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TRANSITION TO SUSTAINABILITY AND GREEN BANKING IN PAKISTAN

Mazhar Ali Alyani[*1], Dr. Atif Shahab[2], Dr. Ahras Rashid[3], Mr. Asif Z. Warsi[4], Nasrat Ullah Azizi[5]

[*1]*MBA Scholar University of Sindh, Jamshoro*
[2]*College of Business Management, Institute of Business Management, Karachi.*
[3]*Institute of Business Management Sciences University of Agriculture, Faisalabad.*
[4]*Institute of Business Management, Karachi.*
[5]*Ph.D. Candidate, Management Sciences Specialization in HRM Department: Management Sciences University: International Islamic University, Islamabad*

[*1]alyanimazhar@gmail.com, [2]atif.shahab@iobm.edu.pk, [3]ahras.rashid@uaf.edu.pk, [4]warsi.asif@gmail.com, [5]azizinasratullah@gmail.com

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Corresponding Author: *

Abstract
This research analyzes Pakistan's green banking adoption pattern together with the forces driving its success and obstacles along with financial institution benefits using qualitative analysis methods. Bank Al Habib, Bank Alfalah, and Sindh Bank Limited management participated in 15 interviews to discuss their sustainable banking practice implementation experiences. The investigation covers a detailed review of Pakistani and international green banking studies while examining the Pakistani regulatory framework. Pakistani banks adopt green banking principles at a moderate pace despite dealing with financial resource shortages and inadequate technological capabilities and restricted customer education about environmentally friendly banking alternatives. Businesses adopting green banking benefit from enhanced operational performance while building customer trust while following international environmental requirements, thus ensuring lasting financial gains. Further research into emerging technologies alongside educational programs regarding green banking practices will strengthen their effectiveness as per the study. More established markets should be examined through comparative research to generate policies based on their findings. This research yields knowledge about green banking's importance in Pakistan's sustainable economic progress and provides banking institutions a framework for environmental responsibility growth

INTRODUCTION

Sustainability and environmental responsibility have become critical focal points in the global economy. As the world grapples with climate change and environmental degradation, sectors across industries are being urged to adopt practices that minimize environmental harm and contribute to a more sustainable future. The financial sector, which is a key player in global economies, has not been immune to these pressures. In fact, financial institutions hold a unique position to foster sustainability by influencing economic activities through the allocation of capital and the financing of projects. As such, banking institutions are increasingly expected to integrate environmental, social, and governance (ESG) criteria into their operations. This transformation has led to the emergence of "green banking," a concept that is quickly gaining traction around the world, especially in developing economies like Pakistan.

As described by numerous researchers, green banking will be those practices and policies of the banks that aim to achieve environmental sustainability. To this end, they also feature the financing of green projects, the application of energy-efficient technologies, and the creation of financial products that promote the use of such eco-friendly strategies among clients (Chandran and Islam, 2019). In fact, green banking refers in the first place to integration of environmental issues into banking systems as a whole. This helps banks invest in sustainable projects, finance renewable energy works, and provide products on renewable energy-related ones like Renesolar Bonds and ESG savings accounts (Hassan, 2020). In developing countries such as Pakistan, the role of green banking is especially crucial due to the extent of industrialization and urbanization that is being preyed on our environment. Although Pakistan faces severe environmental conditions, it has started to pay attention to integrating environmental welfare in banking practices. In recent years, the country has been undergoing growing environmental challenges such as high pollution rates, deforestation, and water scarcity, among other problems. As a result of such issues, sustainability and eco friendly practice became a major subject in governmental as well as company agendas (Shahzad et al., 2021).

There are various factors on the importance of green banking in Pakistan in the context. Pakistan is highly vulnerable to climate change and already visible effects such as floods, heat waves, and changing agricultural patterns. This environmental vulnerability has led to increased public and policymakers' awareness about the need to nurture more sustainable practices across the board, including the finance one. Pakistan is a signatory to some of the various international agreements as a part of global sustainability effort like the Paris Climate Agreement which aims at reducing greenhouse gas emission and encouraging sustainable development (Khan et al., 2020). Green banking when adopted can be a means of aligning the efforts of Pakistan's financial institutions with these globally efforts; to the national and international goals of environmental. Second, social responsibility currently characterizing most businesses is occurring in the banking sector as well. More and more companies in multiple industries require them to integrate environmental sustainability into their functioning. In the banking sector, the rise of demand for green financial products has shown this shift. It is becoming increasingly clear to consumers that knowing more about the environment and the issues of burning waste has led them to make buying decisions just not only on the price and quality of the product but also on the sustainability of the companies that offer the goods (Bai & Huo 2020).

Investors also gravitate towards ESG factors while making an investment, and hence, financial institutions are compelled to incorporate green practices eagerly to stay ahead of the game across the globe. There is, therefore, a demand for green financial products that banks are, in turn, developing and offering; these include green loans, sustainable investment funds, environmental savings schemes, etc. Despite the concern about the adoption of green banking practices, the banking sector, in particular in Pakistan, lacks adequate efforts and has limited levels of adoption of the practice that could have minimized the impact of environmental damage on future generations. Financial constraints of banks is one of the major challenge. While green banking practice often necessitates a lot of upfront investment in technology, training, and research, many banks, especially the smaller ones, find it difficult to afford (Memon et al., 2020). Secondly, banking staff and customers do not have any levels of technological literacy, which makes it difficult to integrate green banking practices into the existing banking paradigm. The adoption of green banking has become a difficult task without the requisite infrastructure and knowledge. In addition, it has a low awareness regarding the benefits of green banking, and therefore, demand for eco-banking products is not considered. There is a need to educate consumers on the long-term benefits of green banking, like the good environmental impact and the possibility of a higher return on sustainable investments (Farhan & Javed, 2020).

