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**“Digital Finance and Sustainable Investment
Performance in Pakistan: A Comparative Study of
HBL and Meezan Bank”**



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Executive Summary

This report examines digital finance and sustainable investment performance in Pakistan through a comparative analysis of Habib Bank Limited (HBL) and Meezan Bank Limited. The research is based on the situation in Pakistan where the banking industry is essential in the mobilization of capital towards sustainable development due to the country being economically unstable, inflation is high, there is a very high rate of digital transformation and the climate is highly vulnerable. Pakistan is one of the most climate vulnerable nations in the world but the country has a very low contribution to the global emissions. Reasonable floods, heat waves and energy deficiencies have compounded the necessity of green and sustainable investments. Simultaneously, the swift growth of digital finance, which is facilitated by the Raast initiative, Green Banking Guidelines, and the Digital Financial Services Framework of the State Bank of Pakistan (SBP) has changed the way banks work.

The study will follow a comparative, quantitative and descriptive research methodology and secondary data sources will be employed to explore the period between 2022 and 2024 by using audit annual reports, sustainability reports, and SBP publications. The financial performance is measured with the help of key ratios such as Return on Assets (ROA), Return on Equity (ROE), Earnings per Share (EPS), Capital Adequacy Ratio (CAR), and the Sustainable Investment Ratio (SIR). The results show that digital finance has a positive impact on financial performance and sustainability results of both banks. HBL shows consistent increases in ROA, ROE, and EPS after the macroeconomic stabilization after 2022, which is facilitated by the growing volumes of digital transactions, enhanced cost effectiveness, and higher amounts of fees income. Though inflation and taxation pressures initially limited the profitability, HBL had good capital buffers and over time had added to its sustainable financing portfolio, especially in renewable energy projects.

Meezan Bank outperformed HBL in profitability ratios, particularly ROA and ROE, largely due to its Shariah-compliant financing structure, which allows faster repricing of assets in a high-inflation, high-interest-rate environment. Strong demand for Islamic banking products, low-cost deposits, and rapid digital adoption enabled Meezan Bank to achieve superior earnings growth while maintaining capital adequacy. The bank also emerged as a leader in Islamic sustainable finance, playing a pivotal role in Pakistan's first Sovereign Domestic Green Sukuk and financing renewable energy and climate-resilient infrastructure.

The report concludes that digital finance is not just a technological upgrade, but the strategic enabler of sustainable banking performance in Pakistan. Fintech and sustainable investment practices lead to greater profitability, resilience, and long-term value creation of the conventional and Islamic banks. Overall, this research contributes valuable empirical evidence to the limited literature on digital finance and sustainable investments in Pakistan.

Chapter 1

1.1 Introduction

The digital finance is transforming the system and making complex banking seem as simple as a couple of button presses on the screen. It has changed both access to finance and incentives and monitoring needed to make sustainable investments (László, 2025). Fintech application in emerging markets has grown 21 per cent higher than it used to be in the past 10 years, altering the capacity of capital allocation. Digital finance has transformed the business processes, development, and production, altering the conventional paradigms of the business. From reduction in operating costs to increase in capital access, it has changed how financial services are delivered. This shows how it has become the need of the time by becoming a necessity in the last several years since traditional banking is not sufficient enough to keep up with the rapid changes of digital economies and the growing expectations of customers (Sonia Sayari, 2025). The COVID-19 pandemic served as a catalyst, forcing banks to be creative and fast-track the use of digital solutions, in particular, when climate issues and regulatory pressure have increased. This makes it so that fintech is no longer an option, but it is now the foundation to providing inclusive, efficient, and environmentally conscious financial services.

Global warming is a menace to our health, economy, natural resources and the future of our children. More emphasis has been put on this issue by United Nations as it was declared an international threat. UN has come up with a 2030 plan to address this issue by promoting Sustainable development and prevent the natural resources from depletion and an access to healthy and clean life to every human. Banks are very important in the development of a sustainable economy, since they make money and determine where credit goes, they are able to channel huge sums of money to projects that are climate friendly and ease risks associated with changes in climate. Other than funding, banks also mentor their customers by advising them to be sustainable in their operations. Meanwhile, the banks are supposed to demonstrate high levels of environmental responsibility and community development (Aghilasse Kashi, 2025). Therefore, Sustainable banking and digital finance can help banks acquire sustainable performance and a green system.

1.2 Background

Pakistan has experienced more and more natural disasters in recent years like floods, heatwaves, and storms. These incidents depict the necessity to shift to green economy such as growing in a manner that brings benefit to people without compromising the environment (Abubakr, 2025). Green growth does not only provide jobs and increase in income but also minimizes environmental damage. It pays attention to the utilization of renewable resources, technological development, and enhancement of the skills of people as the basis of sustainable development. Implementing this model, Pakistan can switch to renewable energy and decrease the reliance on fossil fuels, as well as receive lower emissions and higher economic growth (Pakistan, 2017).

Digital finance is considered to act as the facilitator between the economic and environmental sustainability because it can help to provide new methods of financing green projects. Digital finance will improve the performance of the banks by availing the access to the digital tools and technologies by the banks (Sana Raza, 2025). These resources help the banks to be more efficient and to offer better services to their customers and to come up with innovative products in the field of finance. Renewable energy has a very high success in Pakistan which is attributed to natural resources like hydropower, wind, as well as solar energy. Such regions have not been invested in very well owing to financial constraints and policy barriers. To overcome it, new instruments, such as green bonds and climate funds, have been introduced. These instruments besides their environmental friendliness have good returns and this makes them appealing to both the local and the international investors. Renewable Energy Policy of Pakistan states that the nation is planning to increase the share of renewable energy in its national energy consortium to 2030. It implies that the world must possess an excellent investment in the private sector and international cooperation and introduction of new financial instruments, including green loans (Samina Naz M. A., 2023). It also demonstrates the potential of the country to become a sustainable economy by using its resources without deteriorating the environment and makes it a significant subject to research the role of digital finance in impacting sustainable investments in Pakistan, especially on banks.

1.3 Problem statement

In the modern period of economic instability and high inflation, banks are under tremendous pressure to cut down expenditure, to increase efficiency, and to be environmentally friendly. To

counter this, financial technologies are used to simplify, increase access, and lower the costs of services, as customers, investors, and regulators are also requiring services that are more transparent and environmentally friendly to address climate change. This change shows that banks are urgently in need of a digital innovation to be matched with sustainable investment practices to ensure financial growth and environmental health (Aghilasse Kashi, 2025).

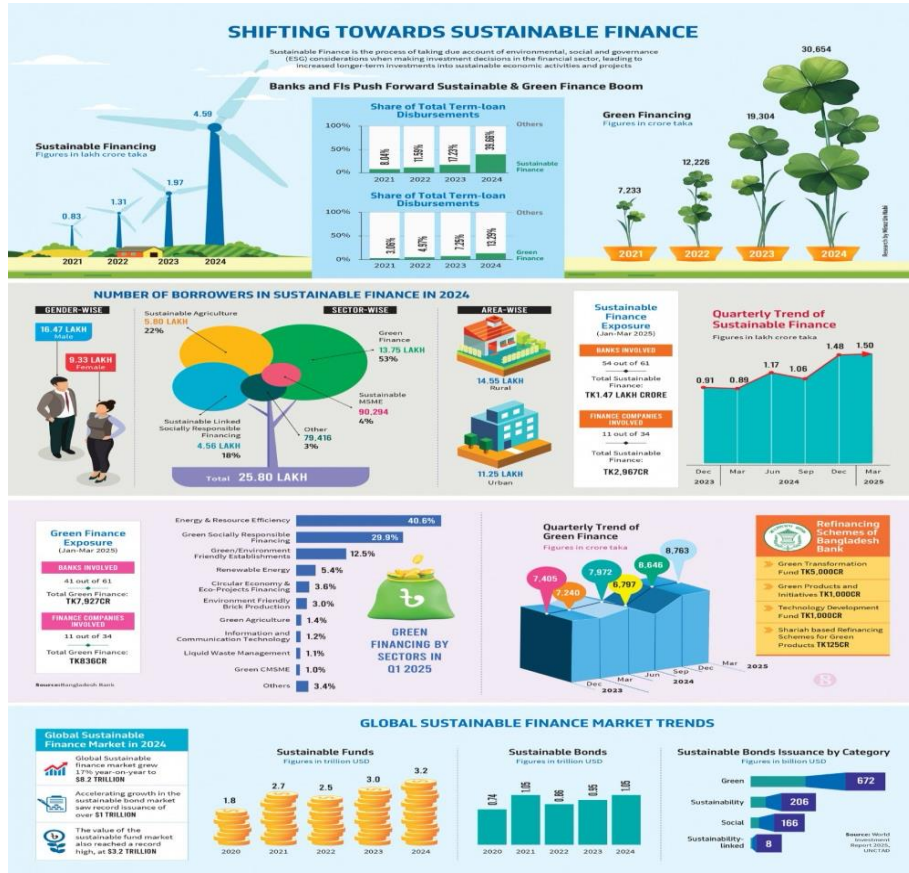
Pakistan is at the fore front of global climate crisis even though it only produces less than 1 percent of global greenhouse gaseous emissions. The Global Climate Risk Index has provided that Pakistan is always included in the top ten countries in the world that experience climate risks (Abubakr, 2025). The 2022 floods that have impacted more than 33 million people and led to the economic losses of nearly US30 billion showed how environmental calamities can ruin lives, make people poorer, and endanger the economic stability of the country. These climate shocks continue to demonstrate the contradiction of the fact that even though Pakistan is not a big polluter, it is one of the gravest sufferers of climate change. The fact has fueled the necessity of sustainable modes of investment that can provide resilience and recovery especially in the financial sector which is a critical mode of mobilizing green finance towards adaptation and mitigation.

Although the world has seen that Digital finance can be employed to accelerate sustainable finance, the number of empirical studies conducted on the subject is low in Pakistan. In particular, there is a lack of comparative knowledge on the way conventional banks like HBL and Islamic ones like Meezan are adopting financial technologies to utilize sustainable investments in keeping with the provisions of the green banking. Though, the banking industry in Pakistan has embraced the concept of digital finance to enhance accessibility and efficiency, there is still no consistent inclusion of digital tools and sustainable investment practices. Studies indicate that in the environment of Islamic banks, the application of fintech and sustainable finance are positively related to environmental performance especially in reducing resource consumption and strengthening transparent disclosures. Nevertheless, the magnitude of the impact is small due to regulatory, infrastructural, and ethical issues (Naila Sadiq, 2024). Barriers faced by the banking sector are lack of awareness on sustainable financial products, regulatory indecisiveness with regard to green banking, unequal digital infrastructure in rural regions, and financial literacy gap among the clients. In the case of Islamic banks like Meezan, even the problem of ensuring that sustainable development programs do not conflict with the Shariah principles introduces an

additional challenge since compliance with the prohibitions of riba and gharar will require the innovative organization of digital products. Therefore, the suggested research will cover the gap of ignorance on how Digital finance contributes to sustainable performance in the Pakistani banking industry, based on HBL and Meezan Bank as the best examples.

1.4 Project Objectives

This is the primary objective of this study which will focus on the role of the application of digital finance in improving sustainable performance of the investment in the banking sector in Pakistan with specific reference to Habib Bank Limited (HBL) and Meezan Bank Limited (MBL). The study explores how digital finance can be used to facilitate the emergence of green finance and green innovation through permitting the introduction of environmentally-friendly financial instruments such as green bonds, green sukuk, and sustainability-linked loans. The comparative analysis between HBL that is a regular banking system and Meezan Bank that is the Islamic banking model will provide more insight into how each of the banks integrates technology to enhance the sustainable investment outcomes. Besides that, the study would also examine the effects of regulatory frameworks the State Bank of Pakistan Green Banking Guidelines and the Environmental, Social and Governance (ESG) guidelines specifically on the digital strategies and the sustainability practices of banks. The strategic analysis will involve the SWOT analysis to identify the internal strengths and weaknesses as well as the external opportunities and threats that influence the success of the digital sustainability efforts in the banking sector in Pakistan.



1.5 Purpose

The purpose of this research is to critically investigate the extent to which the adoption of digital finance is affecting sustainable investment practices by the major banks in Pakistan such as Meezan Bank and Habib Bank Limited (HBL). The study aims at determining how digital transformation efforts, such as the implementation of fintech, mobile banking, and data-driven analytics, are helping these institutions to grow their green investment portfolio and also increase their role in the sustainability objectives of Pakistan.

Pakistan's banking sector is becoming more aware of the financial innovation and climate responsibility. The country is facing economic instability and the effects of climate change; thus, banks are likely to align the business strategy with the UN Sustainable Development Goals (SDGs) and Green Banking Guidelines by the State Bank of Pakistan (2021). In this changing environment digital finance is an operational requirement on one hand and a strategic sustainable development tool on the other.

