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THE ROLE OF GREEN BANKING IN THE DEVELOPMENT OF SUSTAINABLE FINANCE

This paper explores the critical role of green banking in advancing sustainable finance, a concept increasingly vital for supporting economic activities with positive environmental and social impacts by integrating environmental, social, and governance (ESG) criteria into financial decision-making. Green banking, which directs financial activities towards environmentally sustainable projects and promotes eco-friendly practices, represents a transformative process within the financial sector. The aim of this research is to determine green banking's contribution to sustainable finance, examining potential conflicts of interest and the sufficiency of green banking strategies alone to achieve sustainable finance outcomes.

The findings reveal that green banking serves as a central mechanism within the broader sustainable finance framework, translating sustainability goals into actionable financial strategies through internal 'greening' operations and specialized products like green loans. The integration of FinTech significantly amplifies these benefits by reducing costs, enhancing

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РОЛЬ ЗЕЛЕНОГО БАНКІНГУ У РОЗВИТКУ СТАЛОГО ФІНАНСУВАННЯ

Досліджено критичну роль "зеленого" банківського обслуговування в просуванні сталого фінансування, концепції, яка стає все більш важливою для підтримки економічної діяльності з позитивним екологічним і соціальним впливом шляхом інтеграції екологічних, соціальних та управлінських критеріїв (ESG) у процес прийняття фінансових рішень. Екологічний банкінг, який спрямовує фінансову діяльність на екологічно стійкі проєкти та сприяє екологічно чистим практикам, є трансформаційним процесом у фінансовому секторі. Мета дослідження полягає в тому, щоб визначити внесок зеленого банкінгу в стале фінансування, вивчивши потенційні конфлікти інтересів і достатність одних тільки стратегій зеленого банкінгу для досягнення результатів сталого фінансування.

Отримані результати показують, що "зелений" банкінг служить центральним механізмом у ширшій структурі сталого фінансування, перетворюючи цілі сталого розвитку в дієві фінансові стратегії за допомогою внутрішніх операцій "озеленення" та спеціалізованих продуктів, таких як "зелені" кредити. Інтеграція FinTech значно посилює ці переваги *bank reputation, and mitigating risks in green lending through advanced data analytics and transparency. While typically aligned, the study highlights potential conflicts between short-term profitability and long-term sustainability, and the broader scope of sustainable finance which also encompasses social dimensions and systemic transformation beyond green banking's more concrete objectives. Despite challenges like low awareness and greenwashing risks, green banking offers substantial opportunities for competitive advantage, risk management, and market differentiation, reinforcing its strategic significance in fostering a resilient and sustainable financial future. Achieving these long-term goals requires international coordination and transparent reporting.*

Keywords: green banking, sustainable finance.

шляхом скорочення витрат, підвищення репутації банку та пом'якшення ризиків у зеленому кредитуванні завдяки розширеній аналітиці даних і прозорості. Хоча зазвичай ці цілі узгоджені, дослідження підкреслює потенційні конфлікти між короткостроковою прибутковістю та довгостроковою стійкістю, а також ширший спектр сталого фінансування, який також охоплює соціальні аспекти та системні перетворення, виходячи за межі більш конкретних цілей зеленого банкінгу. Незважаючи на такі виклики, як низька обізнаність і ризики "зелених" операцій, "зелений" банкінг пропонує значні можливості для отримання конкурентної переваги, управління ризиками та диференціації ринку, що підсилює його стратегічне значення у створенні стійкого та сталого фінансового майбутнього. Досягнення цих довгострокових цілей вимагає міжнародної координації та прозорої звітності.

Ключові слова: зелений банкінг, стале фінансування.

JEL Classification: G21, G28, Q56.

Introduction

The concept of sustainable finance is gaining increasing importance as a mechanism for supporting economic activities that have a positive impact on the environment and society. Sustainable finance entails the integration of environmental, social, and governance (ESG) criteria into financial decision-making. This paradigm of financial management not only aims at generating profit but also emphasises responsibility towards the environment, society, and future generations. In the contemporary business environment, companies are increasingly recognising the importance of integrating sustainable practices into their operations, not only due to regulatory requirements but also in response to the growing consumer demand for sustainable products and services.