This study aims to conduct literature to investigate the process of green banking adoption in Pakistan and the ways the major Pakistani banks have practiced and ruled green banking. Of particular significance, this research investigates the prime drivers, obstacles and rewards of green banking in addition to the total influence of its adoption within the banking sector in Pakistan. This study uses qualitative methods to get insights from banks that manage their banks through structured banks, such as Bank Al Habib, Bank Alfalah, and Sindh Bank Limited and will highlight their green banking strategies. Furthermore, this study intends to examine the scope of green banking's significance in fostering the country's sustainable growth in Pakistan, as well as propose possible motives to overcome the impediments to green banking use and establish it for future growth. This research will aid in the more effective comprehension of how environmental banking practices are embedded in the banking system of Pakistan, along with the challenges faced by financial institutions and the advantages of using environmentally responsible banking practices. This study will analyze Pakistan's regulatory framework and will draw policy insights and suggestions for green banking in the country, environmental responsibility for the banking sector, and, ultimately, sustainable economic development.

Research Aim

Thus, this research aims to examine the factors that will drive the adoption of green banking practices in Pakistan's financial sector. This study investigates the factors influencing the adoption of sustainable banking practices, impediments to the wider adoption of such practices, and the long-term environmental and economic benefits arising out of them using qualitative methods, with management within the central commercial banks of the country, Bank Al Habib, Bank Alfalah and Sindh Bank Limited as the sample. Overall, the intention is to increase knowledge about how green banking can increase in Pakistan's banking system through actionable recommendations for the country's green banking.

Research Questions

1. What are the key drivers and barriers influencing the adoption of green banking practices in Pakistan's financial sector?
2. How do green banking practices in Pakistani banks contribute to sustainability and profitability, and what challenges hinder their widespread implementation?

Problem Statement

Green banking practices are not widely adopted in Pakistan's financial sector without financial constraints, technological illiteracy, and low customer awareness. Although global interest in sustainability has increased, these challenges hamper the realization of green banking in a way that prevents the realization of significant benefits to the environment and economy offered by green banking.

Literature Review

Overview of Green Banking Practices

Green banking is taking the place of the increasing necessity of environmental sustainability in the Global financial sector. The integration of environmentally friendly practices means the integration of environmentally friendly practices into banking operations by financing projects that will have a less adverse impact on the environment, the provision of green banking products, and banks adopting eco-friendly technologies (Chandran & Islam, 2019, Rahman et al., 2023). As the awareness of climate change and the depletion of natural resources has increased, so has awareness about investing in environmentally responsible options or even green banking, which has significantly grown.

The green banking trend is catching on internationally, largely pushed by regulatory efforts and the increased tendency of consumers to consume greener financial services and products. The things that international literature is immensely focusing on the adoption of green banking practices and their effectiveness. Kumar et al., (2019) research showed that banks in developed countries like those in Europe and North America have been able to adopt green banking to a greater say as a result of sound regulatory enforcement and public quest for sustainable financial investment opportunities. The European Union (EU) has created policies and incentives to encourage green financial products with the place in supporting its Green Deal, basically asking to provide carbon-neutral finance to meet the environmental sustainability target by the year 2050 (European Commission, 2020). In like manner, in the United States, green banking has been promoted by way of various voluntary initiatives, including industry-driven sustainability goals, for example, the U.S. Green Building Council's LEED certification, which advocates banks to deploy green building practices (Keenan, 2017). The integration of financial technology and green finance has become an important area of focus in recent years as the impact of COVID-19 on sustainable investment trends continues to be studied (Judijanto et al., 2024). Future opportunities lie at the intersection of fintech and green finance, through banking practices that better align with the UN Sustainable Development Goals (Judijanto et al., 2024).

Regulatory Frameworks Surrounding Green Banking

The ability to adopt green banking, according to regulatory frameworks which urge banks to be more environmentally responsible, is now widely seen as a key driver. Different countries have promulgated policies and guidelines in order to compel banks to incorporate environmental, social, and governance (ESG) crises in their procedures. In European countries governmental push to integrate financial market towards sustainability is particularly strong. The European Commission (2020), for instance, is trying to unify green finance by creating a classification system that can classify which activities can be considered environmentally sustainable and guarantee transparency and accountability. Besides making it easier for banks to finance eco friendly projects, such regulations also force banks to disclose the environmental impacts and investments in eco friendly projects.

Furthermore, in emerging economies where regulatory standards might not be well defined, forces of markets are pushing toward greener banking practices. The increasing adoption of green banking as a competitive strategy by banks in India, South Africa, and Brazil, especially, seems to be competitive to attract customers and investors who are interested in the environmentally conscious (Goyal & Joshi, 2021). Green loans, eco-friendly savings accounts, and investment products are but part of a wider movement of global banking trends where banks are now acknowledging the long-term value in what they see as helping to integrate the impacts of sustainability aspirations in their products.