1.6 Project Questions

1. What are the effects of adoption of digital finance on the development and availability of sustainable investments at Meezan Bank and HBL?
2. How does digital financial platforms enhance the allocation, visibility, and surveillance of green financial products by individuals and businesses?
3. What is the impact of sustainable investment projects on such key financial performance indicators as ROA, ROE, EPS, SIR, and CAR?
4. What role does digital finance play in promoting the creation of green finance and green innovation, e.g. the release of financial instruments such as green bonds, green sukuk and sustainability-linked loans?
5. Strategies to improve the adoption of digital finance that can support the Sustainable Development Goals (SDGs) of Pakistan, financial inclusion, and the long term environmental and economic resiliency?

1.7 Digital Finance: Driving the Banking Sector towards Sustainability.

In addition to Meezan Bank and HBL, there are a number of other banks and industries in Pakistan that have also adopted digital transformation and sustainability-oriented financing:

- United Bank Limited (UBL):

UBL has diversified its banking products via its Omni platform, which brings the branchless banking services to remote locations and lets people easily access online payments and savings. The platform supports sustainable financial growth as well as financial inclusion (Limited, 2023)

- Bank Alfalah:

Bank Alfalah was one of the first banks to implement FinTech solutions, and it has launched mobile-based banking and investment platforms that allow conducting transactions and investments without using paper. Collaborating with the funding of renewable energy projects is also an indicator of a convergence between the digital and green finance practices (Bank Alfalah, 2025)

- Allied Bank Limited (ABL):

Allied Bank e-banking projects have enhanced efficiency in the transactions conducted and minimized physical infrastructure dependence as part of sustainability. (Allied Bank Limited, 2023) suggest that the discussed type of e-banking models can assist Pakistani banks in gaining a competitive edge and allow them to become a more resource-efficient financial ecosystem.

- United Microfinance Bank:

U microfinance bank in the Pakistani microfinance sector has seen the digital finance industry play a critical role in facilitating the provision of credit-based services to women-led businesses and small entrepreneurs at affordable rates via mobile applications and e-wallets. This creates social sustainability and economic inclusion, which are important parts of the green development model of Pakistan (Bank W. , Digital Finance: Empowering the Poor via New Technologies, 2014).

1.8 Digital Finance and Sustainable Investment Performance in Pakistan: A Comparative Study of HBL and Meezan Bank

1.8.1 Company Overview

The recent years have witnessed a sea change in the global banking sector as a result of the extensive use of the financial technologies. The digital payments, mobile banking applications, block chain and AI-based services have empowered banks to reinvent banking, reinforce customer interactions, and increase financial inclusion. The banking sector in Pakistan is not an exception as the trend on the global scene is to transform digitally and strengthen financial resiliency.

1.8.2 Habib Bank Ltd

Habib Bank Limited is the 1st commercial bank in Pakistan that was started in 1941. HBL has expanded its banking networks in Pakistan, it has more than 1700 domestic and it has more than 2300 ATM networks in the country supported by extensive digital and extensive branchless banking presence throughout the country. By 2025, HBL had over 131,000 touchpoints, including over 44,500 Konnect agents, approximately 40,000 POS terminals, and more or less 38,000 to 40,000 QR enabled payment points, which have financial inclusion even in the underserved region. It has services to its global customers at over 37 million (HBL, 2024). HBL possesses a strong international coverage 26 countries. It has more than 7.5 million bases in credit and debit cards,

and mobile and internet banking are rising in a constant manner. The branchless banking application Konnect by HBL has been able to mobilize transactions of almost Rs 586 billion in 2024, which is a growth of double digits. Mobile and internet banking system is up by approximately 34 percent compared to last year, and the proportion of digital transactions is going to be almost 84 percent of overall customer activity. This quick implementation underscores the desire by HBL to improve the digital finance and accessibility by various customer segments. As a digital transformation strategy, HBL is actively integrating sustainability into its financial model. The bank also targets to reach the net-zero emissions by 2030 with the support of sustainable finance projects of HBL such as solarization of more than 235 places, as well as the investment of 36 billion in renewable energy projects such as solar and biogas plants in rural communities. The measures indicate the approach of HBL to combine technological innovation with sustainable investment practices, which position business growth in line with sustainable climate. By focusing on digital channels and sustainable financing, HBL will be leading the transformation of the Pakistani banking system to a more inclusive, more technological, more sustainable system. Its investments in the digital platform and renewable energy is not only efficient in its operations but also works to the larger agenda of financial stability and sustainable development (**Habib Bank Limited, 2024**).

1.8.2.1 Digital Transformation and Milestones

HBL has become an industry leader in the digital banking industry in Pakistan. Konnect platform, e-commerce payment gateway, and WhatsApp banking with its mobile application have played an important role in increasing the convenience of customers and financial inclusion. There are a number of innovative services including the first drive through ATM in Pakistan, voice activated ATM in Pakistan to cater to the visually impaired clients and selective US dollar dispensing ATM which have been introduced by the bank. These efforts highlight the commitment of HBL to innovational and accessibility in online banking (**Habib Bank Limited, 2024**). Its digital leadership has won some of the most prestigious awards like the best bank digital solutions, Asia money (Pakistan) and the best bank in Pakistan, Euromoney, 2025 which confirms its focus on FinTech development and excellent customer care.

Mobile / Internet Banking – 4.5M users, 3.6M+ monthly active

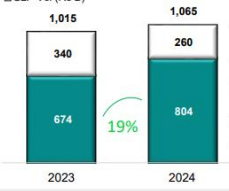
Trans. Vol (Rs B)
Trans. Count (M)



Growing user base and ticket sizes (up 27%) uplift volumes

Konnect – Core business drives growth

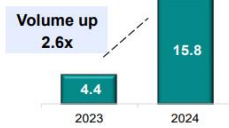
Konnect Vol (Rs B)
G2P Vol (Rs B)



Growth driven by core business as G2P partner pool becomes more diversified

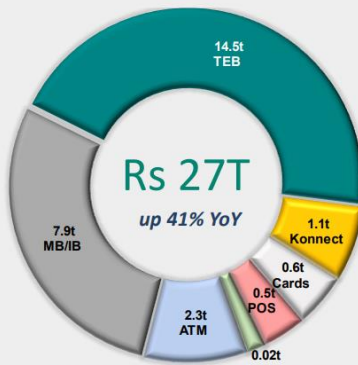
QR Codes

Rs in B



Ticket sizes increase ~2x as usage goes mainstream, to uplift volumes

Digital Throughput

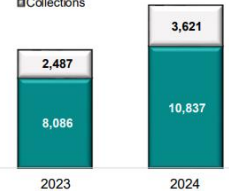


..Continuing to digitize more and more customer-initiated transactions



Cash Management – Digital throughput up 37%

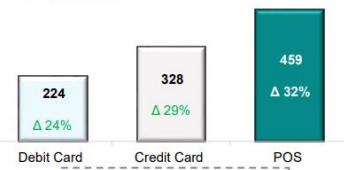
Payments
Collections



75% of transactions now processed digitally vs 71% in 2023

Cards base – 6.7M+

Spend (Rs B)



Industry Share



131,577 Touchpoints



1,705 Branches



2,303 ATMs



48,506 Konnect Agents



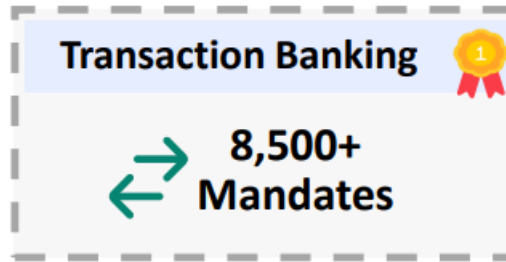
40,020 POS terminals



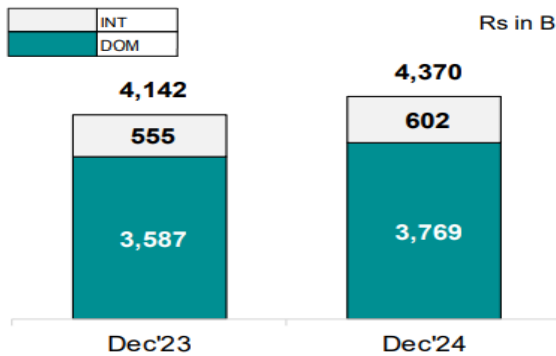
38,295 QR Codes



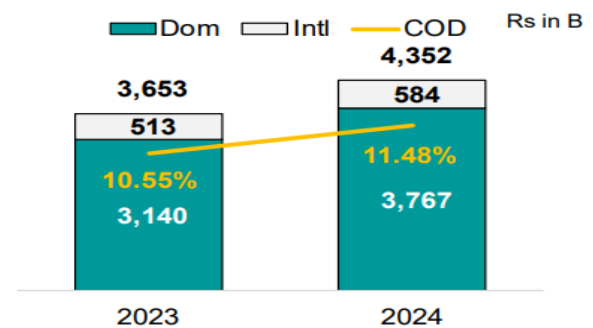
748 IPG Merchants



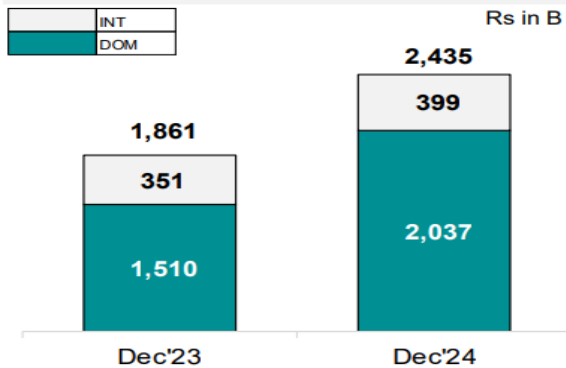
Deposits grew by 5.5%



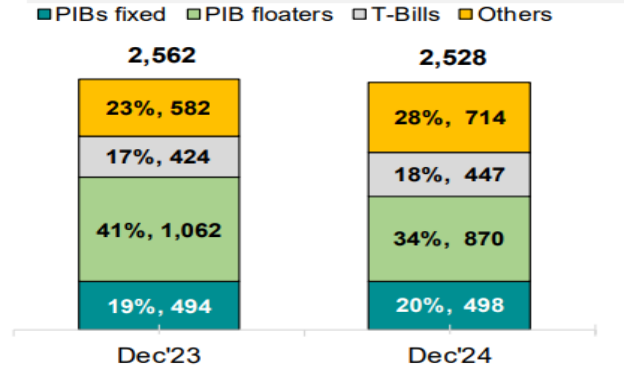
Average domestic deposits up 20%



Advances – up 31% as industry lending spikes...



...Investments make way for advances – portfolio flat to Dec'23



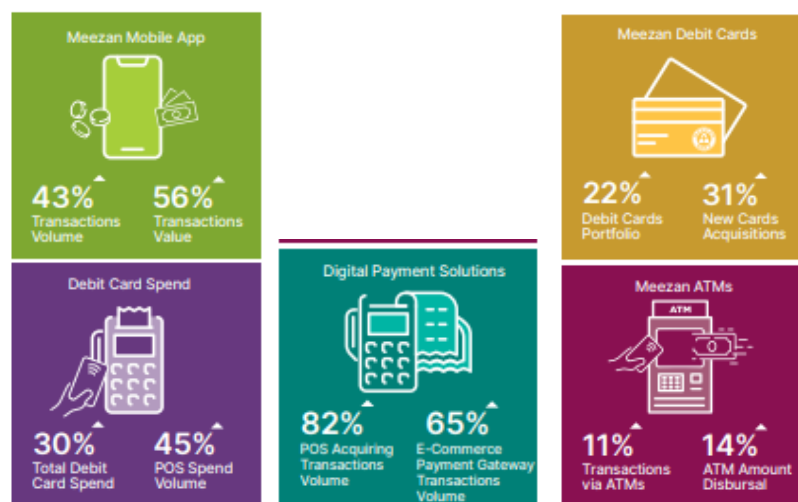
1.8.3 Meezan Bank

Meezan bank is the sole and biggest 1st Islamic bank in Pakistan with paid up capital of 18 billion rupees. Its strategy entails combining both physical expansion and digital innovation as of mid-2025, it has over 1052 branches in 352 cities offering Shariah compliant banking. The T-24 core banking system is enabling them to provide their digital services and branch networks with 24/7 Internet banking, SMS banking, mobile applications and over 1250 ATM. It is also known to be

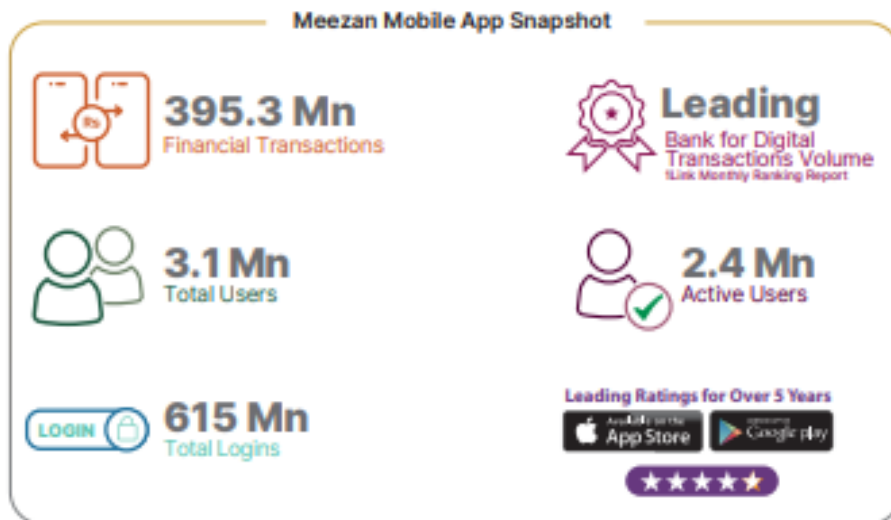
strict in its observation of the shariah rules and has its own shariah board which comprises of well-known scholars. Meezan bank has more than 4.5 million customers and nearly 90 per cent of its end user digital transactions and not over the counter. By mid-2025, it had deposits of over 3 trillion with 686,000 new accounts added. It has over 3.6 million users on its digital banking platform as the bank has distributed more than 4 million debit cards which shows that the bank has a high adoption rate on non-branch banking channels. At the same time, the amount of money that cardholders use has steadily risen pointing to the gradual transition to the means of digital transactions. In addition, they have high level of digital technology, which has reduced the time of product delivery that was previously taking in excess of 12 months to only 3-4 months. It has been instrumental in the first ever Sovereign Domestic Green Sukuk issue, which was to raise Rs 30 billion (Meezan Bank, 2024). Green Sukuk invests in green energy development projects and climate-resilient infrastructure including dams and other hydro-power facilities. The bank also engages in funding the solar power projects of hospitals offering donations as well as boosting green energy installations. The bank is continually empowering financial inclusion and encouraging the long-term sustainable development in Pakistan through technology partnership application and digital financing models.