Financial institutions, such as banks, investment funds, and insurance companies, also play a key role in promoting sustainable finance. By directing capital towards projects with positive social and environmental impacts, these institutions contribute to the creation of a sustainable economy. Investors are increasingly recognising the importance of considering sustainability factors when making investment decisions, as a growing body of studies demonstrates that sustainable investments can generate competitive returns.

In parallel with these tendencies, the development of green banking represents a revolution in the financial sector, enabling greater sustainability, innovation, and improved access to environmentally friendly financial services. Green banking refers to the practice of directing banking activities towards financing environmentally sustainable projects and companies, thereby contributing to environmental protection and sustainable development. The core idea of green banking is to provide support to third parties, such as start-ups and organisations focused on sustainability, through creative financial products and services. In this way, the development of innovative solutions is encouraged, facilitating access to ecological options, better resource management, and increased competition in the sustainable finance market. This approach has the potential to radically transform the way clients manage their finances in the context of sustainability, as well as to foster innovation in the field of green bonds, sustainable lending, and investments in renewable energy sources. Green banking not only enables clients to engage in sustainable practices but also enhances transparency regarding the environmental impact of their financial decisions. Furthermore, it can improve the reputation of banks by attracting environmentally conscious clients and strengthening trust in the financial system. Through green initiatives, banks can enhance their competitive advantage while simultaneously contributing to the global goals of sustainable development.

The subject of this paper is the relationship between sustainable finance as an overarching trend and green banking as a transformative process specific to a particular domain. The aim of the paper is to determine the contribution of green banking to the development of sustainable finance. The paper seeks to examine whether there are conflicting interests between these two concepts and whether the strategies of green banking are sufficient on their own to achieve the outcomes promoted by sustainable finance.

The first part of the paper will explain the concept of sustainable finance. The second part will define the legal frameworks of green banking and its principles of operation. The third part will provide a comparative overview of the position of green banking and sustainable finance in terms of the strategies they pursue, the products they employ, and the interests they advocate.

1. The concept and role of sustainable finance

The last three decades have been marked by two trends that at first glance appear unrelated, yet in recent years have increasingly converged, posing additional challenges for companies across all sectors. On the one hand, digital transformation has become a key component of business operations. As the number of people accessing the internet through mobile devices grows, so does the amount of information available to the wider public (Feng & Zhang, 2022). This has been facilitated not only by the accessibility of devices but also by the rapid diffusion of new technologies such as artificial intelligence, machine learning, the Internet of Things, big data processing, blockchain, and 5G networks. On the other hand, the 2030 Agenda for Sustainable Development encompasses 17 Sustainable Development Goals (SDGs) and represents a global call to action to eradicate poverty, protect the planet, and improve the lives and opportunities of people worldwide (Broccardo et al., 2023).

Research on environmental, social, and governance (ESG) issues has become a priority for companies. The importance of sustainable development is recognised in both the literature and the public sphere, yet relatively few studies are devoted to examining the development and impact of ESG factors in specific industries. When discussing ESG risk management, the focus has largely been on companies in the manufacturing and mining sectors, as the sustainability trend originated in these areas. However, in the contemporary economy, the trend encompasses not only green companies but also those with strong corporate governance and social responsibility. Public companies in other sectors, which are less exposed to environmental impacts, are also beginning to pay more attention to ESG factors. Companies in the information technology (IT) sector serve as examples of enterprises implementing ESG principles. Although the IT sector has been among the slower adopters of ESG practices, this gap presents an opportunity for IT companies to increase their market value and attract investment by enhancing their ESG components and addressing shortcomings in the field of sustainability (Egorova et al., 2022).

Recommendations regarding sustainability in finance first appeared in the 1972 Stockholm Declaration and the Brundtland Report (The World Commission on Environment and Development, 1987). These recommenddations included suggestions for financial institutions, such as the World Bank, to incorporate environmental and social risks into their design and investment processes. The integration of non-financial factors, including ESG criteria, is currently driving the transformation of the traditional financial system into a sustainable one (Sun et al., 2015). Sustainable finance encompasses climate, green, and social finance, while also taking a broader view of the long-term economic sustainability of the organisations being financed, as well as the role and stability of the entire financial system in which they operate. A financial system is considered sustainable if it takes into account the needs and demands of the economy, society, and the environment while performing its core functions, such as providing savings opportunities and allocating capital (Ziolo et al., 2021).

