Science Approaches to Mixed Methods Research (pp. 26-52).
20. Bathelt, H., & Glückler, J. (2018). Relational research design in economic geography. In The New Oxford Handbook of Economic Geography (pp. 179-195).
21. Bathelt, H., & Glückler, J. (2018). Relational research design in economic geography. In The New Oxford Handbook of Economic Geography (pp. 179-195).
22. Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International journal of Research in Marketing*, *13*(2), 139-161.
23. Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British journal of management*, *18*(1), 63-77.
24. Ben Amar, A. (2022). On the role of Islamic banks in the monetary policy transmission in Saudi Arabia. Eurasian Economic Review, 12(1), 55-94. doi:10.1007/s40822-022-00200-0

25. Ben Amar, A. (2022). On the role of Islamic banks in the monetary policy transmission in Saudi Arabia. *Eurasian Economic Review*, 12(1), 55-94. doi:10.1007/s40822-022-00200-0
26. Ben Amar, A., & O. El Alaoui, A. (2022). Profit- and loss-sharing partnership: the case of the two-tier mudharaba in Islamic banking. International Journal of Islamic and Middle Eastern Finance and Management. doi:10.1108/IMEFM-12-2020-0630
27. Ben Amar, A., & O. El Alaoui, A. (2022). Profit- and loss-sharing partnership: the case of the two-tier mudharaba in Islamic banking. *International Journal of Islamic and Middle Eastern Finance and Management*. doi:10.1108/IMEFM-12-2020-0630
28. Ben Jedidia, K. (2020). Profit- and loss-sharing impact on Islamic bank liquidity in GCC countries. Journal of Islamic Accounting and Business Research, 11(9), 1791-1806. doi:10.1108/JIABR-10-2018-0157
29. Ben Jedidia, K. (2020). Profit- and loss-sharing impact on Islamic bank liquidity in GCC countries. *Journal of Islamic Accounting and Business Research*, 11(9), 1791-1806. doi:10.1108/JIABR-10-2018-0157
30. Bendob, A., Bennaceur, F., & Benahmeddaho, R. (2017). Does the Profit and Loss Sharing Financing increase the Performance of Islamic Banks? Annals of Dunarea de Jos University. Fascicle I : Economics and Applied Informatics.
31. Bendob, A., Bennaceur, F., & Benahmeddaho, R. (2017). *Does the Profit and Loss Sharing Financing increase the Performance of Islamic Banks?* Annals of Dunarea de Jos University. Fascicle I: Economics and Applied Informatics.
32. Berkhout, J., Ruedin, D., Van der Brug, W., & D'Amato, G. (2015). Research design. In The Politicisation of Migration (pp. 19-30).
33. Berkhout, J., Ruedin, D., Van der Brug, W., & D'Amato, G. (2015). Research design. In The Politicisation of Migration (pp. 19-30).
34. Bhatti, M., & Bhatti, I. (2010). Islamic Finance : Islamic Finance : Contents. Asian Politics & Policy, 2, 25-38.
35. Bhatti, M., & Bhatti, I. (2010). Islamic Finance : Islamic Finance : Contents. Asian Politics & Policy, 2, 25-38.
36. Bhuiyan, R. A., Rahman, M. P., Saiti, B., & Ghani, G. B. M. (2019). Does the Malaysian Sovereign sukuk market offer portfolio diversification opportunities for global fixed-income investors? Evidence from wavelet coherence and multivariate-GARCH analyses. The North American Journal of Economics and Finance, 47, 675-687. doi:https://doi.org/10.1016/j.najef.2018.07.008
37. Bhuiyan, R. A., Rahman, M. P., Saiti, B., & Ghani, G. B. M. (2019). Does the Malaysian Sovereign sukuk market offer portfolio diversification opportunities for global fixed-income investors? Evidence from wavelet coherence and multivariate-GARCH analyses. *The North American Journal of Economics and Finance*, 47, 675-687. doi:https://doi.org/10.1016/j.najef.2018.07.008
38. Bugshan, A., Alnori, F., & Bakry, W. (2021). Shariah compliance and corporate cash holdings. Research in International Business and Finance, 56, 101383. doi:https://doi.org/10.1016/j.ribaf. 2021.101383
39. Bugshan, A., Alnori, F., & Bakry, W. (2021). Shariah compliance and corporate cash holdings. *Research in International Business and Finance*, 56, 101383. doi:https://doi.org/10.1016/j .ribaf .2021.101383
40. Bynner, J., & Stribley, K. M. (2017). Research design: The logic of social inquiry.
41. Bynner, J., & Stribley, K. M. (2017). Research design: The logic of social inquiry.
42. Byrne, B. M. (2013). *Structural equation modeling with Mplus: Basic concepts, applications, and programming*. routledge.