1.8.3.1 Digital Transformation and Milestones

Meezan bank won the first prize in ICAP Digital Technology Awards in August 2023 through its customers 360-degree dashboard, an advanced tool which utilizes data analytics, big data and AI to offer valuable insights about customers. Furthermore, the bank was awarded the 39 MAP Awards in the category of Best Company in the Financial Category in October 2024; the 3rd year



in a row; as a result of its excellent performance in the Islamic bank and digital financial services. The bank is also the winner of the Best Bank of Pakistan in the 2024 Pakistan Banking Awards which highlights its innovation as well as its performance in the banking industry. By 2024 Meezan bank digital programs had shown a significant effect by making possible its digital account opening application that had opened more than 420,000 new accounts and creating 16 billion in new deposits which is a significant expansion of the number of customers accessing banking services via digital channels. In the meantime, the bank increased its merchant acquiring portfolio that allows payments via a POS and e-commerce services to over 15,000 merchants in 275 cities within a 18 months' time, which is an indication of the dedication that Meezan Bank has put in stressing the digital transformation in the financial sector of Pakistan (Meezan Bank, 2024).



Chapter 2

2.1 Relevant Studies and Theories

Digital finance has seen around the world how banking is completely faster, more inclusive, and more sustainable and has become a key facilitator of green financing in response to climate change and the 2030 Sustainable Development Agenda of UN (Nations, 2015). With banks all around the world likely to cut expenses, enhance efficiency, and send funds toward environmental targets, digital finance offers the instruments to minimize transaction expenses, enhance visibility, and raise capital to achieve sustainable development. Digital finance has become a necessity and an opportunity in Pakistan because climate vulnerability is a significant challenge, and inflation is straining the economy, thereby necessitating stricter measures among banks to embed sustainable practices in their business (Mohammad Hasibul Hasan, 2024). Currently, Pakistan is experiencing a high rate of inflation and increasing climate vulnerability, making it important to preserve the resources, go green and use digital technology to ensure sustainable banking performance. The best strategy to cut down the costs, increase the efficiency and competitiveness would be through the introduction of Digital finance and green banking (Samina Naz M. A., 2023). Banking industry in Pakistan especially HBL and Meezan Bank are among the others play a central role in this transition as they invest in green and socially responsible projects and innovate operations with financial technology.

The Green Banking Guidelines of the State Bank of Pakistan and the emergence of such instruments as green bonds and sukuk bring into focus the policy of the country, yet the gaps between the regulation and the implementation still exist (SBP, 2024). Here, HBL (Habib Bank Limited, 2024) with its size, global presence, and robust digital platforms and Meezan (Meezan Bank, 2024), as the largest Islamic bank and the first to issue green sukuk, give two different institutional models that can be used to evaluate the role of digital adoption in sustainable investments. Through examining these banks, the research will assist in providing an explicit solution to the question: how digital finance can be strategically integrated with sustainable investment activities to reduce costs, promote green lending, and narrow the policy practice divide, which will result in a replicable model that would facilitate the banking sector in Pakistan to grow financially and ensure the preservation of the environment at the same time.

2.1.1 Development of Digital Finance and Sustainable Banking in Pakistan

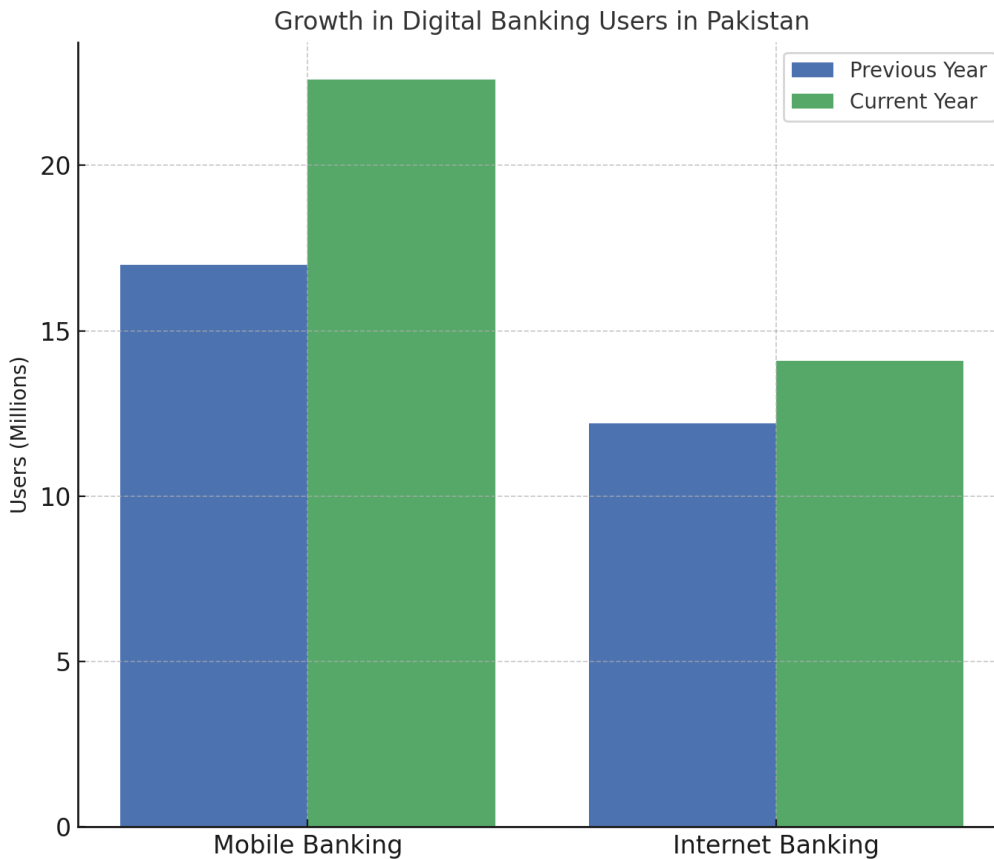
With the entire world becoming digitalized at a significant pace, in the past decade Pakistan has been witnessing massive transformation in digital financial services. The State Bank of Pakistan (SBP) has been the first to undergo this change with initiatives such as the National Financial Inclusion Strategy (NFIS) and the Digital Financial Services (DFS) Framework that focus on improving access to banking service by under-served population. The introduction of Raast, the first instant payment system in Pakistan has been a turning point because it has facilitated low-cost and secure person-to-person (P2P) transactions, therefore, broadening financial inclusion (SBP, 2024). The adoption of mobile wallets, banking without branches, and fintech has enabled millions of Pakistanis (and specifically in rural and low-income regions) to be included in the formal financial system.

(Bilal Raza, 2024) state that the usage of FinTech in the banking sector of Pakistan has positively affected the sustainability performance directly because banks use digital solutions not only to increase efficiency but also to achieve inclusive and environmentally friendly financial operations. The paper also outlines that the role of financial inclusion in mediating between FinTech and sustainability is essential, i.e., the more individuals have access to digital finance, the more the banks are able to direct resources to sustainable investment ventures. This proves that the development of digital finance is highly interconnected with the national movement towards sustainable development.

Still on the same point, (Imran Khan, 2025) highlight that FinTech and green finance are among the best sources of green growth in Pakistan. Their empirical findings reveal that digital technologies are enabling new types of models of funding - with green bonds and crowdfunding models that can be employed to direct capital in renewable energy, waste management and climate-friendly industries. As their analysis shows, approximately 20% of the FinTech impact on green growth is through this group of green financial processes, which suggests that digital finance has become an important enabler of sustainable investments in the evolving financial landscape in Pakistan.

Simultaneously, the (Pakistan, 2017) of the State Bank of Pakistan have prompted commercial banks to incorporate environmental and social governance (ESG) in their business practices. The banks are now able to monitor, evaluate and pay out green loans effectively through the digital

platform and enhance transparency and accountability in the financing of environmentally friendly projects. All of these policies have enhanced digital finance as a sustainability facilitator in Pakistan.



2.1.2 Digital Finance

Digital finance is known as the utilization of technology like mobile applications, digital wallet, artificial intelligence or blockchain to deliver the financial services to the customers. It is changing how people or companies handle money, along with simplifying the process of accessing financial services by incorporating artificial intelligence and other modern technologies to make the services faster, more precise and more accessible.

Furtherly, it has increased with the development of technology to incorporate fintech services like peer-to-peer lending, crowdfunding, and digital investment services that provide assets like gold, stocks, and commodities (Asep Risman, 2020). Cryptocurrencies are also emerging technologies under discussion as digital finance because they have been informally accepted as a payment

method in some countries. Although digital finance has been pioneered in technologically advanced countries, it is now being viewed as the contributor of financial inclusion in underdeveloped economies such as Pakistan.

Digital Finance plays a key role in enhancing financial inclusion through the delivery of services to underserved and non-financial markets. It is the solution to the problem as it can provide people with low-income levels in developing countries with convenient access to affordable and secure banking with almost half of the population already having a mobile phone. It also improves access to and financial security by transforming millions of people to digital transactions instead of cash (Bank W. , Digital Finance: Empowering the Poor via New Technologies, 2014) Digital banking services and AI technology can support everyone to have access to banking services such as those that do not have the traditional accounts. (Sana Raza, 2025) projected that a quick expansion of digital finance will occur in the emerging markets such as those in Pakistan. The digital transformation presents fresh opportunities to the financial institutions to operate in a better manner and positively influence society and environment

2.1.2.1 Types of Digital Finance

1. Digital payments

These are the payments done through an online platform using internet. It includes mobile wallets, online banking, debit and credit cards, and contactless payment options. Cash transactions are replaced by electronic transactions that are made through digital payments. Mobile wallets, online banking and card systems enable individuals to send money, pay bills or even do their online shopping instantly. (MDPI, 2025)

2. Digital Lending and Credit

This includes peer-to-peer lending (ResearchGate, 2021), crowdfunding, microloans, and “buy now, pay later” schemes through the internet banking and mobile apps using AI or big data to provide the services more quickly and efficiently.

3. Digital Investments

This platform provides you with the opportunities and an easy access to invest through mobile apps and online systems by enabling online trading in cryptocurrencies, gold, stocks and bonds. It also includes “Robo Advisors” to give investment advice for investors and traders.

4. Digital Insurance and Remittances

This had changed the entire financial system and is a huge push to globalization as it made cross border money transfer quicker, more accessible and transparent. The digital remittance services provide a rapid and reliable international transfer of money with applications or blockchain system, avoiding delays and expenses associated with other systems, such as the bank or money transfer agents. (SAGE Publications, 2024)

2.1.3 Sustainable Investments

Sustainable investments refer to investments which consider environmental, social, and governance issues in financial decisions in order to realize financial gains and a positive social or environmental contribution. This is a long-term strategy where investments such as ethical funds of green bonds that favor climate action, social equity or good corporate governance are chosen instead of just concentrating on profits in the short term. Some of the ESG factors can include policies of a company on climate change, labor policies, privacy of its data, and diversity in its leadership.

- Environmental (E):

The effects on the natural environment such as carbon emissions, resources, waste, and pollution.

- Social (S):

The relations with employees, suppliers, clients, and the communities where it functions, including such issues as labor practices, human rights, and diversity.

- Governance (G):

How the company is governed and managed such as its board structure, executive compensation, shareholder’s rights and ethical business practices.

The problem of climate change and sustainable development in the world is urgent. Alone, Asia generates 60% of the world CO2 emissions (International Energy Agency, 2023). Bangladesh,

Pakistan and India are ranked 1st, 2nd, and 3rd among worst air quality in WHO guidelines. The crisis is exacerbated by water pollution, 70% of South Asia water sources are contaminated, and the threat of public health, as well as economic stability, depends on innovative solutions. The country climate and development report (CCDR) by the World Bank are urging Pakistan to invest towards renewable energy, pollution mitigation, and climate adaptation. Its high time for Pakistan to take these issues seriously and work on them.