Some researchers argue that economic resources drive ESG performance, while financial constraints influence companies' capital investments and profitability. The growing demand for firms with strong ESG ratings has led to significant changes within the financial industry. Over the past few decades, investing in socially responsible companies has become a major trend in the investment fund sector and one of the key topics in financial research worldwide. Socially responsible investing (SRI) is broadly defined as an investment process that involves identifying companies with strong corporate social responsibility (CSR), with this indicator assessed based on ESG metrics (Renneboog et al., 2008).

Green financing policies can increase financial constraints for polluting companies, thereby influencing their behaviour. Directing financial institutions and businesses towards greater responsibility can serve as an effective means of maximising resource allocation efficiency and promoting green development.

2. Principles and implementation of green banking

Green banking represents a significant concept that seamlessly integrates environmental factors into the core of banking management and operational frameworks (Kartika et al., 2023). It is not an isolated activity but is fundamentally designed to promote environmentally friendly practices and actively reduce the carbon footprint arising from all banking operations. Although the banking sector may be perceived as non-polluting due to its service-oriented nature, this perception overlooks the profound direct and indirect impact that banks have on the global ecological carbon footprint. As primary providers of financial resources for various types of enterprises, governments, and individuals, banks occupy a powerful position to shape environmental outcomes. Consequently, green banking is recognized as an indispensable strategy for mitigating negative environmental effects, directly aligning with global imperatives such as Sustainable Development Goal 13 on climate action. This pivotal role also extends to promoting projects that actively support climate initiatives and significantly contribute to achieving the UN’s sustainability goals.

The emergence and development of green banking can be traced back to 2003, when its initial focus was primarily on environmental preservation. The term is often used interchangeably with sustainable or ethical banking. It is also frequently identified as an evolution or extension of digital banking, although it significantly exceeds the scope of mere digital operations by integrating sustainability aspects to avoid harmful environmental impacts. Green banking, therefore, is not exclusively limited to digital transactions; rather, it actively supports and finances sustainable economic ventures and operations that inherently reduce negative environmental consequences. The ultimate goal of green banking is to contribute to the achievement of sustainable development (Meena, 2013).

Essentially, green banking operates on several key principles that guide its implementation. One of the fundamental principles involves the "greening" of internal operations, whereby banks proactively adopt practices aimed at reducing their institutional environmental impact (Munitlak-Ivanović et al., 2017). This is particularly evident in the widespread use of digital banking, which is considered the most prevalent activity in green banking. Digital banking encompasses a range of practices, including paperless transactions, the expansion of online and mobile banking services, the use of artificial intelligence and blockchain applications for tracking green financing, digital reporting, e-statements, and the strategic placement of ATMs. These efforts result in significant energy and natural resource savings, reduced paper consumption, and less need for clients to travel to branches, all of which have a positive environmental impact. In addition to digital initiatives, banks also invest in green infrastructure, which includes projects such as solar-powered ATMs, smart lighting, energy-efficient buildings, and the installation of electric vehicle (EV) chargers within bank premises. The primary aim of these internal efforts is the rational and optimal use of resources and energy, with the overarching goal of minimizing the carbon footprint.

Another important principle is environmentally responsible financing, often referred to as green lending. This principle challenges banks to design and implement environmentally oriented policies, such as those aimed at reducing carbon dioxide emissions and facilitating green transitions across various industries. It mandates the promotion and financing of exclusively environmentally friendly investments, thereby actively supporting sustainable economic activities. Under this principle, a diverse range of specific green financial products and services has emerged:

Green loans and Sukuk products are key instruments for financing renewable energy projects, facilitating the purchase of electric vehicles, providing green mortgages for energy-efficient homes, and allocating subsidized loans for various investments and projects related to the green transition. This also includes offering financial incentives for environmentally friendly residential renovations. Notably, Islamic banks in regions with predominantly Islamic business practices actively offer green Sukuk products as a popular instrument for environmental initiatives, reflecting how Sharia law often integrates principles of sustainability (Faizi et al., 2024).