Green Banking in Pakistan: Challenges and Opportunities

The literature on green banking in Pakistan is still emerging in the context of the country. Nevertheless, some of the studies have shown that the increase in the awareness of green banking practices has lagged the actual rate of adoption. Shahzad et al., (2021) suggest that regulatory efforts initiated by the Pakistani government to encourage green banking have been more inadequate as compared to other developed markets. For instance, the Punjab government in 2017 put forward the "Green Banking Guidelines" by the State Bank of Pakistan (SBP), but these guidelines have main problems in implementation and subsequent monitoring. The challenges facing green banking include the absence of clear definitions, insufficient motives for financial institutions, as well as limited general familiarity of customers with green banking (Khan et al., 2020). It would lead to the adoption of green banking practices in Pakistan being late to the game with respect to countries in Europe and North America. Green banking is not sufficiently governed in Pakistan as banks have primarily adopted it on a voluntary basis through their green banking initiatives. Memon et al., (2020) also advocate for banks to lend to eco-friendly projects and augment such projects as green menu, although there is not stringent regulatory directive laws that force the banks to adopt these practices.

As a result, the adoption has occurred at a somewhat uneven pace across the banking sector, where some banks have leaped ahead with sustainability and some lags behind. Lack of well defined regulatory framework and weak government enforcement mechanisms coupled with a general lack of understanding on the part of the consumer regarding the benefits of saving money in green banking facilities renders it abnormally difficult for green banking adoption in Pakistan. There has been growing awareness of climate change and environmental degradation in Pakistan, which has meant there has been a growing demand for green financial products such as green bonds and eco-friendly loans.

Although the literature also points out that customer awareness is a major hindrance in the wide propagation of green banking. It is noticed that the public in Pakistan is not interested in green products, and most are not at all aware of the benefits and availability of such products. One important reason for the failure of green banking initiatives is the lack of knowledge of fulfilling the customers, which in turn impedes its success because many potential customers do not know how they can make the banking choices to contribute to environmental sustainability (Farhan & Javed, 2020). Adoption of Green banking in Pakistan is not an easy task due to various issues, such as Lack of awareness, Knowledge, Skills and Infrastructure (Qureshi & Hussain,2022). State Bank of Pakistan has issued green banking guidelines; however, they are due for modification with legal authority and encouragement for broader compliance (Qureshi & Hussain, 2022). Likewise, banks themselves are also faced with challenges within, i.e., technical infrastructure and financial bind, which inhibit the degree of implementation of green banking practices at the broader level. Pakistan's dalliances with green banking are still in their minority and when compared with world practice, they are in their infancy. Countries like Germany, the UK, and the USA have established green banking frameworks, while Pakistan is still struggling with the integration of sustainability into the banking sector. Nevertheless, one should mention that the banking sector of Pakistan is gradually succumbing to the global movement of sustainability.

However, Pakistani banks are expected to slowly begin to adopt more comprehensive green banking practices from an environmental awareness and a global effort in the field of climate action (Bai & Huo, 2020). In other words, green banking has the potential in Pakistan, and the financial sector can propel the country into a sustainable economy. Pakistan's banking industry is still in the green banking process, it will take time to adopt it at ease however there is still an ever-growing demographic group in the country who will have to adopt it despite its challenges falling on their feet. Finally, the application of green banking in Pakistan remains subjectively less than the international standards while the process and facility of it is increasing awareness and regulating process that can lead it into broader adoption of sustainable banking practices in the future. Yet, a robust regulatory framework, higher technological awareness, higher customer awareness are crucial for the realization of complete potential of green banking in Pakistan.

Regulatory Framework and Global Context

Since regulatory policies encourage or require the utilization of sustainable practices within the financial sector, green banking is closely linked to the regulatory policies. The regulatory regime on green banking has developed recently in Pakistan, yet it is somewhat underdeveloped with respect to more developed markets. In 2017, the State Bank of Pakistan (SBP) took a significant step and developed green banking guidelines. Banks are encouraged to support environmentally sustainable projects by providing green loans and environmentally sound risks in their operations (Shahzad et al., 2021). While it dawns on central banks that climate risk is an important aspect of their financial sustainability mandate, not everyone addresses the same (Dikau et al., 2021). However, banks are not obliged to follow these guidelines; they are voluntary.

However, renewed international interest in environmental regulations and the implementation of green finance systems also offer promising opportunities for reform. For developing countries, the identification of barriers to effective implementation of green finance prompts collaborative efforts to foster sustainable banking (Khan et al., 2022). The slow adoption is due to very few voluntary approaches, and many banks are not motivated or have no resources to integrate green banking practices fully (Memon et al., 2020). Moreover, SBP's awareness and capacity-building work in the banking sector is still challenging. Lack of technological infrastructure and lack of expertise in managing environmental risks make it hard for banks to implement green banking.

On the contrary, developed economies have set up more stringent and mandatory regulatory frameworks compelling or at least broaching opportunities for the adoption of green banking. In fact, the European Union (EU) has done well in having a lot of push towards a sustainable banking, with regulatory measures so that financial institutions are inclined to do so. One of the initiatives is to integrate green banking in the financial system in line with what the EU describes as the EU's Green Deal aiming to make Europe the world's first climate neutral continent by 2050. The EU Taxonomy Regulation that is introduced in 2020 defines what do count as environmentally sustainable economic activities and therefore supports banks and financial institutions in the green financing efforts (European Commission, 2020). This regulation has caused a huge rise in green financial products and has clearly defined the way for sustainable investments.

In addition, EU disclosure rules such as Non-Financial Reporting Directive require companies and financial institutions to disclose their ESG practices, thereby increasing transparency and accountability in green banking (Bai & Huo, 2020). In the United States, green banking practices have been developed in voluntary frameworks such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification that has motivated banks to build sustainable buildings and support energy efficient projects (Keenan, 2017). The U.S. Securities and Exchange Commission (SEC) has been ramping up its attention to climate risk disclosure for public businesses, and is pressing them to take environmental components within consideration while making lending and investment decisions.