2.1.3.1 Types of Sustainable Investments

1. Green bonds

These bonds are used to raise money for the projects or investments that positively impacts the environment and also caters climate change. It includes investing in solar energy projects, clean transportation, water management etc. (Caroline, 2021)

2. ESG-screened equities or funds

Investments which are screened by environmental, social and governance standards. It might select stocks of a company that is working on a solar project but refuses to invest in a project that is involved in coal mining or extraction. (Gunnar, Timo, & Alexander, 2015)

3. Microfinance and social impact funds

Empowering the disadvantaged communities and financial inclusion. It is to reduce inequality and overcome challenges in society, such as education, healthcare, community development. (Cull, Asli, & Morduch, 2009)



2.2 Significance

This study is of great relevance to both the policy and industry settings since it is addressing one of the most pressing problems, i.e. closing the climate financing gap and staying pace with the rapidly growing digitalization (Qaiser & Fahad, 2024). Effort by Pakistani climate adaptation and mitigation requires significant funding, which has not been effectively realized by the traditional banking regime. The research presents viable information to policy makers, regulators and financial institutes by seeking to examine how digital finance mobilizes, scales and channels funds to green investments. It connects two current trends: the appearance of a digital financial tool (mobile banking, fintech platforms, e-payments and Raast payments), and the creation of sustainable financial instruments (green bonds, sukuk, renewable loans) (Finance Minister Aurangzeb Underscores Pakistan's Drive for Stronger Regional Connectivity, Collaboration and Sustainable Investment, 2025).

With regulators such as the State Bank of Pakistan (SBP) and the SECP, empirical evidence in the study will be provided as to whether digital platforms are actually lowering costs, enhancing financial inclusiveness and offering sustainable investment products (Awan, 2024). In the example of the banks such as HBL and Meezan, the undertaking of digital finance into the conventional and Islamic sustainability models is reflected in the research paper as the determinant in the development of competitive strategies in the rapidly digitizing market. The results as presented to the private sector and investors explain opportunities of designing and scaling up innovative products like green micro-loans, digital sukuk, and retail green bonds and connecting all potential barriers. At the society level, the study aims at the inclusivity purpose of digital finance in sustainability so that the underbanked and religiously sensitive investors can participate in climate positive investments. Finally, in the academic field, it fills a disjunction in critical literature to provide comparative information regarding the process by which the adoption of digital finance can result in sustainable performance.

2.3 Strategic Assessment

Digital finance is changing the banking sector in Pakistan, especially by the development of FinTech to provide more affordable, quicker, and secure banking services. Since Pakistan is experiencing high inflation rates, low financial inclusion, and climate-sensitive conditions, the fact that digital finance has the potential to result in sustainable investments is not only a requirement

but also a strategic possibility (Mohammad Hasibul Hasan, 2024). Banks such as HBL and Meezan Bank are two examples of conventional and Islamic models that demonstrate the manner in which environmental and financial sustainability can be attained through the use of financial technology. It is a strategic evaluation of the digital finance and sustainable investment in the banking sector in Pakistan based on the SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats).

2.3.1 Digital and Sustainable Capabilities Building:

The banking sector in Pakistan has recorded a good advancement towards using digital platforms (Hasan, 2024). HBL is a market leader in mobile banking, online payments, and artificial intelligence integration, whereas Meezan Bank has reinforced its digital Islamic banking ecosystem with projects such as the opening of digital accounts, green Sukuk, and AI based customer services. These online benefits increase productivity, accessibility and financial inclusion- particularly to customers in remote locations. Meanwhile, the two banks have incorporated sustainability in their activities. The green finance leadership of HBL in its renewable energy investments of Rs 36 billion and Meezan green sukuk in clean energy is evidence of the same. Banks have also been able to cut paperwork, energy, and carbon emissions with the help of FinTech tools. Not only does this digital transformation improve customer experience, but the requirements of the Green Banking Guidelines (Pakistan, 2017) of the State bank of Pakistan and the UN 2030 Sustainable development goals are also met.

2.3.2 Loopholes between Policy and Practices:

Although improvements have been made, still a number of internal issues continue to restrain the full potential of digital sustainability. The gap between the policies of SBP and the realization of green banking practices is still broad (Samina Naz M. A., 2023). Sustainability is still an activity undertaken by many banks as a CSR activity, as opposed to a business strategy. There is also an uneven distribution of technological infrastructure, urban banks are highly developed, and rural areas often experience problems with connections. Banks also face challenges in form of cyber threats, expensive nature of integrating technology and lack of technical capacity to use advance FinTech systems. In the case of Islamic banks such as Meezan, the challenge of ensuring the creation of digital and green products that are Shariah compliant is an extra burden.

The low penetration of digital finance and literacy in low-income and rural regions makes the generalizability of the research findings relatively low. Furthermore, the bias possibility may be directed to large banks that have robust digital presence can be dominant over the works of smaller bank or innovative fintech startups that can strike the banking industry.

The huge operational base and the wide range of clients that HBL deals with face sophisticated issues of cybersecurity, fraud control, and business stability. Digital finance and sustainable finance are experiencing disparities especially the access to rural areas and regulatory uniformity. Although digital transformation initiatives have been witnessed, some of the old banking mechanisms remain within systems. Moreover, financial literacy and digital awareness of less Tech-savvy and lower-income customers is another problem that needs improvement. (Habib Bank Limited, 2024)

Meezan bank is struggling to ensure that sustainable investment activities are entirely pursued in line with the Shariah principles, and this necessitates creative design of products. The process of digital adoption and sustainable finance continues to be limited on the regulatory and infrastructural front. Market penetration and financial inclusion and efforts continue to be developing, particularly in unserved and rural areas. Moreover, Meezan bank is relatively poor in international presence in comparison with conventional banks such as HBL. (Meezan Bank, 2024)

2.3.3 Growth and Global Direction:

The augmented consideration of green finance and sustainability offer colossal prospects to the Pakistani banking institutions. The banks can pursue foreign direct investment (FDI) and development finance with the help of digital finance tools as more international investors show their desire to invest in ESG compliant and low carbon projects. Green loans and other digital products such as green sukuk and ecofriendly investment funds are able to expose more people and small businesses to sustainable finance (Khan, 2023). Additionally, the most recent technologies like AI, blockchain, and data analytics improve the level of transparency of green financing as they ensure that money is allocated to environmental projects. It can also be possible to create more intimate collaborations between banks, FinTech firms, and regulators to move innovation to profit and sustainability goals. The policy environment has become comparatively

receptive to this digital green integration of the initiative of SBP like Raast and Green Banking Guidelines (SBP, 2024).

The existing high smartphone penetration rate in Pakistan is estimated to be 75-77% and growing digital financial services is an excellent growth opportunity in fintech based sustainable finance. In addition, the increasing awareness of the climate change resilience has also spurred the demand of green investment opportunity linked to digital finance platforms, which has a great potential to establish an effective framework of integration of digital finance and sustainable investment which may likely affect policymaking and industry practices. New technological innovations include AI and blockchain and big data, which can be used to enhance transparency, efficiency, and outreach in sustainable financial initiatives (Sana Raza, 2025).

The market of Shariah-compliant green financial products and digital solutions that Meezan currently sells is gaining momentum. Furthermore, emerging uptake of digital banking and increase in transaction volumes offer opportunities of economies of scale and efficiency in operations. The Strategic partnerships and digital innovation can help to make product delivery time shorter and increase the overall customer experience. Moreover, the emerging Islamic finance industry has high capabilities to dominate in ICT facilitated Islamic green finance products as digital sukuk and microfinance. Also, increasing merchant services and e-commerce payment networks give banks an opportunity to take advantage of the expanding digital economy transactions.

2.3.4 External risk and Uncertainties:

Despite the positive perspective ahead, the company has various external threats which can affect the digital sustainability transition. Technology is evolving really fast and as such, the systems that were being employed might end up becoming obsolete hence the banks are to maintain continuous upgrading. Cybersecurity threats and data breaches are reputation and financial risks (Bilal Raza, 2024). Moreover, investments that are sustainability based over the long term are more likely to be complicated to retain because of the economic volatility besides high rates of inflation and fluctuation of energy prices. The global climatic shocks such as floods and heat waves are also

causing financial instability because they increase the number of non-performing loans in regions affected by the climatic problems. (Qaiser & fahad, 2024)

Uncertainties on the regulatory front, as well as the inconsistency in implementing green banking policies, can in general affect the growth of sustainable finance at HBL. The economic instability, inflationary pressure, and climate related upheaval can all affect financial performance and investment appetite. Also, growing competition with fintech startups and the Islamic digital banks especially Meezan threatening to take the market share of HBL.

Meezan bank is in a difficult position due to the regulating complexities between the Islamic banking compliance and green finance. The bank is facing the new competition of establishing the Islamic banking window by the conventional banks and fintech startups specializing in the digital solutions of Islamic finance. Economic issues and inflation affecting the customer borrowing patterns and depositing habits.

2.4 STEEPLE ANALYSIS

The analysis entailed STEEPLE that explored the macro-environment factors that are at large to determine the effectiveness of digital sustainable finance in Pakistan. This framework also taps into the Social, Technological, Economic, Environmental, Political, Legal, and Ethical dimensions that also help in building the digital and green banking environment. This instrument is utilized to add to the ratio analysis of the interpretation of a larger contextual opportunity and issues that consist of the sustainability strategies of the banks.

- Socially, there has been more awareness of digital and mobile penetration in Pakistan which has resulted in financial inclusion. The growing branchless banking, mobile wallets and internet banking have seen improvement in accessing financial services and green finance opportunities to underserved populations, more so women and rural entrepreneurs. Nevertheless, the lack of knowledge on the subject of financial literacy and confidence in online transactions is still an obstacle to complete adoption (Bank W. , Digital Financial Inclusion Overview, 2023).
- The technological factor shows how fast the innovation and development of fintech and infrastructure are. Both HBL and Meezan Bank have adopted the application of the digital platform, HBL through Konnect and HBL Pay and Meezan through the mobile application

and digital onboarding system, which reduce the use of papers, increase transparency, and streamline the process of financing (HBL, 2024).

- On the economic side, unstable inflation rate, depreciation of the currency and insignificant growth of the GDP in Pakistan is a challenge to the sustainability of scale of investment (Bank A. D., 2025). Nevertheless, the incentives given by the government on financing renewable energy and green directives on the green credit by the State Bank has opened opportunities of growth.
- The environmental and eco factors are the target of this study. Pakistan is one of the most climate-sensitive states that is affected by floods, heat waves, and depletion of resources. Banks are also spending more money in renewable sources of energy, waste management and sustainable farming. It is easy to oversee, report, and certify such green investments using digital finance tools, thus improving environmental accountability.
- A favorable political environment has enabled the digital transformation in the country, whereby the State Bank of Pakistan supports the government in building the country's digital transformation via the National Financial Inclusion Strategy (NFIS). Banks are also encouraged to use policies like the Green Banking Guidelines (Pakistan, 2017) and the Digital Financial Services Framework (2022) in order to incorporate sustainability in the digital operation.
- In law, the banks are guided by the sustainability disclosure compliance requirements and Shariah-compliant financial practices. Responsible digital banking is also promoted by regulatory reforms to increase the transparency of ESG and consumer protection (SBP, 2024). When creating the ethical digital financial product, the legal system must be compliant with the Shariah in the case of Islamic banks like Meezan.
- The ethical aspect focuses on integrity, fairness and transparency in green financing. The risk of greenwashing corrupt sustainability reporting is becoming more and more accepted, and that is why these two banks become more accurate in disclosures and implement independent sustainability audits. The issue of trust and accountability is supported by the means of ethical banking culture and digital traceability.

In a nutshell, the analysis of STEEPLE points out the concept that the digital finance sustainability ecosystem in Pakistan is positive, which is supported by the technological advancement, proper

policy instructions, and rise in the level of awareness. But still, economic instability, regulatory stability, and ethical governance issues exist.

Chapter 3

3.1 Design and Implementation

3.1.1 Scope

This research paper discusses the implementation of digital finance in sustainable investments specifically in the banking sector of Pakistan using the example of Habib Bank Limited (HBL) and Meezan Bank Limited. It investigates the ways in which the financial tools can help to enhance the sustainable performance and lead to the further development of green banking. The study period is 2022-24, which is the post-pandemic stage of increased digitalization and the increased focus of regulatory authorities on banking sustainability. Non-banking FinTech startups, insurance companies or financial institutions are not covered in the study. Rather, it concentrates on HBL and Meezan Bank in order to develop a comparative insight into how conventional and Islamic banks are using FinTech to achieve sustainable investment performance.