Green services offered by banks include personal ESG calculators that customers can use to assess the carbon emissions of their projects, savings accounts linked to green investments, rewards or cashback for adopting sustainable lifestyles, and portfolios for sustainability-focused investments. Banks also play a role in facilitating and supporting transactions in carbon credit trading.

A critical aspect of green lending involves the establishment of environmental standards for credit issuance, whereby banks are expected to rigorously assess the environmental impact of their borrowers' business activities. This often entails avoiding the financing of companies with a high potential to harm the environment, society, or governance, frequently requiring an Environmental Impact Assessment (EIA) before approving credit facilities.

In addition to digital transformation and lending policies, banks directly implement the principles of green banking by investing in environmentally friendly infrastructure and promoting the rational and responsible use of resources within their facilities. This includes initiatives such as installing solar-powered ATMs, implementing smart lighting systems, constructing or renovating energy-efficient buildings, and providing electric vehicle (EV) chargers on-site. Some banks even engage in green energy production, as exemplified by the wind power project of the State Bank of India. Other internal practices include using recycled materials for furniture, carpets, insulation, and ceramic flooring, as well as selecting low-emission paints and cleaning products. Banks also actively seek to reduce paper consumption by purchasing recycled paper products with high post-consumer waste content and using vegetable-based inks for printing monthly statements, brochures, and invoices. These efforts reflect a direct commitment to conserving energy and natural resources, thereby reducing their operational carbon footprint.

Moreover, green banking represents a broader commitment to social and environmental responsibility. This means that banks have obligations that extend beyond mere financial accountability, encompassing the active preservation of the environment and the promotion of social welfare. This responsibility includes contributing to the sustainability of the ecological system through the wide range of financial products and services they offer.

From a strategic perspective, the adoption of green banking practices serves as a driver for creating strategic and competitive advantage. This approach enables banks to strengthen their long-term competitiveness, effectively mitigate transitional risks, and attract an increasing number of ESG-focused investors. It also allows them to successfully exploit new market niches for green products and services while simultaneously enhancing their capacity to manage long-term climate-related risks. Evidence suggests that authentic green banking can be a significant source of competitive advantage, increasing the market capitalization of banks with higher green lending ratings.

Transparency and robust reporting mechanisms are also integral components of green banking. Sustainability reports are considered key tools for disclosing a company's accountability to its stakeholders, a practice that can significantly enhance corporate value and foster investor trust. The completeness and consistency of these reporting periods are essential for enabling informed decision-making among stakeholders.

The momentum of green banking in enhancing banking performance and its contribution to sustainable finance is significantly amplified through the strategic integration of FinTech tools and activities. FinTech, encompassing technologies such as artificial intelligence, blockchain, cloud computing, big data analytics, and mobile internet, is transforming banking operations, risk management, and customer relationships. The synergy between FinTech and green lending is recognized as a key factor in improving banking performance (Li & Chen, 2024).

One of the primary mechanisms through which FinTech enhances the benefits of green lending is cost reduction. The implementation of green loans involves various internal costs (employee training, risk assessment, research and development of green products) and external costs (third-party evaluations, legal consultations). FinTech streamlines complex approval processes, utilizes big data for real-time risk assessment, and automates lending procedures, thereby reducing labour costs and accelerating decision-making. Cloud computing and blockchain further lower system maintenance costs while enhancing data security. Advanced data collection and analytics tools reduce reliance on expensive third-party evaluations, while RegTech automates compliance, decreasing legal costs and penalties for non-compliance. These efficiencies improve the operational effectiveness of green lending, thereby enhancing the overall financial performance of banks.

Second, FinTech significantly contributes to enhancing the reputation of banks engaged in green lending. Green lending activities inherently build a positive brand image, attracting environmentally conscious customers and increasing deposits, loans, and other services, which directly boosts revenue. FinTech amplifies this effect through advanced tools such as targeted advertising and intelligent marketing via digital platforms and social media, thereby increasing public visibility. Blockchain technology plays a key role by ensuring transparency in green financial activities, strengthening customer trust. Additionally, FinTech enables the development of innovative and personalized green financial products, such as blockchain-based green bonds or smart contract-backed investments, which cater to diverse customer needs and expand market reach.