While SBP laid down guidelines through SBP to encourage green banking, unfortunately, it is not as strong or mandatory as the one noticed in Europe and the U.S. Pakistan's regulatory architecture is poor in that respect, which resulted in not many people taking up green banking. Pakistan's green banking efforts have just commenced, compared to international standards. Countries with regulatory frameworks such as the EU or the U.S. have extensive frameworks that are clear in terms of incentive for financial institutions as well as for sustainable investments with tax breaks, and incentives all around. Unlike this, green banking initiatives are extremely ineffective and scalable with Pakistan's voluntary approach. The challenges in Pakistan notwithstanding, it is still possible for Pakistan to adapt to more stringent regulatory measures analogous to the developed countries. Mandatory green banking policies and incentives for environmentally sustainable projects could quickly begin the adoption of green banking within the borders of Pakistan. Furthermore, it is important to grow the capacity of the financial institutions in managing environmental risks and increasing the customer awareness of green products leading to creation of a sustainable financial system.

Methodology

This study uses a qualitative research approach to explore the adoption and impact of green banking practices in Pakistan's financial sector. The qualitative approach allows for in-depth understanding of the experiences and insights of key stakeholders involved in green banking decision-making processes.

The sample consists of 15 participants from the management teams of three major Pakistani banks: Bank Al Habib, Bank Alfalah, and Sindh Bank Limited, with five participants from each bank. These individuals were selected based on their roles in sustainability and green banking initiatives, providing expert perspectives on the adoption of green banking practices. Interviews were conducted from the participants.

Data were collected through semi-structured interviews, which allowed for flexibility and detailed exploration of key themes such as drivers, challenges, and benefits of green banking. Each interview lasted 45-60 minutes and was audio-recorded with the participants' consent. The data were transcribed for further analysis.

Thematic analysis was used to analyze the interview data. Transcriptions were read to identify initial codes, which were grouped into broader themes related to green banking. These themes were then analyzed to draw insights on the challenges and opportunities for green banking in Pakistan, comparing the findings with global trends.

Interview Protocol

1. Can you describe your bank's current involvement in green banking practices and initiatives?
2. What are the main drivers behind your bank's adoption of green banking practices (e.g., regulatory requirements, consumer demand, corporate social responsibility)?
3. What challenges has your bank faced in implementing green banking practices, and how have these challenges been addressed?
4. How do you assess the impact of green banking on your bank's operational efficiency and customer satisfaction?
5. What specific green banking products or services has your bank introduced, and how have they been received by customers?
6. How do you see the regulatory environment in Pakistan influencing the adoption of green banking, and what improvements could be made to support its growth?
7. Looking ahead, what do you believe are the key opportunities for your bank in expanding its green banking initiatives, and what steps are being taken to realize them?

Data Analysis and results

Question 1: Can you describe your bank's current involvement in green banking practices and initiatives?

The first question aimed to understand the current scope of green banking practices and initiatives within the participating banks. Analysis of the responses revealed several key patterns regarding the level of commitment and the types of green banking activities undertaken by each institution.

Most participants from the three banks reported that their institutions have adopted some green banking practices, although the extent and nature of these practices vary.

For example, one respondent from Bank Al Habib shared,

"We have started incorporating energy-saving technologies in all of our branches. This includes using energy-efficient lighting and systems, and we've also introduced green loans for projects focused on renewable energy, particularly solar energy installations."

This response reflects the bank's commitment to improving operational efficiency while promoting sustainable energy projects.

Bank Alfalah also expressed its engagement in green banking, with one manager stating,

"We've launched green bonds as a financial product that directly supports eco-friendly infrastructure projects. In addition, we've taken steps to reduce our carbon footprint by implementing a paperless banking system. Customers can now manage all their banking needs electronically, which has reduced paper usage significantly."

This shows a more comprehensive approach to green banking, combining eco-friendly financial products with internal sustainability practices.

Sindh Bank Limited, however, provided a more cautious response, acknowledging its newer efforts in green banking. One manager mentioned,

"We've just started with small-scale initiatives like promoting paperless banking and making changes to our branch operations to save energy. We haven't yet introduced any green financial products, but we are exploring options."

This highlights that Sindh Bank is in the early stages of its green banking journey, focusing mainly on operational changes rather than developing a full range of green banking products.

The analysis revealed that the banks, particularly the more established ones, have introduced various environmentally conscious initiatives to some extent, but the overall adoption of comprehensive green banking practices is still limited. For example, while green loans and sustainable investments are becoming more prevalent in these banks, their offerings are relatively new and have not yet been widely marketed or integrated into the core banking products. Moreover, the responses suggested that the level of institutional commitment to green banking is significantly influenced by leadership and market positioning. Bank Al Habib and Bank Alfalah, for instance, have placed a higher emphasis on green banking as part of their corporate social responsibility (CSR) strategies and have invested in expanding their green financial products.

In contrast, Sindh Bank Limited's relatively slower adoption indicates that green banking initiatives are not yet prioritized within their organizational strategy. This may be due to various factors, including a lack of resources, limited customer demand, or insufficient internal expertise in green finance.

Question 2: What are the main drivers behind your bank's adoption of green banking practices (e.g., regulatory requirements, consumer demand, corporate social responsibility)?

The second question aimed to identify the key factors influencing the adoption of green banking practices in the participating banks. The responses revealed a range of internal and external drivers, with regulatory requirements, consumer demand, and corporate social responsibility (CSR) standing out as the most significant motivators.