3.1.2 Methodology

The nature of data in any research study is what defines the manner of how the investigation is organized and analyzed. Quantitative data is data that can be quantified or given in numerical form such as figures, percentages or statistical values. It allows researchers to carry out objective analysis and make accurate comparisons. The purpose of the research is to find out the impact of the implementation of Digital finance on the sustainable investments in the Pakistani banking sector. To do this, this paper will employ monomethod approach to get a view of the research problem. The evidence provided by quantitative data will be the one that can be measured and this is by the use of the financial indicators. The approach helps to create a comprehensive and realistic research of the problem.

The study uses comparative and descriptive design to determine digital finance adoption and sustainable investment performance in banking industry of Pakistan, specifically in Habib bank limited (HBL) and Meezan bank limited (MBL). Both organizations represent different forms of operational models HBL is a typical commercial bank and Meezan Bank is a bank with the Islamic banking system, which presents a perspective on the usage of digital finance to remain sustainable.

3.1.3 Data Collection Techniques

The whole study utilizes secondary sources of data, which were chosen depending on their authenticity, reliability, and relevance to the objectives of the study. The analysis is credible and replicable since the project is based on financial and sustainability performance of two large banks such as Meezan Bank and Habib bank limited (HBL). The verified institutional records and official reports are used to ensure credibility and replicability of the analysis.

The time frame of 2022-2024 is the time period in which the two banks have expanded their digital banking business and green finance portfolios massively. It allows the research to focus on the transformative stage of the banking market in Pakistan, which has been associated with the emergence of digitalization and a sustainable approach in the framework of the Green Banking Guidelines (Pakistan, 2017) and Digital Financial Services Framework (2022) of the State Bank of Pakistan.

The main source of data is annual reports and sustainability reporting of Meezan Bank and HBL. These statements provide both quantitative data of the financial metrics (ROA, ROE, EPS, CAR) and qualitative data of the digital pursuits, ESG pursuits, investment in renewable energy, and sustainability performance. They are publicly available on the official websites of both banks and present a standardized and audited information required to complete the ratio analysis and content assessment.

3.1.3.1 State Bank of Pakistan (SBP):

The national regulatory environment was put into perspective by examining the SBP publications and regulatory frameworks such as Green Banking Guidelines and Digital Financial Services Framework. The SBP provides aggregated information regarding the development of digital finance, facilities of green finance, and an overall picture of the financial sector, which is an important source of information, as far as comparative rating is concerned.

3.1.3.2 World Bank and UNDP Reports:

A wider context and a set of benchmarks regarding the integration of digital finance and sustainability in emerging market can be found with international sources such as the World Bank, with its report on the situation in Pakistan called Pakistan Country Climate and Development

Report (Group, 2023) and the UNDP's report on Financing Sustainable Development in Pakistan (Programme, 2024). Such reports are useful in aligning the Pakistan performance against regional and global sustainability trend.

3.1.3.3 Academic and Industry publications:

Peer-reviewed journal articles, research papers, and assessments of the financial sector were consulted to enable the theoretical grounding of the study and the enhancement of results interpretation. Research on digital finance, green finance, and Islamic banking offers detailed understanding.

3.1.4 Data Selection and Justification

The choice of Habib Bank Limited (HBL) and Meezan Bank Limited has been made on the basis of objective and numerical factors to make sure that it represents and is analytically relevant during the period 2022-2024.

HBL is a conventional commercial bank in Pakistan that is one of the largest. HBL has a massive market penetration as of December 2024, with total assets of approximately **PKR 6.1 trillion** and total deposits of about **PKR 4.4 trillion**. As of 2024, the bank was reported to have a profit after tax amounting to about **PKR 57.8 billion**, and earnings per share of **PKR 39.85**, which is a good sign of profitability and financial soundness. HBL has a big balance sheet and is profitable, which makes it an appropriate representative of big conventional banking in Pakistan.

Meezan bank limited is the biggest Islamic bank in Pakistan in terms of asset size. Meezan Bank recorded total assets of about **PKR 3.9 trillion** in the year 2024, which is equivalent to **30%** of the growth recorded in the year before, particularly in 2023 (**PKR 3.01 trillion**). In 2023, the bank registered deposits amounting to **PKR 2.22 trillion**, which showcased a high rate of growth in the number of customers. These statistics make Meezan Bank an exemplary representative of Islamic banking industry.

Both banks are also known to be embracing digital finance, with HBL having large scale digital and branchless banking system, and Meezan Bank already taking about **27%** Roshan Digital Account inflows, which is a strong indication of digital embracement.

Also, both banks are currently involved in sustainable and green financing as can be seen through disclosures on their audited annual and sustainability reports. The fact that they are in line with Green Banking Guidelines issued by the State Bank of Pakistan has provided them with the data on sustainability based issues that is measurable and can be utilized in calculating Sustainable Investment Ratio (SIR).

3.2 Data Analysis and Approach

The analysis of data applied in this research is entirely based on the secondary data collected on Meezan Bank and the Habib Bank Limited 2022 to 2024 annual and sustainability reports. The data analysis has been performed on the financial ratio analysis interpretation to explain the implication of the digital finance adoption on the sustainable investment performance of both banks.

The analysis started with the analysis of the Return on Assets (ROA) and Return on Equity (ROE) ratios, both of them combine to establish the effectiveness with which each bank has used its resources to make profits. These indicators have shown consistent positive growths in these banks over the years which have been associated with the rise in usage of digital platforms in the service delivery process and diversification of green financial products. As an example, the introduction of Konnect digital banking ecosystem by HBL and incorporation of its T-24 core banking system by Meezan have both contributed to efficiency in the operations and also increased access to sustainable financing.

The trends in Earnings Per Share (EPS) show how the digital expansion impacted the increase in the profits of investments of shareholders. The correlation level between higher penetration of digital finance and better EPS is positive, which means that customer retention and efficiency supported by technology have a direct influence on profitability. Equally, Capital Adequacy Ratio (CAR) reveals that the two banks have been adequately capitalized since they invest in renewable energy resources, Islamic green sukuk and other ventures that are sustainability-linked. This shows that the digital transformation has not undermined financial stability, but on the contrary, it has helped to increase resilience through an improved risk assessment and cost control framework.

3.2.1 Return on Assets (ROA)

ROA is the ratio that determines the efficiency of using the assets of a bank to make profit.

Return on Asset (ROA) = Net Income ÷ Total Asset

To evaluate the efficiency effect of digital finance in HBL and Meezan bank, ROA is used.

3.2.2 Return on Equity (ROE)

ROE demonstrates the performance of a bank in terms of its efficiency in utilizing shareholder capital to make earnings.

Return on Equity (ROE) = Net Income ÷ Shareholder Equity

ROE measures the value of digital financial innovation and sustainable investments in shareholders.

3.2.3 Capital Adequacy Ratio (CAR)

CAR is an indicator of the financial capacity of a bank and the absorption capacity of any risk that comes with lending and investment.

Capital Adequacy Ratio (CAR)

= Tier 1 Capital + Tier 2 Capital Risk – Weighted Assets

An increased CAR implies that there are great capital reserves in comparison to risk exposure so that it is resilient to financial and environmental shocks.

3.2.4 Earnings per share (EPS)

EPS measures how much profit the bank generates for each outstanding share.

EPS = Net Income ÷ Number of Outstanding Shares

A higher EPS indicates strong profitability and efficient management performance, while a lower EPS suggests reduced earnings or increased costs.

3.2.5 Sustainable investment ratio (SIR)

It shows how much of the bank's balance sheet is actually going towards sustainable investments. If HBL and Meezan reports "renewable energy financing" or "green project financing", that figure can be used in the numerator.

$$\text{SIR} = \text{Sustainable/Green/Renewable Financing} \div \text{Total Assets} \times 100$$

3.3 Data Reliability and Validity

Reliability: The data will come from audited annual reports, SBP publications and official bank documents. These sources are trusted and verified.

Validity: The ratios used are standard for banks. The model follows earlier research (Jahanzaib Sultan, 2023). Checking both HBL and Meezan reports helped avoid errors.

3.4 Ethical Considerations

The study uses only publicly available data. No personal or customer-level data will be accessed. All reports, articles, and SBP documents used in this chapter are cited properly following APA 7th style. No figure was changed to force any specific result.

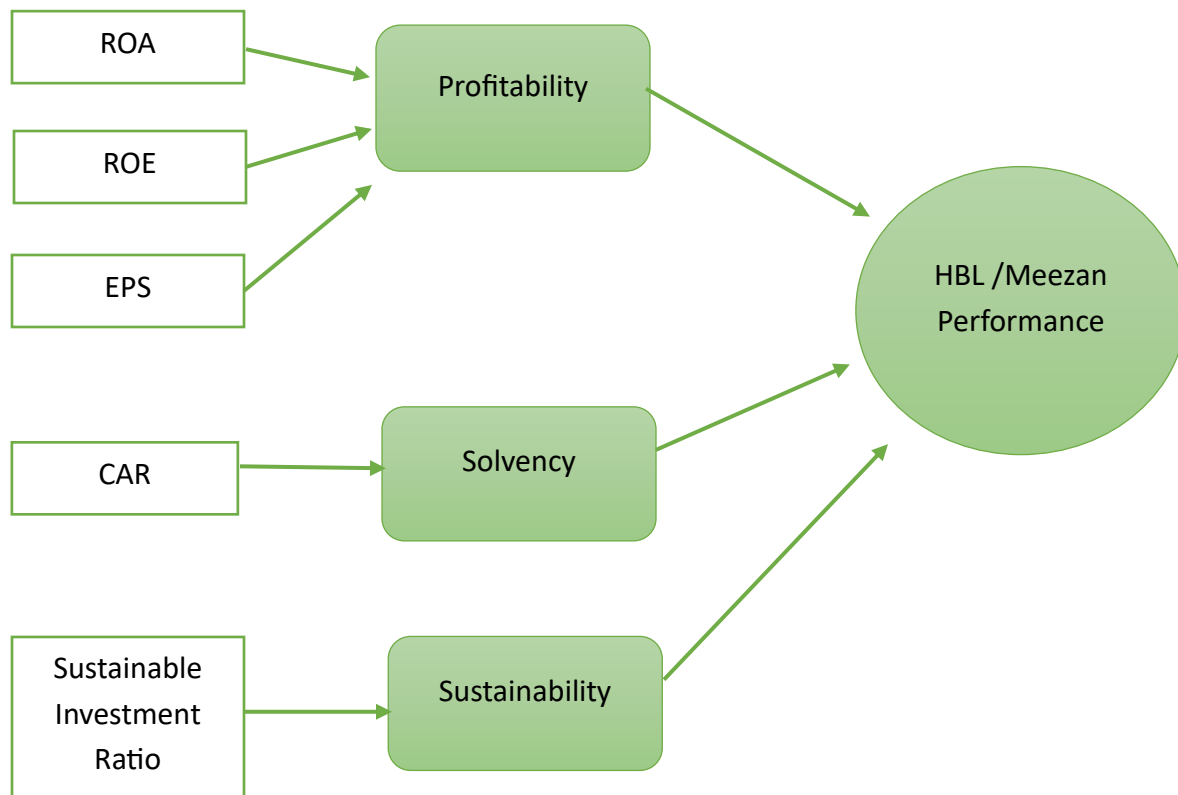
Chapter 4

4.1 Testing and Analysis

4.1.1 Ratio Analysis:

The objective of this investigation is to explore the answer “To what extent do digital finance influence profitability within the banking sector of Pakistan?” For this purpose, we have used different financial ratios to explore this objective. Financial ratios including profitability and solvency ratios have been chosen to make analysis of HBL and Meezan banks profitability. Financial ratios play an important role for quantifying the performance of a company and deciding if it’s progressing toward its objectives. Beyond internal evaluation, ratios also provide the scope for comparing different organizations’ performances.

4.1.2 Research Framework:



4.1.3 Ratio Analysis of HBL:

4.1.3.1 Profitability Ratios:

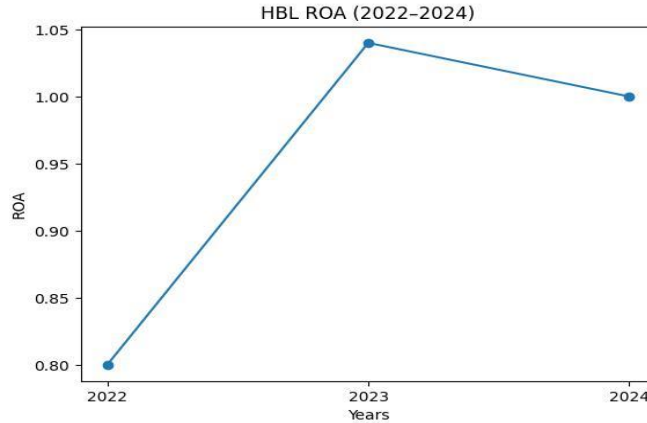
The economic definition of profitability refers to an ability of a firm to make profit. The ratio provides a clue on the revenue, costs, and expenses of the firm that can affect the total income and interest of the shareholder.