Third, FinTech is crucial for mitigating risks in green lending operations. Green loans are associated with pre-approval risks (information asymmetry, greenwashing, inaccurate project assessments) and post-approval risks (technological, market, environmental, and regulatory changes). By leveraging big data and artificial intelligence, FinTech improves the accuracy of pre-approval risk assessments through the integration of diverse data sources, helping banks avoid high-risk investments and reduce non-performing loans. It also aids in fraud detection and regulatory compliance, addressing issues of information asymmetry and greenwashing. For post-approval risks, FinTech enables continuous monitoring and early warning systems, tracking real-time data on project operations, market demand, and cash flows. This allows for the rapid identification and response to potential issues, minimizing losses and accelerating risk resolution. Through this integration, FinTech strengthens risk management frameworks, enhancing the positive impact of green lending on banking performance.

It should be emphasized that regulatory support plays an indispensable role in promoting the growth and effectiveness of green banking. Central banks and governmental institutions are key in influencing the sustainability of banking operations by establishing appropriate policies and standards. For example, in Indonesia, regulation POJK 51/POJK.03/2017 explicitly requires the financial services sector to implement sustainable finance principles (Khamila & Nor, 2022). These policies are designed to prevent the financing of companies that pose a threat to the environment, society, and sustainability. Despite these regulatory incentives, consumer awareness remains a challenge in many regions, necessitating joint efforts by banks to educate clients about the importance and benefits of green banking.

3. The place of green banking within the concept of sustainable finance

It is clear that sustainable finance represents a broader and more comprehensive concept. Green banking occupies a central position within the wider framework of sustainable finance, serving as a primary mechanism through which the financial sector actively contributes to global sustainability goals. It represents a direct and pivotal strategy for implementing the principles of sustainable development and the green economy through the creation of viable banking practices and financial products. The overarching goal of sustainable development is to establish a harmonious relationship between economic growth, the exploitation of natural resources, and quality of life, recognizing that economic well-being and environmental protection are deeply interconnected. Green banking has emerged as the financial manifestation of this concept, focusing on financial activities and instruments designed to ensure a positive environmental impact while simultaneously integrating environmental preservation with economic benefits. Within this evolutionary framework, green banking directly bridges the gap between these lofty sustainability goals and the day-to-day operations and offerings of financial institutions.

In sustainable finance, the environmental aspect represents only one side of the coin. The long-term objective is not to invest in projects that meet certain environmental criteria at the expense of economic viability, but rather to create conditions where what is environmentally desirable is also economically justified. It is important to remember that, alongside the environmental component, sustainable finance also takes the social dimension into account, thereby incorporating an additional variable into the decision-making process. In most cases, sustainable finance and green banking operate in the same direction, sharing the common goal of supporting sustainable development. However, in practice, differences in priorities and approaches may occasionally arise.

For example, a bank may implement green practices within its own operations (such as paper reduction and energy-efficient buildings) while simultaneously approving loans to large corporations that do not fully adhere to ESG principles. In this case, the bank only partially applies its green banking strategy, primarily in terms of internal processes. The underlying cause is the conflict between short-term profitability goals and long-term sustainability objectives. For instance, investing in renewable energy projects may be less profitable in the short term but is highly significant from the perspective of sustainable finance. As commercial institutions, banks may be less willing to forgo short-term profits in favour of long-term environmental or social benefits, highlighting potential tensions between these two concepts (Andaiyani et al., 2023).

On the other hand, sustainable finance as a broader framework requires the consistent application of ESG criteria, which may entail refusing to finance companies that have a negative impact on society. The situation is further complicated by the fact that even companies with satisfactory environmental practices can have adverse social effects. For example, textile industry firms may implement appropriate environmental technologies and procedures, yet base their production on exploitative labour practices in countries with weak or no worker protections. In such cases, even full implementation of a green banking strategy does not guarantee a positive outcome in terms of ESG compliance (Hermawan & Khoirunisa, 2024).

In terms of implementation, green banking is often easier to execute in practice, as it focuses on more concrete and measurable objectives. For example, a bank can relatively easily adopt electronic banking to reduce paper usage, finance energy efficiency projects, or develop specialised green loans. These activities are clearly defined, technically feasible, and often supported by regulatory or fiscal incentives (such as subsidies for green projects). In contrast, sustainable finance requires a comprehensive transformation of the financial sector, including changes in investor mindsets, the development of analytical tools to assess ESG risks, non-financial reporting, and alignment with international standards (e.g., the EU Taxonomy for sustainable activities). This complexity makes sustainable finance more challenging to implement, although it offers a greater potential for systemic change.