43. Cai, Y. J., Choi, T. M., & Zhang, J. (2021). Platform Supported Supply Chain Operations in the Blockchain Era: Supply Contracting and Moral Hazards*. Decision Sciences, 52(4), 866-892. doi:10.1111/deci.12475
44. Cai, Y. J., Choi, T. M., & Zhang, J. (2021). Platform Supported Supply Chain Operations in the Blockchain Era: Supply Contracting and Moral Hazards*. Decision Sciences, 52(4), 866-892.

doi:10.1111/deci.12475

45. Daniels, S. G. H. (2014). *Research design models. In Models in Archaeology* (pp. 201-229).
46. Danisewicz, P., Lee, C. H., & Schaeck, K. (2022). Private deposit insurance, deposit flows, bank lending, and moral hazard. Journal of Financial Intermediation, 52. doi:10.1016/j.jfi.2022.100967
47. Danisewicz, P., Lee, C. H., & Schaeck, K. (2022). Private deposit insurance, deposit flows, bank lending, and moral hazard. *Journal of Financial Intermediation*, 52. doi:10.1016/j.jfi.2022.100967
48. Élie, R., Hubert, E., Mastrolia, T., & Possamaï, D. (2021). Mean–field moral hazard for optimalenergy demand response management. *Mathematical Finance*, 31(1), 399-473. doi:10.1111/mafi.12291
49. Fahmi, I. (2020). The prohibition of gharar in Islamic finance: An analysis. *Journal of Islamic Monetary Economics and Finance*, 6(1), 157-174.
50. Fakir, A. E. L., & Tkiouat, M. (2016). Profit and loss sharing contracts as a prisoners dilemma: An agent based simulation with game theory application to participative finance. Corporate Ownership and Control, 13(4Cont3), 520-525.
51. Fakir, A. E. L., & Tkiouat, M. (2016). Profit and loss sharing contracts as a prisoners dilemma: An agent based simulation with game theory application to participative finance. *Corporate Ownership and Control*, 13(4Cont3), 520-525.
52. Farihana, S., & Rahman, M. S. (2020). Can profit and loss sharing (PLS) financing instruments reduce the credit risk of Islamic banks? Empirical Economics, 61(3), 1397-1414. doi:10.1007/s00181-020-01912-5
53. Farihana, S., & Rahman, M. S. (2020). Can profit and loss sharing (PLS) financing instruments reduce the credit risk of Islamic banks? *Empirical Economics,* 61(3), 1397-1414. doi:10.1007/s00181- 020-01912-5
54. Farihana, S., & Rahman, M. S. (2021). Can profit and loss sharing (PLS) financing instruments reduce the credit risk of Islamic banks? Empirical Economics, 61(3), 1397-1414. doi:10.1007/s00181-020-01912-5
55. Fathurrohman, M. S. (2020). The Case For Fully-Fledged Profit-Loss Sharing Banking. Airlangga International Journal of Islamic Economics and Finance. doi:10.20473/aijief.v3i2.23881
56. Fathurrohman, M. S. (2020). The Case For Fully-Fledged Profit-Loss Sharing Banking. *Airlangga International Journal of Islamic Economics and Finance*. doi:10.20473/aijief.v3i2.23881
57. Gao, X., & Topuz, J. (2020). Firm location and systematic risk: the real estate channel. *Review of Accounting and Finance*, 19(3), 387-409. doi:10.1108/RAF-05-2019-0109
58. Gatrell, J. D., Bierly, G. D., & Jensen, R. R. (2012). Research design and proposal writing in spatial science.
59. Gatrell, J. D., Bierly, G. D., & Jensen, R. R. (2012). *Research design and proposal writing in spatial science*.
60. Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the association for information systems*, *4*(1), 7.