For Bank Al Habib, the response reflected a blend of both regulatory pressure and CSR commitment. One manager stated,

"Our decision to adopt green banking was initially driven by the regulatory guidelines from the State Bank of Pakistan. However, it quickly became clear that integrating green banking into our operations aligns with our CSR goals and our long-term vision for sustainability. We want to be seen as a forward-thinking bank, and adopting green practices has helped us build trust with both consumers and investors."

This response indicates that while the regulatory framework was a crucial initial driver, the bank's broader CSR objectives played a significant role in fostering its green banking efforts.

In Bank Alfalah, a similar sentiment was expressed, with a strong emphasis on consumer demand and market competitiveness. A participant from the bank mentioned,

"We noticed an increasing demand from both our retail customers and corporate clients for sustainable financial products. As consumers become more environmentally conscious, there is a growing demand for eco-friendly investment options. The regulatory environment also encourages us to be more sustainable, but the consumer shift toward green products has definitely accelerated our efforts."

This response highlights how market demand has been a major catalyst in shaping the bank's green banking strategy. It also reflects a broader global trend where consumer preference is steering financial institutions toward offering more sustainable financial solutions.

Sindh Bank Limited, however, presented a slightly different perspective. A representative shared,

"At Sindh Bank, the primary driver has been regulatory pressure, as the State Bank of Pakistan has set green banking guidelines. However, we've also realized that sustainability will be critical to long-term success as the global financial landscape evolves. So, while we are just starting to embrace green banking, we know it's something we will need to do in order to stay competitive in the market."

This response suggests that Sindh Bank's regulatory environment is the leading factor prompting them to explore green banking, though they acknowledge that consumer demand and market competitiveness will play a more significant role in the future as sustainability becomes a central concern in the industry.

Across the three banks, it was evident that regulatory requirements were the primary initial driver behind adopting green banking. The State Bank of Pakistan's green banking guidelines have pushed banks to take steps toward incorporating sustainable practices. However, consumer demand and CSR objectives were also recognized as important drivers influencing green banking efforts' scale and scope. Banks like Bank Al Habib and Bank Alfalah are actively responding to customer demands for environmentally responsible financial products, aligning their strategies with broader market trends. While in the early stages of its green banking journey, Sindh Bank Limited is positioning itself to align with future market trends by recognizing the importance of sustainability.

Question 3: What challenges has your bank faced in implementing green banking practices, and how have these challenges been addressed?

The third question aimed to identify the key challenges faced by banks in implementing green banking practices and how these challenges have been overcome. The responses highlighted several common obstacles, including financial constraints, lack of technological infrastructure, limited customer awareness, and insufficient regulatory support. However, each bank presented unique approaches to addressing these challenges.

For Bank Al Habib, financial constraints were the most frequently mentioned challenge. One manager explained,

"The initial investment required to implement green banking practices, such as developing green financial products and upgrading branch infrastructure, can be significant. While we understand the long-term benefits of green banking, the upfront costs can be a barrier. However, we've managed to address this by seeking partnerships with organizations supporting sustainable development and gradually integrating green practices into our operations to minimize costs."

This response indicates that while the financial burden of transitioning to green banking is recognized, the bank has taken a strategic approach by forming partnerships and focusing on incremental implementation to manage costs effectively.

In addition to financial constraints, Bank Alfalah identified a lack of technological infrastructure as a significant challenge. A participant shared,

"Integrating green banking into our operations requires significant technological upgrades for internal processes and customer-facing platforms. Many of our older systems were not designed to support green banking features, so we had to invest in new technologies, which has been a slow process. However, we're gradually upgrading our systems, and the focus has been on making these changes in stages to ensure a smooth transition."

This highlights how technological limitations, particularly with legacy systems, can impede the full integration of green banking practices. The bank has tackled this challenge by adopting a phased approach, which has allowed it to upgrade its infrastructure without overwhelming its resources.

Sindh Bank Limited also discussed customer awareness as a key obstacle, with a representative stating,

"One of our major challenges is that many of our customers are not yet aware of green banking products or the environmental benefits of such products. To address this, we've started to engage in awareness campaigns, both online and through our branches, to educate customers about the importance of green banking and how they can benefit from it."

This response reveals that while customer interest in green banking is growing, many customers still lack the necessary understanding to make informed decisions. Sindh Bank's approach to overcoming this challenge includes customer education through marketing campaigns and outreach programs to raise awareness.

Across all three banks, the responses indicated that while financial and technological barriers are the most prominent, customer education and regulatory support also play significant roles in the adoption process. Banks have managed to address these challenges through strategic partnerships, phased technological upgrades, and customer outreach programs. However, the challenges mentioned highlight that the transition to green banking requires careful planning and long-term commitment, especially in a developing country like Pakistan, where the market for green products is still evolving.

Question 4: How do you assess the impact of green banking on your bank's operational efficiency and customer satisfaction?

The fourth question aimed to explore how green banking practices have influenced banks' operational efficiency and customers' satisfaction levels. The responses reflected a generally positive impact on operational efficiency and customer loyalty, although the degree of impact varied across the banks.

For Bank Al Habib, the response indicated that green banking practices have positively impacted operational efficiency. One manager stated,

"Since implementing green banking initiatives, we've seen improvements in resource management, particularly in energy consumption and waste reduction. By adopting energy-efficient systems and reducing paper usage, we've saved costs and made our operations more efficient. This has streamlined our internal processes and led to better overall efficiency."

This response demonstrates that the bank has observed tangible improvements in internal operations, such as reduced energy consumption and better resource management, which have led to cost savings. These operational improvements align with global trends where green banking practices contribute to enhancing a bank's efficiency by optimizing resource use.