ROA:

	2022	2023	2024
Net Income	34,398,330	57,757,416	57,804,659
Total Average Assets	4,478,137,128	5,086,577,207	5,794,730,590

	2022	2023	2024
Return on Average Assets	0.8%	1.1%	1.0%

The Return on Assets (ROA) in **2022** was **0.8%** showing the decline in efficiency of asset utilization as the total asset was increased to around **PKR 4.63 trillion** while the growth in profit is limited due to increase in the cost of operation and taxation. In **2023**, ROA improved to around **1.1%** which is an indicator of the better conversion of assets to profits as the profit after tax increased to **PKR 57.7 billion** and total assets increased to **PKR 5.53 trillion**. In **2024**, ROA was stabilized at **1.0%** (even though the total assets further increased to **PKR 6.05 trillion**). Although there was an increase in profitability, the rate of increase in assets, the increasing cost of inflation and investment in digital infrastructure did not permit the ROA to increase further.



Micro-economic factors:

In 2022, HBL’s ROA stood at 0.8%, mainly because high inflation and a 22% interest rate increased deposit costs and day-to-day operating expenses such as salaries, IT systems, and branch operations. Higher taxes, including super tax, also reduced net profit, while investments in digital banking expanded the asset base without giving immediate returns. In 2023, ROA improved to 1.1% as the bank managed costs better through digital automation, strengthened deposit management, and maintained stable asset quality, allowing it to earn more profit from the same assets. In 2024 it decreased to **1.0%**, ROA faced mild pressure again because the bank had to keep more money aside to cover possible loan losses in SME, agriculture, and consumer lending growth, continued spending on digital infrastructure with delayed benefits, and exchange-rate volatility affecting trade and import-related income.

ROE:

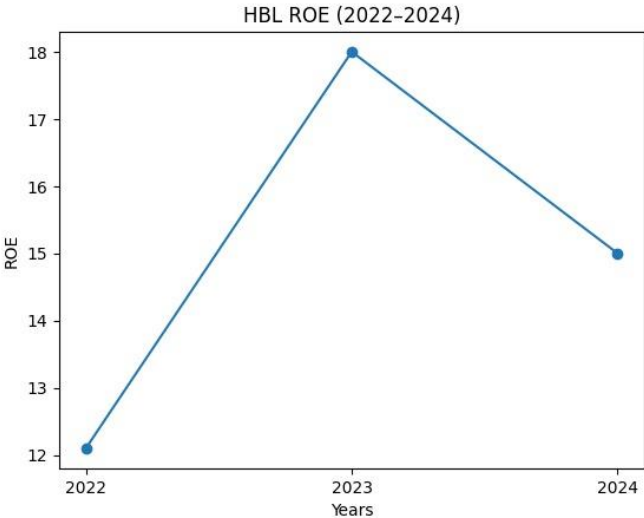
	2022	2023	2024
Net Income	34398330	57757416	57,804,659
Shareholders’ average Equity	284353808	325521234	388409373.5

	2022	2023	2024
Return on average Equity	12.1%	18%	15%

The Return on Equity (ROE) in **2022** deteriorated to about **12.1%** as profits did not expand at par with equity which is about **PKR 282-285 billion**. Such decline in ROE implies that the bank was more inefficient in utilizing the capital of the shareholders into the net earnings in comparison to the previous year. In **2023**, ROE improved to around **18%** attributed to profit after tax improvement to **PKR 57.7 billion** and also a better cost efficiency while shareholders' equity increased to **PKR 366 billion**. In **2024**, ROE further improved at **15%** supported by higher profitability as compared to equity which increased to about **PKR 410 billion**.

Micro economic Factors:

ROE was influenced by internal factors of profitability like increase in interest and non-interest



income, controlled operating expenses and growth in retained earnings. In 2022, higher taxation, higher costs and macroeconomic instability led to a decline in returns to shareholders. Also, credit risk factors including the slack in loan growth or risky lending as a result of economic insecurity, could have limited revenues on advances. The collective effect of these forces meant that the bank could not generate good returns on the equity base. In the years 2023 and 2024, expansion of digital banking, increased fee-based incomes, remittance inflows, improved quality of assets and lower

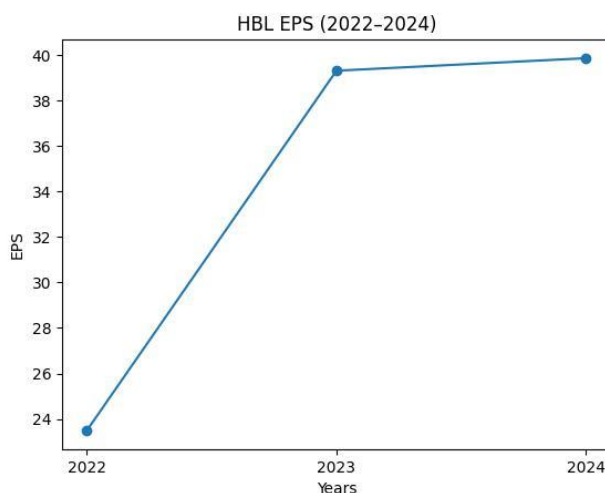
credit risk charges increased profitability and allowed for higher returns on equity without having to rely unduly on external capital.

EPS:

	2022	2023	2024
Net Income	34398330	57757416	58,457,771
Outstanding Shares	1466852.5	1466852.5	1466852.5

	2022	2023	2024
Earnings per Share	23.5	39.32	39.85

The Earning Per Share (EPS) in **2022** has slightly decreased to around **PKR 23.5** reflecting the lower net profitability despite the constant outstanding shares of around **1.466 billion**. The low increase indicates that the profitability per share of the bank was not increasing but was under pressure and the bank failed to earn any substantial incremental profits even though its total asset base and core banking operations had increased as compared to previous year. In **2023**, EPS increased dramatically to **PKR 39.3** as the net profit increased to **PKR 57.7 billion**, keeping the number of shares the same. In **2024**, EPS slightly increased once again to **PKR 39.85** supported



by higher earnings and unchanged share capital. This trend is due to the improvement in profitability after 2022 and the higher amount of earnings as a result of the shareholders.

Micro economic Factors:

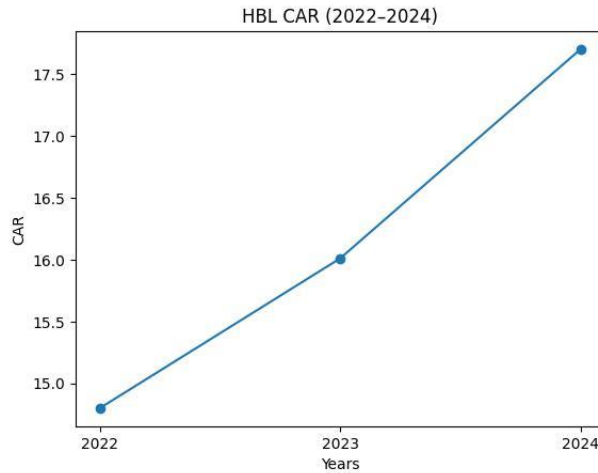
EPS was impacted by the inflation-induced rise in costs, devaluation of currencies and taxation pressures in 2022. The minimal drop in the EPS is credited to the rising operating expenses, which were caused by inflation and currency devaluation, which destroyed the net profit margins. Also, non-funded revenue sources, including fees and commissions, increased but were not adequate to offset the increase in taxation and administrative costs. In the year 2023 and 2024, higher net interest income, higher non-markup income, growth in digital banking transactions, gains in treasury and better cost-income ratio (from 58.8 to 56.8%) supported EPS growth.

CAR:

	2022	2023	2024
Tier 1	222,345,187	266,520,086	334,859,804
Tier 2	56,977,624	76,305,829	80,462,444
Risk Weighted Assets	1883321885	2141891201	2,345,893,915

	2022	2023	2024
Capital Adequacy Ratio	14.8%	16.01%	17.70%

In **2022**, CAR has been decreased to about **14.8%** with increase in risk-weighted assets (RWAs) at a faster pace than eligible capital to about **PKR 1.88 trillion**. The fall implies that the rate of the bank assets growth, especially in the risk-weighted items, such as corporate lending and commercial finance, exceeded its growth in capital, decreasing the overall CAR. In **2023**, CAR has improved to about **16.01%** supported by improved retained earnings, improved Tier 1 capital and improved asset quality despite RWAs increasing to **PKR 2.14 trillion**. In **2024**, CAR slightly increased to 17.70% as RWAs increased further reaching around **PKR 2.35 trillion** due to the growth in SME, agriculture and consumer and digital lending.



Micro economic Factors:

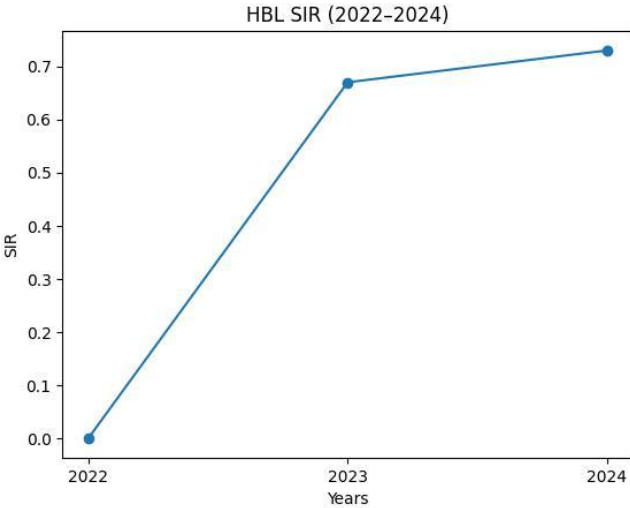
CAR movements were affected by growth in risk-weighted lending portfolios, changes in provisioning requirements and internal capital generation through retained earnings. Expansion in riskier lending areas resulted in increased RWAs and profitability and retained earnings increased Tier 1 capital. A decrease in CAR is generally associated with the increase in the amounts of credit exposure, growth in the loan portfolio, and augmented market risk in the face of unstable economic climate. The increase of the risk-weights of the different asset classes due to inflation, interest rate hikes and depreciation increased RWAs. Nonetheless, the bank was not under regulatory minimum capitalization and this indicates that the overall capitalization was high but that a further aggressive expansion without capital support would reduce the cushion further.

Sustainable Investment Ratio:

	2022	2023	2024
Sustainable Financing	-	37000 M	44000 M
Total Assets	-	5534348 M	6,055,112.877 M

	2022	2023	2024
Sustainable Investment Ratio	-	0.67%	0.73%

HBL's Sustainable Investment Ratio was showing gradual improvement over the time. In **2023**, the current SIR is at around **0.67%** which is based on the total amount of investments in renewable energy projects amounting to **37 billion** relatives to the total assets amounting to **5.53 trillion**. In **2024**, SIR rose to about **0.73%** which is sustainable investments of about **PKR 44 billion** against **PKR 6.05 trillion** as total assets. Although the ratio is still lower than **1%**, the increasing trend is an indication that integration of sustainability in the financing activities of HBL is on the rise. (KPI Depot, 2025)



Microeconomic Factors Affecting SIR:

Internal alignment with SBP green banking guidelines, improved ESG frameworks, financing of renewable energy projects and the interest of corporate and household investors resulted in the growth in SIR. Declining cost of renewable equipment, government incentives such as net metering and tax credits as well as more investor faith in long term green endeavors also played a role.

Macroeconomic Factors in HBL

The macro economic conditions surrounding HBL during the period of research were unfavorable as the inflation rates were high and the economy in Pakistan was unstable. During 2022-2023, the inflation was very high and reached 30.77 in 2023, and then slowly decreased to 12.63 in 2024, which is a sign of declining pressure on prices. The 2022-2023 high inflation drove up the operating costs and unpredictability to long-term investment planning, including sustainability-based operations, despite the continued growth of digital banking.

4.1.4 Ratio Analysis of Meezan Bank:

4.1.4.1 Profitability of Meezan Bank:

The economic definition of profitability refers to an ability of a firm to make profit. The ratio provides a clue on the revenue, costs, and expenses of the firm that can affect the total income and interest of the shareholder.

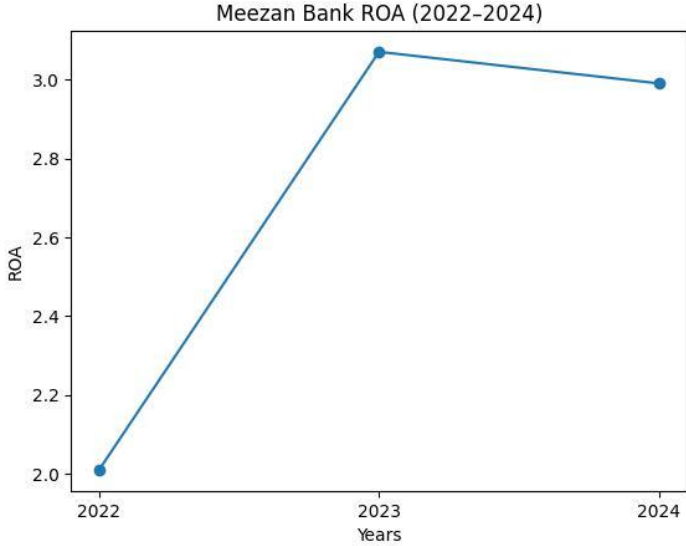
ROA:

	2022	2023	2024
Net income	45141252	86023136	103719335
Total Assets	2244779813	3019316152+2581900578/2	3464921476

	2022	2023	2024
Return on Assets	2.01%	3.07%	2.99%

In **2022**, ROA was **2.01%** which shows high level of profitability in comparison to total assets of around **PKR 2.24 trillion**, reflecting an important positive change in the asset base turnover of Meezan Bank to earnings. Income in fees and commission grew **PKR 10.86B to PKR 14.72B**, underpinned by increased trade finance turnover and volumes of digital banking. In **2023** ROA increased to the extent of about 3.07% with the sharp increase in net profit to the extent of about **PKR 103.7 billion** and total assets of about **PKR 3.46 trillion**. In **2024**, ROA is **2.99%** as the trend indicates that high efficiency is being maintained which has been driven by high Islamic

financing income and cost efficiency. Overall, Meezan Bank was a better bank when compared to the asset utilization to the industry.