61. Gericke, R. C. (2018) Research design. In. Contributions to Management Science (pp. 187-203).
62. Gericke, R. C. (2018) *Research design. In. Contributions to Management Science* (pp. 187-203).
63. Ghayad, D. R., Hamdan, D. M., & Professor. (2021). Islamic banks (Profit Sharing Contracts and Agency Theory in the Islamic banks in Lebanon). International Journal of Research and Studies Publishing, 2, 1-25.
64. Ghayad, D. R., Hamdan, D. M., & Professor. (2021). Islamic banks (Profit Sharing Contracts and Agency Theory in the Islamic banks in Lebanon). *International Journal of Research and Studies Publishing*, 2, 1-25.
65. Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1* (2), 107-123.
66. Hakim, C. (2022). Research design: Successful designs for social and economic research, second edition.

67. Hakim, C. (2022). *Research design: Successful designs for social and economic research, second edition*.
68. Hamza, H. (2016). Does investment deposit return in Islamic banks reflect PLS principle? Borsa Istanbul Review, 16(1), 32-42. doi:https://doi.org/10.1016/j.bir.2015.12.001
69. Hamza, H. (2016). Does investment deposit return in Islamic banks reflect PLS principle? *Borsa Istanbul Review*, 16(1), 32-42. doi:https://doi.org/10.1016/j.bir.2015.12.001
70. Hasan, Z., & Dridi, J. (2011). The effects of the global crisis on Islamic and conventional banks: A comparative study. IMF Working Paper.
71. Hasan, Z., & Dridi, J. (2011). *The effects of the global crisis on Islamic and conventional banks: A comparative study*. IMF Working Paper.
72. Hassan, M. K., Chiaramonte, L., Dreassi, A., Paltrinieri, A., & Piserà, S. (2022). The religious fringe of Corporate Social Responsibility. International Review of Economics & Finance, 80, 243-265. doi:https://doi.org/10.1016/j.iref.2022.02.003
73. HS, S. (2020). Profit and Loss Sharing Application in Islamic Banking. ENDLESS : *International Journal of Future Studies.* doi:10.54783/endless.v3i1.84
74. Iqbal, Z., & Mirakhor, A. (2011). An introduction to Islamic finance: Theory and practice. John Wiley & Sons.
75. Iqbal, Z., & Mirakhor, A. (2011). An introduction to Islamic finance: Theory and practice. John Wiley & Sons.
76. Islam, M. A., & Khandaker, S. M. A. (2017). Challenges and opportunities of profit and loss sharing (PLS) financing in Bangladesh. Journal of Business and Technology (Dhaka), 12(2), 97-113.
77. Islam, M. A., & Khandaker, S. M. A. (2017). Challenges and opportunities of profit and loss sharing (PLS) financing in Bangladesh. *Journal of Business and Technology (Dhaka*), 12(2), 97-113.
78. Issa, S. (2020). Life after Debt: The Effects of Overleveraging on Conventional and Islamic Banks. Journal of Risk and Financial Management, 13, 137. doi:10.3390/jrfm13060137
79. Issa, S. (2020). Life after Debt: The Effects of Overleveraging on Conventional and Islamic Banks . *Journal of Risk and Financial Management*, 13, 137. doi:10.3390/jrfm13060137
80. Jadiyappa, N., Shrivastava, S., & Ghalke, A. (2022). Social responsibility, moral hazard, and collateral requirement: Evidence from a quasi-natural experiment in India. International Review of Finance. doi:10.1111/irfi.12378
81. Jadiyappa, N., Shrivastava, S., & Ghalke, A. (2022). Social responsibility, moral hazard, and collateral requirement: Evidence from a quasi-natural experiment in India. *International Review of Finance.* doi:10.1111/irfi.12378
82. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305-360.
83. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
84. Johnston Huntington, T., & Eckert, A. E. (2022). 'We watched his whole life unfold..Then you watch the death': drone tactics, operator trauma, and hidden human costs of contemporary wartime. International Relations, 36(4), 638-657. doi:10.1177/00471178221135036
85. Johnston Huntington, T., & Eckert, A. E. (2022). 'We watched his whole life unfold..Then you watch the death': drone tactics, operator trauma, and hidden human costs of contemporary wartime. *International Relations*, 36(4), 638-657. doi:10.1177/00471178221135036
86. Juhro, S. M., Narayan, P. K., Iyke, B. N., & Trisnanto, B. (2020). Is there a role for Islamic finance and R&D in endogenous growth models in the case of Indonesia? Pacific-Basin Finance Journal, 62, 101297. doi:https://doi.org/10.1016/j.pacfin.2020.101297
87. Juhro, S. M., Narayan, P. K., Iyke, B. N., & Trisnanto, B. (2020). Is there a role for Islamic finance and R&D in endogenous growth models in the case of Indonesia? *Pacific-Basin Finance Journal*, 62, 101297. doi:https://doi.org/10.1016/j.pacfin.2020.101297
88. Kayed, R. N. (2012). The entrepreneurial role of profit-and-loss sharing modes of finance: theory and practice. International Journal of Islamic and Middle Eastern Finance and Management, 5(3), 203-

228. doi:10.1108/17538391211255205
89. Kayed, R. N. (2012). The entrepreneurial role of profit-and-loss sharing modes of finance: theory and practice. *International Journal of Islamic and Middle Eastern Finance and Management,* 5(3), 203-228. doi:10.1108/17538391211255205
90. Khan, S., & Azmat, S. (2020). Debt externality in equity markets: Leveraged portfolios and Islamic indices. International Review of Economics & Finance, 69, 152-177. doi:https://doi.org/10.1016/j.iref.2020.05.004
91. Khan, S., & Azmat, S. (2020). Debt externality in equity markets: Leveraged portfolios and Islamic indices. *International Review of Economics & Finance*, 69, 152-177. doi:https://doi.org/10.1016 /j.iref.2020.05.004
92. Khan, T., & Ahmed, H. (2001). Risk management: An analysis of issues in Islamic financial
93. Kok, S. K., & Shahgholian, A. (2023). The impact of proximity within elite corporate networks on the Shariah governance-firm performance nexus: Evidence from the global Shariah elite. *Emerging Markets Review,* 54, 100998. doi:https://doi.org/10.1016/j.ememar.2023.100998
94. Komijani, & Taghizadeh-Hesary. (2018). An overview of Islamic banking and finance in Asia. Retrieved from
95. Li, M. (2019). Moral hazard and internal discipline: Theory and evidence. Accounting Review, 94(4), 365-400. doi:10.2308/accr-52294
96. Little, R. J., & Rubin, D. B. (2014). *Statistical analysis with missing data*(Vol. 793). John Wiley & Sons.
97. Luque, J. (2022). The repo channel of cross-border lending in the European sovereign debt crisis. Journal of Financial Markets, 59. doi:10.1016/j.finmar.2021.100679
98. Mahdi, & Rahaman. (2020). Islamic Banking and Finance in Bangladesh. Journal of Business Accounting and Financing, 1(1), 10-15.
99. Mahdi, & Rahaman. (2020). Islamic Banking and Finance in Bangladesh. *Journal of Business Accounting and Financing*, 1(1), 10-15.
100. Meng, X., Zhu, Y., & Zhong, M. (2020). Ripple effect of moral hazard: How does CSR misconduct impact firm performance in the dairy industry? International Journal of Productivity and Quality Management, 31(4), 527-546. doi:10.1504/IJPQM.2020.111673
101. Meng, X., Zhu, Y., & Zhong, M. (2020). Ripple effect of moral hazard: How does CSR misconduct impact firm performance in the dairy industry? *International Journal of Productivity and Quality Management*, 31(4), 527-546. doi:10.1504/IJPQM.2020.111673
102. Meslier, C., Risfandy, T., & Tarazi, A. (2020). Islamic banks' equity financing, Shariah supervisory board, and banking environments. Pacific-Basin Finance Journal, 62, 101354. doi:https://doi.org/10.1016/j.pacfin.2020.101354
103. Meslier, C., Risfandy, T., & Tarazi, A. (2020). Islamic banks' equity financing, Shariah supervisory board, and banking environments. *Pacific-Basin Finance Journal*, 62, 101354. doi:https://doi.org/10.1016/j.pacfin.2020.101354