In terms of customer satisfaction, Bank Al Habib also reported positive feedback from customers. A representative from the bank shared,

"We have noticed an increasing demand for environmentally responsible products. Our customers appreciate that we are offering green loans and sustainable

investment options. They value our sustainability commitment, which has enhanced their loyalty toward the bank. Customer satisfaction has improved as a result of our focus on providing products that align with their values."

This suggests that customers are more likely to engage with the bank when their sustainability values align with the bank's offerings. By providing green financial products, Bank Al Habib has strengthened customer relationships and loyalty.

Similarly, Bank Alfalah shared that green banking had a noticeable positive effect on customer satisfaction. One participant noted,

"The introduction of green bonds and eco-friendly savings accounts has resonated well with our customers. Not only has it improved customer satisfaction, but it has also attracted new customers who are more environmentally conscious. Since introducing these products, we've seen an uptick in account openings and customer engagement."

This response highlights that offering green banking products has enhanced satisfaction and attracted a new customer base, particularly among environmentally aware individuals who prioritize sustainability in their financial choices.

Sindh Bank Limited, which is in the early stages of its green banking journey, reported that it is still in the process of fully assessing the impact on operational efficiency and customer satisfaction. A representative mentioned,

"While we have made initial improvements in energy-saving initiatives and paperless banking, we have not yet fully evaluated the impact on efficiency. However, from a customer satisfaction perspective, we have received positive feedback about our steps, and there is growing interest in green products. It's early days, but we anticipate that as our green initiatives expand, we will see a positive effect on both efficiency and customer satisfaction."

This indicates that although Sindh Bank Limited is in the nascent stages of adopting green banking practices, it is beginning to see positive signs of customer engagement and expects further improvements as its green initiatives mature.

Question 5: What specific green banking products or services has your bank introduced, and how have they been received by customers?

The fifth question sought to explore the specific green banking products and services introduced by the participating banks and how these offerings have been received by their customers. The responses varied across banks, with each institution introducing different types of green banking products to meet the needs of their customer base.

Bank Al Habib said they have introduced green loans and eco-friendly savings accounts as part of their green banking initiatives. One manager stated,

"We've launched green loans specifically designed for projects focused on renewable energy, such as solar panel installations. Additionally, we've introduced an eco-friendly savings account that offers customers higher interest rates if they invest in green projects or sustainable industries. The response has been very positive, particularly from environmentally conscious customers who are keen to contribute to sustainable practices."

This indicates that green loans and sustainable savings products have been well-received, particularly among customers who are already aligned with sustainability goals. The bank's offerings cater to the growing demand for products that provide financial returns and contribute to environmental protection.

Similarly, Bank Alfalah has introduced green bonds and green investment funds, with a focus on financing projects related to clean energy and sustainable infrastructure. A participant from Bank Alfalah mentioned,

"Our green bonds have been well-received, particularly by institutional investors looking to align their portfolios with sustainability goals. We've also seen an increase in customer interest in our green investment funds, targeted at renewable energy and energy-efficient projects. Customers appreciate the transparency of these products and the opportunity to make a positive environmental impact through their investments."

This response shows that green bonds and sustainable investment options have not only attracted existing customers but also helped the bank to expand its client base by appealing to investors with a strong interest in sustainability.

For Sindh Bank Limited, the bank has taken a more gradual approach to introducing green banking products. One manager explained,

"We've started with eco-friendly savings accounts and have begun offering paperless banking services, which have received positive feedback. However, we have not yet launched more advanced green products like green loans or bonds. Customers generally support our initial efforts, and we are introducing more sustainable financial products as we build awareness and capacity in this area."

This indicates that Sindh Bank Limited has started with smaller-scale products, primarily focusing on operational sustainability and customer convenience. While the response has been favorable, the bank is still in the early stages of developing a full range of green banking products.

Across all three banks, it was clear that customers have positively received the introduction of green banking products, such as green loans, eco-friendly savings accounts, and sustainable investment options. For Bank Al Habib and Bank Alfalah, the products have resonated particularly well with environmentally conscious customers, and there has been a notable increase in interest in green financial offerings. While still in the early stages, Sindh Bank Limited has seen positive customer feedback for its initial eco-friendly initiatives, indicating a growing interest in sustainable banking products.

Question 6: How do you see the regulatory environment in Pakistan influencing the adoption of green banking, and what improvements could be made to support its growth?

The sixth question aimed to understand how the regulatory environment in Pakistan has influenced the adoption of green banking practices and what improvements could help promote further growth. The responses highlighted the importance of regulatory support, pointing to areas where enhancements could accelerate the adoption of green banking across the sector.

For Bank Al Habib, the regulatory framework was seen as a positive but incomplete driver of green banking adoption. One manager stated,

"The State Bank of Pakistan's guidelines on green banking have provided a foundation for us to start implementing sustainable practices. However, the guidelines are still voluntary, and we believe that a stronger regulatory mandate would help accelerate the adoption of green banking across the industry. If regulations were more binding, it would push banks to take more significant steps toward sustainability."

This response reflects a common sentiment among banks: The existing regulatory framework is helpful but not sufficient to drive widespread adoption. Bank Al Habib suggests that a more stringent regulatory mandate could help align the sector with global sustainability goals and ensure that banks prioritize green banking practices more seriously.

Bank Alfalah also recognized the role of the regulatory environment but highlighted the need for more incentives for banks. A participant from the bank explained,

"The regulatory guidelines are a good starting point, but there needs to be more support for banks that invest in green projects, such as tax incentives or lower capital requirements for green investments. Banks are more likely to adopt green banking practices if there are financial incentives that offset the initial costs of implementing sustainable initiatives."