Micro-economic factor:

The enhancement in ROA is associated with the empowerment of pricing power in high-interest rate environment whereby banks gain an advantage of the ability to reprice its assets more rapidly as compared to its liabilities. Besides, effective cost control and comparatively low non-performing financings ensured that expenses and losses on credit were kept at comparatively low levels, which assisted the greater asset productivity. High demand for Shariah compliant financing, low-cost deposit structure CASA above 70%, repricing of financing in high market benchmark rate environment, growth in Sukuk investments, low non-performing financing (around 1.3%) and effective cost control supported high ROA. Digital expansion of banking drew more money from fees and lower operational costs.

ROE:

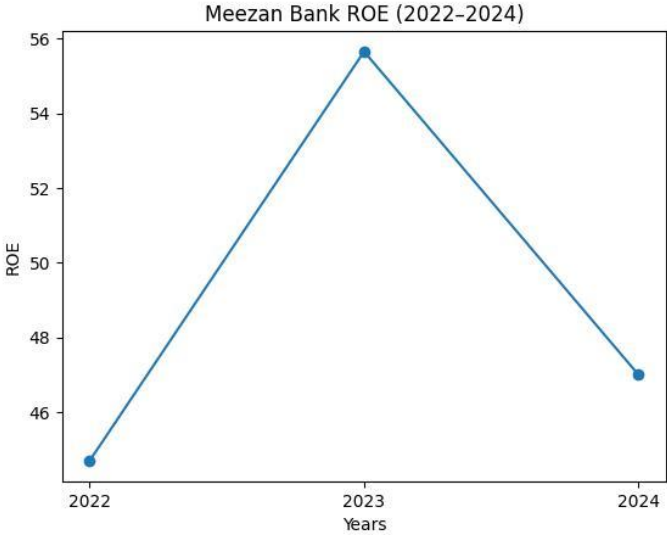
	2022	2023	2024
Net Income	45141252	86023136	103719335
Shareholders' Equity	1009395	190017269+119134690/2	221823744.5
	2022	2023	2024

Return on Equity	44.7%	55.65%	47%
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Meezan Bank has very high ROE in the entire period. In **2022**, ROE went up to around **44.7%** as there was a huge growth in profit and moderate equity expansion. In **2023**, ROE again got better to about **55.65%** which is one of the highest in the banking industry as net income grew significantly but shareholders' equity grew at a slower rate. In **2024**, ROE was high as it was supported by a high profitability and maintained earnings. This trend is an indication of high efficiency of utilization of shareholders' funds. ROE increased sharply from **36.4%** in **2021** to **44.7%** in **2022**. This improvement indicates that the Meezan Bank has provided shareholders with significantly better returns. High increase in financing, profitability and steady operating costs assisted in boosting returns despite equity growth.

Equity grew by a moderate pace from **PKR 90.4B to PKR 119.1B (32%)**. The growth in equity increased, whereas the growth in profit was higher, which increased ROE. Profit growth was driven by:

- Gross return on Islamic financing & investments increased by a notch more than **PKR 100B**, because of repricing and expansion of portfolio.
- The operating expenses increased only by **15%**, from **PKR 34.98B to PKR 46.84B**, although the increase in income was much greater, leading to operating leverage.
- The foreign exchange earnings have grown as **PKR 3.18B to PKR 3.81B**, because of the currency volatility and increased export remittances.



Micro-economic factor:

ROE was backed by high Islamic financing demand, high spreads, good operating leverage, controlled operating expenses, stable asset quality and growth in retained earnings. Currency volatility also helped in the foreign exchange income and effective cost management ensured the growth of profits was greater than the growth of equity. The increase in ROE is linked to increase in Shariah-compliant credit demand, particularly in the consumer financing (autos, housing), SMEs and corporate segments. Nominal economic growth associated with inflation also raised the amounts of financing, which in turn raised the potential to increase profits. Spreads were increased by high interest/profit rates, and this increased net profits and consequently ROE.

EPS:

	2022	2023	2024
Net Income	45141252	85430550	102,689,081
Outstanding Shares	17896243	1,791,253,194	1,792,873,080

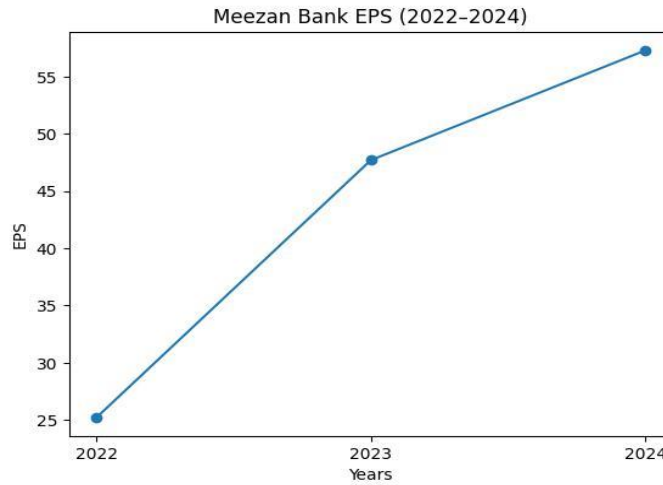
	2022	2023	2024
Earnings per Share	25.22	47.7	57.28

In **2022**, EPS went from PKR 15.7 to **PKR 25.22** which reflect the increased net income of about **PKR 45.1 billion**. In **2023** EPS grew substantially to around PKR 47.7 backed by net income of **PKR 85 - 103.7 billion** whereas outstanding shares barely fluctuated at around **1.79 billion**. For **2024** EPS continued to improve reflecting a continued level of profitability and stable share capital.

Certain transactions that increased the EPS.

- Increased spreads of re-priced corporate and SME Islamic financing.
- Stronger revenue of Sukuk holdings because the GoP Ijarah rates had been increasing with the yields of T-bills.

- The low non- performing financings (almost 1.3%) ensured that there was no heavy provisioning to profit.



Micro-Economic Factors:

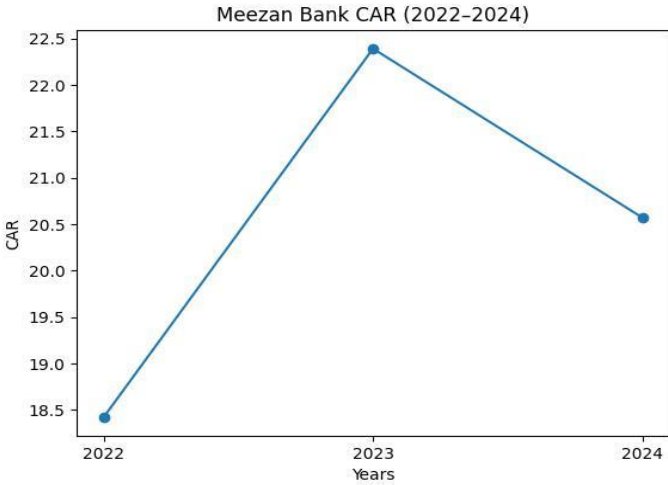
EPS growth was driven by higher income on financing for Islamic financing, good returns on investments of Sukuk, low provisioning due to low non-performing financing, higher volume of digital transactions, good income margins, and effective cost control. The lack of significant dilution of equity permitted higher profits to be directly translated into an improvement in EPS. The low monetary policy, inflation, and weak PKR pushed up the banking margins. As benchmark rates set by central bank increased throughout the 2022, return on Islamic financing and investment instruments increased substantially.

CAR:

	2022	2023	2024
Tier 1	120339894	178,598,930	233,902,157
Tier 2	20962210	32,640,088	47,285,724
Risk Weighted Assets	767057315	943643896	1,367,109,876

	2022	2023	2024
Capital Adequacy Ratio	18.42%	22.39%	20.57%

As of **2022**, CAR was around **18.42%** which is supported by retained earnings and strong Tier 1 capital base, which indicates an increase in regulatory capital buffer of the bank. This implies that profitability has not only enhanced ratios of returns but it has also strengthened capitalization that showed that the bank could grow vigorously and still increase its regulatory cushion. In **2023**, CAR has improved further to approximately **22.39%** much higher than the regulatory minimum of 11.5% despite significant increase in risk-weighted assets due to expansion in corporate financing and Sukuk investments. In **2024**, it is **20.57%** as CAR was expected to improve, supported by high retained earnings and continued profitability.



Micro-Economic Factors:

CAR strength was supported by retained earnings, better management of capital, focus on low risk shariah compliant financing and controlled leverage. Growth in RWAs from increased corporate financing and market risk weighted Sukuk investments influenced the denominator. High credit risk weights and higher RWAs were caused by the macroeconomic volatility in 2022 and encompassed high inflation, currency depreciation, and the increase in market risk in Pakistan.

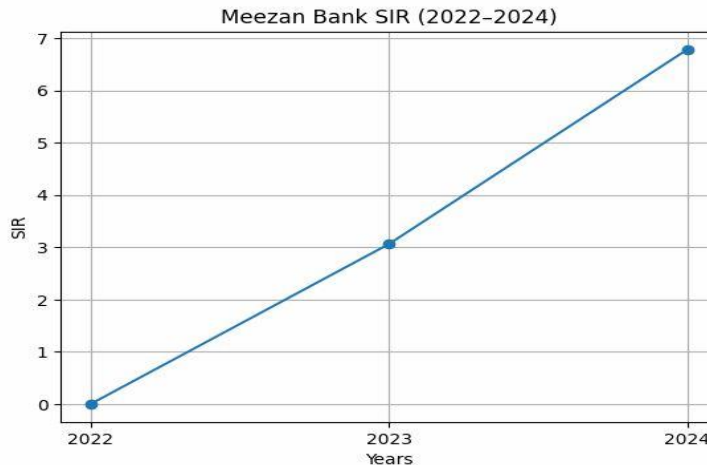
Moreover, the change in Sukuk run taking too long duration is capable of escalating market risk, which escalates risk-weighted exposure in the absence of capital injections of that magnitude.

Sustainable Investment Ratio

	2022	2023	2024
Sustainable Financing	-	9.264B	268520000
Total Assets	-	3000B	3910526800

	2022	2023	2024
Sustainable Investment Ratio	-	3.06%	6.78%

The Sustainable Investment Ratio of Meezan Bank in the year 2023 is approximately 3.06 percent on the premise of sustainable financing that is approximately PKR 9.264 billion with a total asset of approximately PKR 3 trillion. This is relatively a low ratio but it is the initial strategic move by the bank in the financing of the renewable and environment-friendly projects like the solar project and hydel project etc. Sustainable Investment Ratio (SIR) increased significantly as it was 6.78. The fact that it is an impressive increase means that the bank has a huge increase in green and sustainable financing portfolio. In 2023, the bank took an interest in renewable and environmentally responsible financing but it was not extensive since this proportion of the total assets supported green projects was very small. However the percentage of the bank assets allocated to the solar financing, the renewable energy initiatives by IFRE and the funding of the electric bikes as of 2024 is significantly greater.



Microeconomic Factors Affecting SIR:

SIR was influenced by a beginning integration of sustainable finance, diversification of asset allocation and increasing awareness of environmental responsibility. While the scale is limited the benefit of these investments in the terms of potential long-term benefits is significant in the form of risk diversification, regulatory conformity and reputation enhancement. Renewable technology like solar panels, batteries, and electric vehicles cost influence the demand of customers; when the technologies are made cheaper, more people and companies request financing, which raises the SIR. Also, consumer incomes and the economic status of companies have a significant impact: the growth of incomes and business confidence will stimulate the investment in eco-friendly improvements, whereas low economic indicators will decrease the demand on green loans. The interest rate environment also influences the choices of the borrower, borrowing sustainable loans is when the markup rates are lower and less expensive to finance, and increasing the costs of borrowing may scare away the customers.

Macro- economic Factors:

Meezan Bank has been in a difficult macroeconomic environment whereby the high rates of inflation and unstable economies in Pakistan affected the financial activity of the banks. As shown, inflation reached 27.4% in August 2023 and later dropped to approximately 9.6% by August 2024, pointing on the ongoing price pressures that influenced the behavior of customers and investment in the banking industry. Such circumstances complicated long term, sustainability-oriented financing as banks had to overcome the challenges of digital transformation and competition.