104. Miah, M. D., & Sharmeen, K. (2015). Relationship between capital, risk and efficiency. International Journal of Islamic and Middle Eastern Finance and Management, 8(2), 203-221. doi:10.1108/imefm-03-2014-0027
105. Miah, M. D., & Sharmeen, K. (2015). Relationship between capital, risk and efficiency. *International Journal of Islamic and Middle Eastern Finance and Management*, 8(2), 203-221. doi:10.1108/imefm-03-2014-0027
106. Miasary, S. D. (2020). Penerapan Model Profit-Loss Sharing untuk Investasi Modal Kecil. Zeta – Math Journal. doi:10.31102/zeta.2021.6.1.1-5
107. Naz, S. A., & Gulzar, S. (2022). Impact of Islamic Finance on Economic Growth: An Empirical Analysis of Muslim Countries. *Singapore Economic Review,* 67(1), 245-265. doi:10.1142/S0217590819420062
108. Nechi, S., & Smaoui, H. E. (2019). Interbank offered rates in Islamic countries: Is the Islamic benchmark different from the conventional benchmarks? The Quarterly Review of Economics and

Finance, 74, 75-84. doi:https://doi.org/10.1016/j.qref.2018.05.003

109. Nouman, M., & Ullah, K. (2014). Constraints in the Application of Partnerships in Islamic Banks: The Present Contributions and Future Directions. Business & Economic Review, 6(2), 47-62. doi:10.22547/ber/6.2.3
110. O'Riordan, L. (2017) Research Design: Building a Methodology to Fill the Identified Gaps. In. CSR, Sustainability, Ethics and Governance (pp. 221-271).
111. O'Riordan, L. (2017) *Research Design: Building a Methodology to Fill the Identified Gaps. In. CSR, Sustainability, Ethics and Governance* (pp. 221-271).
112. Olinsky, A., Chen, S., & Harlow, L. (2003). The comparative efficacy of imputation methods for missing data in structural equation modeling. *European Journal of Operational Research, 151*(1), 53-79.
113. Othman, N., Abdul-Majid, M., & Abdul-Rahman, A. (2017). Partnership financing and bank efficiency. Pacific-Basin Finance Journal, 46, 1-13. doi :10.1016/j.pacfin.2017.08.002
114. Othman, N., Abdul-Majid, M., & Abdul-Rahman, A. (2017). Partnership financing and bank efficiency. *Pacific-Basin Finance Journal*, 46, 1-13. doi:10.1016/j.pacfin.2017.08.002
115. Özkan, A. H. (2014). Are the Customers of Participation Banks Noise Traders? The Case of Turkey. Procedia – Social and Behavioral Sciences, 109, 584-589. doi:https:// doi.org/ 10.1016/ j. sbspro .2013 .12.510
116. Pierce, J. J., Smith-Walter, A., & Peterson, H. L. (2014). *Research design and the narrative policy framework. In The Science of Stories: Applications of the Narrative Policy Framework in Public Policy Analysis* (pp. 27-44).
117. Pisitsankkhakarn, R., & Vassanadumrongdee, S. (2020). Enhancing purchase intention in circular economy: An empirical evidence of remanufactured automotive product in Thailand. *Resources, conservation and recycling*, *156*, 104702.
118. Rahman, A. F., & Riyadh, H. A. (2016). Islamic Finance: Current, Future Trends and Challenges. Journal of Islamic Banking and Finance, 4(2). doi:10.15640/jibf.v4n2a4
119. Rahman, A. F., & Riyadh, H. A. (2016). Islamic Finance: Current, Future Trends and Challenges. *Journal of Islamic Banking and Finance*, 4(2). doi:10.15640/jibf.v4n2a4
120. Ramanujam, B., Arora, A., Malhotra, V., Dash, D., Mehta, S., & Tripathi, M. (2016). A case of recurrent status epilepticus and successful management with progesterone. *Epileptic Disorders*, *18*(1), 101-105.
121. Sabrina, S., & Majid, M. S. A. (2020). *The Reluctance Phenomenon of Islamic Banks to Offer Profit-Loss Sharing Financing*. JEJAK. doi:10.15294/jejak.v13i2.23891
122. Salman, A., & Nawaz, H. (2018). Islamic financial system and conventional banking: A comparison. Arab Economic and Business Journal, 13(2), 155-167. doi:https://doi.org/10.1016/j.aebj.2018.09.003
123. Syahri, N. A., & Harjito, D. A. (2020). The effect of financing using the principle of profit-loss sharing on profitability level of commercial Islamic bank registered in Bank Indonesia. *Asian Journal of Islamic Management (AJIM).* doi:10.20885/ajim.vol2.iss1.art5
124. Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics*(Vol. 5, pp. 481-498). Boston, MA: pearson.