This response emphasizes that while regulations help set the framework, additional incentives such as financial benefits or government support could make it easier for banks to invest in green projects and products. Offering these incentives could lower the perceived financial risk of green banking and encourage more banks to integrate sustainability into their operations.

On the other hand, Sindh Bank Limited expressed concerns about the lack of enforcement mechanisms. A representative shared,

"The guidelines set by the State Bank of Pakistan are a step in the right direction, but there is not enough enforcement or monitoring. Many smaller banks or those with limited resources may not prioritize green banking without a clear regulatory push or penalties for non-compliance. Stronger enforcement of these guidelines would encourage more banks to adopt green banking practices seriously."

This response highlights the gap in regulatory enforcement, particularly for smaller banks, where the voluntary nature of the current guidelines may not be sufficient to compel action. The lack of accountability and monitoring makes it difficult for banks to adopt green banking practices uniformly.

Across all three banks, there was a consensus that the regulatory environment in Pakistan has provided a foundational framework for green banking but requires further enhancements. The most common suggestions for improvement included making regulations more binding, offering financial incentives for green investments, and increasing enforcement and monitoring mechanisms to ensure compliance. These improvements could help create a more supportive environment for green banking, encouraging banks to invest more in sustainability initiatives and making green products more widely available to customers.

Question 7: Looking ahead, what do you believe are the key opportunities for your bank in expanding its green banking initiatives, and what steps are being taken to realize them?

The seventh question sought to explore the future opportunities for green banking in Pakistan and the steps being taken by banks to further expand their green banking initiatives. The responses revealed an optimistic outlook for green banking, focusing on product innovation, market expansion, and deeper integration of sustainability into business strategies. Each bank identified specific opportunities and outlined the measures they are taking to capitalize on these opportunities.

Bank Al Habib expressed a strong commitment to expanding its green banking initiatives, with a focus on increasing the availability of green financial products and improving customer engagement. One manager noted,

"There is great potential to expand our green loan portfolio, especially in renewable energy projects such as solar and wind energy. We also see an opportunity to introduce green mortgages, which would allow customers to finance energy-efficient homes. Our next step is strengthening our partnerships with sustainable development organizations and increasing customer awareness about our green products."

This response highlights the bank's focus on expanding its range of green financial products and services, particularly in renewable energy and sustainable housing. By increasing partnerships with sustainable organizations and improving customer education, Bank Al Habib aims to create more value for both customers and the environment.

Bank Alfalah sees a significant opportunity in the growing demand for green bonds and sustainable investment funds. A representative from the bank shared,

"We're focusing on expanding our green bond offerings and increasing our portfolio of sustainable investment funds. With the rising interest in ESG (Environmental, Social, and Governance) investments, we are exploring new ways to align our products with global sustainability trends. We're also planning to introduce green credit cards that offer rewards for environmentally friendly purchases. Our goal is to make green banking accessible and attractive to a wider customer base."

This response underscores Bank Alfalah's focus on tapping into the growing interest in ESG investing and sustainable consumer behaviors. The introduction of green credit cards is an innovative idea to engage environmentally conscious customers, providing a tangible incentive to support sustainable practices.

While still in the early stages of its green banking journey, Sindh Bank Limited identified market expansion and digital banking as key opportunities. One manager from Sindh Bank noted,

"We see a huge opportunity in digital banking, especially for paperless banking services and offering digital solutions for green investments. Our goal is to expand our green products, such as eco-friendly loans, and integrate them with our mobile banking app to make them more accessible to tech-savvy customers. We are also focusing on expanding our market reach by educating customers about the long-term benefits of green banking."

This response indicates Sindh Bank's intention to expand its green banking offerings through digital platforms, making green financial products more accessible to a broader range of customers, particularly younger, more tech-savvy consumers.

Across all three banks, there is a clear recognition of the growing potential for green banking, with a focus on expanding green product offerings, tapping into digital banking opportunities, and increasing customer education and engagement. While Bank Al Habib aims to broaden its portfolio with green loans and mortgages, Bank Alfalah focuses on ESG investments and sustainable consumer products like green credit cards. On the other hand, Sindh Bank Limited plans to integrate green banking with digital solutions, making these services more accessible to a broader customer base.

Discussion

The findings of this study contain important information on the current green banking practice in Pakistan, key drivers, challenges, and prospects of the sector in this part of the world. The study shows that green banking adoption in Pakistan is influenced by regulatory frameworks, consumer demand, and corporate internal commitments to corporate social responsibility (CSR) as key determinants. Response from the managements of Bank Al Habib, Bank Alfalah, and Sindh Bank Limited showed that though green banking is in a nascent stage in Pakistan, there exist huge possibilities for growth and development, especially with increasing emphasis not only by consumers but also by policymakers on environmental sustainability. The findings of this study show that the banks of Pakistan are at different stages of their green banking journey.

Although Bank Al Habib and Bank Alfalah are now expanding green banking products such as green loans and bonds, Sindh Bank Limited has yet to start on the green banking track consciously and is ridden with smaller eco-friendly initiatives such as paperless banking. This is in line with previous studies that banks in Pakistan, as in other developing countries, tend to be green bankers primarily for external reasons, i.e., regulatory and market pressures rather than their own corporate commitments (Shahzad et al., 2021). Although Bank Al Habib and Bank Alfalah have responded to the regulatory guidelines given by the State Bank of Pakistan (SBP) through which a green banking framework is supported (Memon et al., 2020), they have been acting on a voluntary basis. Green loans and sustainable investment products produce a very positive reception in these banks, and this is, in fact, showing the growing interest in environmentally friendly financial solutions. Responses also demonstrate that although frameworks for regulation in Pakistan are helpful, they are not as strong as those to induce wide-scale adoption of green banking. As per Bank Al Habib, stronger regulations would also encourage the commitment to sustainability in the sector. On the contrary, greater regulatory compliance and incentives in developed economies have increased usage of green banking features (Bai & Huo, 2020). Lack of mandatory regulations in Pakistan means banks are not allowed to spend large amounts to develop green products and services.