Regulatory uncertainty and unequal enforcement of the policies related to the green banking in this environment influenced the rate of sustainable finance development at the Meezan Bank. External pressures on the operations and the adoption of digital services by customers included competition by the fintech and conventional banks that offered Islamic windows, as well as, technology and cybersecurity risks.

4.2 Impact of Sustainability on Profitability Ratios

This section discusses about the before and after effect of adoption of sustainability on the profitability of HBL and Meezan Bank using the ratio analysis and interpretations as mentioned in the previous paragraph. The objective is to know whether the inculcation of the sustainability practices in terms of Sustainable Investment Ratio (SIR) has influenced the profitability performance of the banks.

4.2.1 Impact of Sustainability on HBL's Profitability

Prior to the official incorporation of sustainability initiatives, in 2022, the profitability indicators of HBL showed signs of pressure, despite the growth of assets. The bank's Return on Assets (ROA) was 0.8%, Return on Equity (ROE) was 12.1% and Earnings per Share (EPS) was PKR 23.3 as a result of the increase in operating expenses, increased taxation, inflationary pressures and delays in the return of strategic investments. During this time the amount of financing around sustainability was either minimal or it was not displayed in the financial structure of the bank.

Following the increase in focus on sustainability in 2023 and 2024, HBL's Sustainable Investment Ratio has increased from 0.67% in 2023 to 0.73% in 2024 supported by renewable and green financing to the tune of PKR 37 billion and PKR 44 billion respectively. During the same time there was improvement and stability of profitability indicators. ROA increased to 1.04-1.1% in 2023 and stabilized at 1.0% in 2024 and ROE increased to 16-18% in 2023 and 16.7% in 2024 while EPS increased significantly and reached PKR 39.3 in 2023 and PKR 39.85 in 2024. Although the investment in sustainability was a part of the asset base (and did not correlate in immediate proportional return), it was useful for income diversification, risk management and helped with financial stability in the long term without detriment to profitability.

4.2.2 Impact of Sustainability on Meezan Bank's Profitability

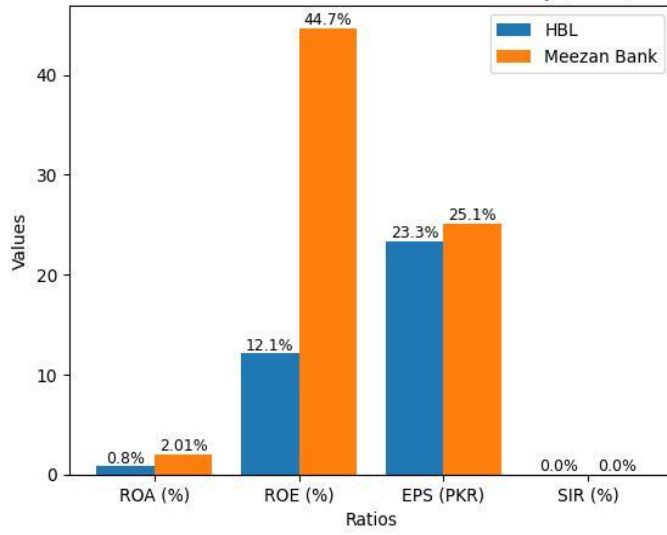
Meezan Bank showed good profitability even before actual integration of sustainability. In the year 2022, the bank achieved ROA of 2.01% and ROE of 44.7% and EPS of PKR 25.1 with the aid of low-cost deposit structure, high CASA ratio, high demand for Shariah compliant financing and effective cost management. During this period, there was a financing element to sustainability, but that was a fairly small portion of the total assets of the bank.

With the incremental integration of sustainability in the year 2023 as reflected by Sustainable Investment Ratio of 0.24% on the basis of PKR 7.33 billion in sustainable and renewable financing, the profitability of Meezan Bank further strengthened. ROA increased from 2.99 to 3.02% to 47 to 56% and EPS increased to a significant level of PKR 47.7 to 57.28. The relatively small scale of sustainable investments meant that they did not put pressure on asset returns or capital efficiency. Instead, sustainability initiatives were complementary to the bank's profitability and were part of asset diversification and long-term risk management, and the bank's good earnings base absorbed these investments without affecting on financial performance.

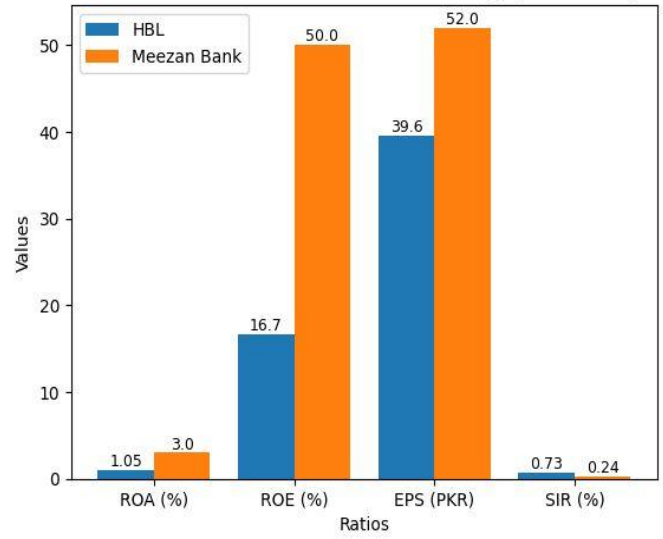
4.2.3 Comparative Evaluation of Sustainability and Profitability

A comparative assessment implies that there was no negative influence on profitability in both of the banks due to sustainability initiatives. HBL took sustainability on a relatively larger scale which initially led to an increase in the asset base but was coupled with stability and recovery in profitability ratios after 2022. Meezan Bank being in a great position of profitability, made a gradual entry in sustainability and sustained a good position in profitability indicators in the period. In both cases, the sustainability activities were consistent with stable or improving profitability which would seem to indicate that sustainable finance can go hand in hand with financial performance when coupled with sound cost management, asset quality and capital utilization.

HBL vs Meezan Bank - Before Sustainability (2022)



HBL vs Meezan Bank - After Sustainability (2023-2024)



CHAPTER 5

5.1 PROJECT BENEFITS

5.1.1 Overview

This chapter explains the main advantages and usefulness of the project findings to the banking sector of Pakistan. According to the empirical examination of Habib Bank Limited (HBL) and Meezan Bank Limited, the chapter demonstrates how the implementation of digital finance enhances sustainable performance in investment, and performance in terms of operational efficiency, financial inclusion, and institutional resilience in the long run. The results of such studies are useful not only to individual banks but also to regulators, investors, and society on the whole.

5.1.2 Advantages to the Banking Industry

Among the key benefits of this project, it must be mentioned that it demonstrated that digital finance may make a significant difference to the effectiveness of banks and lead to the sustainability of the investment. The findings show that the digital channels in the form of mobile banking, branchless banking, and online financing by banks have a superior indicator of profitability (ROA, ROE, and EPS) without threatening capital adequacy.

Digitalization made sure that in the example of Multinational banks like HBL and Meezan Bank, the bank is not dependent on the physical infrastructure, paperwork, and manual processing, which results in reduced operational costs and the carbon footprint. The reason behind this is that alignment of financial performance towards the environmental responsibility has both an overall sustainability profile of the banks in question and enhances the competitiveness of the banks in the competitive ESG-conscious financial environment which continues to grow.

5.1.3 Sustainable and Green Investment Promotion.

The project provides empirical evidence on the fact that digital finance is an enabler of sustainable investments. Online platforms will ease mobilization, trace and monitoring of the funds donated to the green initiatives such as renewable energy, green sukuk, solar financing and climate resilient infrastructure.

This might be illustrated with reference to HBL and Green Sukuk: the financing of renewable energy project and the involvement in the issuance of the Green Sukuk by Meezan Bank can serve as the illustration of the fact that digital systems help in enhancing transparency, accountability, and reporting of sustainable investments. This will create investor confidence and Green Banking Guidelines of the State Bank of Pakistan. As a result, the banks will be in position to increase their Sustainable Investment Ratio gradually without losing its financial stability.

5.1.4 Improvement of Financial Inclusion and Social Sustainability

The other major advantage of this project is that it will help in the study of the role played by digital finance in financial inclusion. Mobile wallets, branchless banking platforms, and digital onboarding systems allow banks to access underserved groups of the population, including rural communities, ladies' entrepreneurs, and small businesses.

The banks can facilitate inclusive growth and social equity by adopting sustainability-driven financial offerings and digital channels of delivery. Islamic banks such as Meezan also have an added advantage of providing Shariah-compliant digital products to attract religiously sensitive customers and thus increase the involvement of a wider audience in sustainable finance.

5.1.5 Benefits at Strategic and Policy Level

The results of this project can be useful to any policymaker and regulator including the State Bank of Pakistan (SBP), the Pakistani Securities and Exchange Commission (SECP). The study offers data to support the fact that digital finance enhances the execution of the green banking policies through the increased transparency, decreased cost of transactions, and the facilitation of the adherence to the ESG requirements.

To regulators, the research suggests the significance of promoting digital infrastructure and innovation in fintech to speed up sustainable finance. In the case of banks, the project provides a template that can be replicated by other banks to incorporate digital transformation with sustainability objectives in order to ensure the institutions align with national development objectives and UN Sustainable Development Goals (SDGs).

5.1.6 Conceptual and Practicable Contributions

Academically, the given project bridges a research gap as it offers a comparative study of a conventional bank (HBL), and an Islamic bank (Meezan Bank) within the framework of digital finance and sustainable investments in Pakistan. In practice, it provides the information that can be applied by the bank managers to develop digital strategies that would allow raising profitability and maintaining environmental and social responsibility. In general, the project demonstrates that digital finance is not just a technological improvement but a strategic instrument to gain sustainable banking performance.

5.2 LIMITATIONS AND CONCLUSION

5.2.1 Limitations of the Study

Though this study has made some contributions it has some limitations as shall be seen.

- First, sustainable investments can be measured with limited information availability and disclosure. Because the Pakistani banks currently do not operate on a strictly standardized green finance reporting framework, the Sustainable Investment Ratio that will be used in this analysis is an approximation not a full-fledged metric.
- Second, the research is limited to two big banks namely: Habib Bank Limited and Meezan Bank Limited. As much as these institutions are a good representation of conventional and Islamic banking models, its results might not be a perfect reflection of the experiences of smaller banks, micro-finance institutions, or fintech startups operating in Pakistan.
- Third, the study is based on secondary data only, which is acquired through annual reports, sustainability disclosures, and regulatory publications. Although these are credible sources and they are audited, the lack of primary data like interview with bank officials or customer survey restricts further behavioral and managerial understandings.

5.2.2 Suggestions to improve

To overcome these drawbacks, future studies can use primary data collection techniques, including a structured interview with banking professionals, regulators, and customers. This would provide more information about the process of decision-making, challenges, and user beliefs regarding

digital and sustainable finance. The scope can also be broadened by further research in the investigation of other banks, fintech companies, or regional comparative approaches in South Asia. Research over an extended time period would be beneficial in terms of the long-term effects of digital finance on sustainability outcomes.

In addition, the future studies can come up with better indicators of sustainability investments and ESG performance, particularly in the case of the Islamic finance, where the Shariah-compliance introduces a new layer of sustainability.

5.2.2.1 Strategies for Improvement

Enhancing Digital Places to endorse Sustainable Financing

Banks also need to combine digitization of their banking products with products with green goals like green loans and renewable energy loans. The improved digital surveillance is able to increase the transparency, decrease the operational expenses, and assist in the improved distribution of finances to sustainable investments.

Making Digital Finance Initiatives Regulatory Sustainability Goals

The digital strategies of banks must be aligned with the Green Banking Guidelines of the State Bank of Pakistan through the implementation of sustainability indicators into the digital reporting and decision making processes. This would assist in closing the stipulated policy targets and actual realization.

Increasing Digital Financial Inclusion to Sustainable Growth

Branchless banking system and mobile platforms should be applied by banks to make sustainable financing available to the rural and under-served communities. This is capable of funding small scale renewable energy and socially responsible projects and enhancing financial inclusion.

Improving Risk Management with Digital Tools

To measure better, environmental and financial risks of sustainable investments are to be evaluated with the use of digital analytics and data driven platforms to provide long-term stability without deteriorating capital adequacy.

5.3 Conclusion

This paper finds that digital finance is important in improving sustainable investment performance in the banking sector in Pakistan. The relative review of both Habib Bank Limited and Meezan Bank Limited demonstrates that digital transformation enhances efficiency of operations, profitability, financial inclusion, and the ability of banks to facilitate environmentally and socially responsible investments. The results confirm that digital finance enhances banks to match financial growth with the sustainability goals through lowering the costs, improving the level of transparency and assisting the circulation of the funds to the green and inclusive initiatives. Digital tools can be effectively utilized by both conventional and Islamic banking models to help in achieving sustainable development, as long as regulatory enabling structures, technological infrastructure and financial literacy keep on improving. Pakistan is a country with much characteristics as climate volatility, economic problems, and a high rate of digital adoption, digital finance and sustainable investment strategies are not something to be optional, but a necessity. This study supports the fact that technology driven banking can act as an effective agent of long-term economic sustainability, environmental sustainability, and inclusive development.

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