125. Tammone, A., Caselli, A. E., Condorí, W. E., Fernandez, V., Estein, S. M., Vanstreels, R. E. T., . . . Uhart, M. M. (2021). Lead exposure in consumers of culled invasive alien mammals in El Palmar National Park, Argentina. Environmental Science and Pollution Research, 28(31), 42432-42443. doi:10.1007/s11356-021-13654-7
126. Umar, A., & Bashir Ahmad, F. (2020). Investigating Determinants of Bay' Salam Financing Product for Agricultural Sector in the Sultanate of Oman. International Journal of Islamic Thought, 18, 121-130. doi:10.24035/ijit.18.2020.187
127. Wagner, G., & Zizzamia, D. (2022). Green Moral Hazards. Ethics, Policy and Environment, 25(3), 264-280. doi:10.1080/21550085.2021.1940449
128. Wang, W., & Hu, S. (2021). Moral hazard with limited liability: Random-variable formulation and optimal contract structures. Games and Economic Behavior, 126, 374-386.

doi:10.1016/j.geb.2021.01.002

129. Warninda, T. D., Ekaputra, I. A., & Rokhim, R. (2019). Do Mudarabah and Musharakah financing impact Islamic Bank credit risk differently? Research in International Business and Finance, 49, 166-175. doi:10.1016/j.Ribaf.2019.03.002
130. Esquemas islámicos de microfinanciación entre las instituciones financieras., 25, 223-232. doi:10.5281 /zenodo.3809333
131. Warsame, M. H. (2020). *Islamic micro-financing schemes among financial institutions. Esquemas islámicos de microfinanciación entre las instituciones financieras.*, 25, 223-232. doi:10.5281 / zenodo. 3809333
132. World Bank. (2020). Bangladesh – Financial inclusion. Retrieved from https://data.worldbank.org/ topic/financial-inclusion?locations=BD
133. World Bank. (2020). Bangladesh – Financial inclusion. Retrieved from https:// data.worldbank.org / topic/financial-inclusion?locations=BD
134. Xu, Z. Q. (2022). Moral-hazard-free insurance: mean-variance premium principle and rank-dependent utility theory. Scandinavian Actuarial Journal. doi:10.1080/03461238.2022.2092892
135. Yaya, R., Saud, I. M., Hassan, M. K., & Rashid, M. (2021). Governance of profit and loss sharing financing in achieving socio-economic justice. *Journal of Islamic Accounting and Business Research*, 12(6), 814-830. doi:10.1108/JIABR-11-2017-0161
136. Yazar Soyad?, B., Yazar Soyad?, S., & Fauzi, R. U. A. (2020). The Influence Of Religiosity, Profit Loss And Sharing And Corporate Image Toward Consumer Intentions Of Muamalat Bank Financing. *Journal Of Accounting Finance And Auditing Studies (JAFAS)*. doi:10.32602/jafas.2020.013
137. Yusof, E. F. E. (2013). Are Islamic banks in Malaysia really 'Islamic'? Economic Policy, 0-33.
138. Zainuldin, M. H., & Lui, T. K. (2020). Earnings management in financial institutions: A comparative study of Islamic banks and conventional banks in emerging markets. Pacific-Basin Finance Journal, 62, 101044. doi:https://doi.org/10.1016/j.pacfin.2018.07.005
139. Zainuldin, M. H., & Lui, T. K. (2020). Earnings management in financial institutions: A
140. Zhang, M., & Pan, J. (2019). Ui Eligibility Rule, Moral Hazard, And Optimal Unemployment Transfer Scheme. Macroeconomic Dynamics, 23(4), 1586-1621. doi:10.1017/S1365100517000359
141. Zheng, D., & Walter, Z. (2020). *Moral hazard in compliance: The impact of moral intensity and competing values*. Paper presented at the 26th Americas Conference on Information Systems, AMCIS 2020.
142. Zhou, L., & Nunes, J. M. B. (2015) *Research Design. In. Innovation, Technology and Knowledge Management* (pp. 53-81).