Sindh Bank Limited has highlighted (Khan et al., 2020) that this gap in regulatory enforcement has not yet fully been embraced in the field of voluntary compliance with green banking guidelines by all institutions. This study outlines the key drivers of green banking, including regulatory requirements, consumer demand, and CSR. SBP's regulatory policies, like the 2017 green banking guidelines, have been key to encouraging banks to take up sustainability as a part of operations. Of course, however, consumer demand has now become a more dominant force, customers looking for environmentally conscious products. The findings align with previous research that student preferences for sustainable products are now changing throughout all industries, including banking (Chandran and Islam, 2019). Creating still used to be about getting customers to spend their money and build loyalty; loyalty was perceived as a zero-sum game – win some, you lose some. The other big player is corporate social responsibility (CSR), which follows all businesses and financial institutions that want to improve their public image and link with the global sustainability rules. In this finding, the research of Hassan (2020) is consistent with the fact that CSR initiatives have become essential in encouraging the adoption of green banking practices. As an example, Bank Al Habib has considered green banking as a tool to elevate the status of its name as a pioneering forward, environmentally responsible institution. It implies that such banks can differentiate in a more competitive market by their CSR in green banking offering, attracting environmentally conscious consumers and investors. However, banks have many challenges in completely implementing green banking practices. Due to lack of technological infrastructure, financial constraints, and lack of customer awareness, barriers like these were brought forth frequently. For example, Sindh Bank Ltd and Bank Alfalah also stated that high costs of upgrading technological systems for green banking products have to be overcome. This finding is consistent with Memon et al., (2020) who posit that in developing economies, the financial institutions have to incur the initial costs of adopting sustainable technologies. However, adoption of green banking technologies may result in long-term cost savings from improvement of operational efficiency and resource management, for example, Bank Al Habib. The foremost challenge is customer awareness especially for Sindh Bank Limited as it is a new entrant to green banking products. Many customers still do not know why and do not sufficiently understand the benefits of green banking, which limits the choice to use sustainable financial products.

The finding corroborates earlier studies that support that consumer education significantly contributes to green banking product adoption (Farhan & Javed, 2020). Now that Sindh Bank Limited is starting to tackle this problem by running awareness drives, other banks should also start investing in customer education that may subsequently encourage the demand for green products. The future of green banking in Pakistan promises a lot of growth in the near future. Bank Al Habib is already contemplating how it can expand eco products, especially in renewable energy projects and eco-housing loans, as is Bank Alfalah. Such a trend aligns with global trends of green financing towards clean energy, sustainable infrastructure, and eco-friendly consumer products (Keenan, 2017, Kumar et al., 2023). Digital banking is an opportunity for Sindh Bank Limited too, where mobile platforms are arranged to bring in green banking products to more customer base. Green products can easily be integrated into every day banking services that are digitally available, making it easier for the consumers to access them. This growth can be supported by regulatory environment, wherein more binding regulations can be applied, incentives given towards green investments, and monitoring and enforcement mechanisms further strengthened. The responses provided by Bank Alfalah and the Sindh Bank Limited, as suggested, would make for an environment that is more supportive of green banking so that the banks would invest more and the environmentally conscious customers would be provided with additional value.

Conclusion

In conclusion, while the adoption of green banking in Pakistan is still in its early stages, there is significant potential for expansion as banks recognize the benefits of sustainability for both operational efficiency and customer satisfaction. Regulatory frameworks, consumer demand, and CSR initiatives have played a crucial role in driving the adoption of green banking practices, although challenges such as financial constraints, technological limitations, and customer awareness remain. Moving forward, regulatory improvements and increased investment in digital banking platforms offer significant opportunities for banks to expand their green banking initiatives and contribute to Pakistan's broader sustainability goals.

Recommendations:

1. Strengthen Regulatory Framework: Implement stricter regulations and mandatory green banking standards to ensure consistent adoption across all financial institutions.
2. Incentivize Green Investments: Provide financial incentives such as tax breaks or reduced capital requirements for banks investing in green projects.
3. Promote Customer Education: Launch awareness campaigns to educate customers on the benefits and availability of green banking products.
4. Increase Technological Support: Encourage banks to invest in digital platforms and infrastructure to facilitate the delivery of green financial products.
5. Foster Public-Private Partnerships: Establish collaborations between the government, banks, and sustainable development organizations to enhance the impact of green banking.

Future Research Directions:

1. Impact of Emerging Technologies: Explore how emerging technologies like AI and blockchain can further enhance green banking practices.
2. Comparative Study with Developed Markets: Conduct research comparing green banking practices in Pakistan with more established markets to identify effective strategies.
3. Customer Behavior and Green Banking: Investigate the factors influencing consumer adoption of green banking products and services in Pakistan.
4. Regulatory Impact on Green Banking: Study the long-term impact of regulatory changes on the growth and adoption of green banking in Pakistan.

5. Financial Performance of Green Banking: Assess the financial performance and profitability of banks investing heavily in green banking initiatives.

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