As a broader concept, sustainable finance encompasses a wider range of instruments and services that go beyond those found in green banking. One such instrument is green bonds, the issuance of which enables governments, municipalities, corporations, or financial institutions to raise capital specifically for environmentally sustainable projects, such as renewable energy production, energy efficiency improvements, and green buildings. These bonds often undergo third-party certification to ensure transparency and credibility. For example, Thailand has implemented "Green Bond Policy Guidelines" and tax incentives for their issuance, with the Securities and Exchange Commission (SEC) providing guidance and requiring periodic reporting on fund allocation and environmental impact (Sharma et al., 2024).

Sustainable investment funds represent a significant trend in the modern financial world, combining economic returns with ethical and environmental principles. They invest in projects and companies that meet strict ESG criteria, making them attractive not only to traditional investors but also to those seeking to align their financial decisions with their values. One of the key advantages of sustainable investment funds is their ability to generate positive social and environmental impact while simultaneously achieving competitive financial returns. Research has shown that companies adhering to ESG standards often demonstrate better financial performance. These companies tend to be more resilient to risks, including regulatory changes or reputational crises, which can lead to more stable investments.

The growing demand for sustainable investments, particularly among younger generations and institutional investors, further drives the development of this market. These investors often seek opportunities to support social goals such as reducing carbon emissions, improving workers' rights, and combating inequality. Sustainable investment funds allow them to achieve these objectives without sacrificing financial returns. Regulatory support also plays a crucial role in the development of sustainable investments. Many governments and international organisations promote sustainable practices through laws, guidelines, and initiatives, further encouraging the growth of this sector. This support not only facilitates investment in sustainable projects but also creates a safer and more secure environment for investors.

Despite its integral role, the implementation of green banking within sustainable finance is not without challenges and presents numerous opportunities. Key challenges include a lack of awareness and understanding among stakeholders, as many customers remain unfamiliar with various environmentally friendly banking products (Ahuja, 2015). The complexity of integrating ESG criteria into existing financial systems can be daunting, requiring substantial adjustments in risk management, investment strategies, and product development. Banks may also face short-term financial pressures, as green initiatives often require high upfront investments and longer payback periods, making it difficult to balance ESG considerations with immediate profitability goals. Regulatory uncertainty and inconsistent standards across regions further complicate implementation, hindering long-term planning and investment in sustainable initiatives. The risk of so-called greenwashing, where financial institutions make misleading claims about their environmental benefits without substantive changes, is also a concern due to the lack of clear criteria and transparency (Taru, 2022). Investments made without explicit guidelines can lead to inefficiencies and resource misallocation, potentially causing environmental harm. Green banking initiatives may also have limited scope, often focusing on project financing rather than addressing the underlying causes of environmental degradation, such as agricultural expansion or deforestation. Additionally, insufficient legal or political enforcement may allow banks to continue financing unsustainable practices. Finally, the aforementioned conflicts of interest between profit maximisation and environmental preservation can pose a significant barrier.

However, green banking also offers significant opportunities, such as creating strategic competitive advantages and leveraging the growing market niche for green products and services (Muchiri et al., 2025). It enables enhanced risk management by integrating ESG factors into decision-making processes, improving a bank's capacity to address long-term risks, such as climate change. There are substantial opportunities for innovation and product differentiation through the development of ESG-conscious products, such as green bonds, sustainable investment funds, and ESG-linked loans, which attract both consumers and investors. Implementing sustainable practices can lead to cost reductions and increased efficiency over the long term, for instance, through investments in energy-efficient technologies and sustainable supply chain management. Adoption of sustainable banking can open doors to new markets and customer segments, given the rising demand for sustainable finance solutions from institutional investors, millennials, and socially responsible consumers. Finally, a commitment to sustainability can significantly enhance corporate reputation and stakeholder engagement, fostering trust and loyalty among customers, employees, regulators, and investors through community involvement and transparent reporting on ESG performance. These opportunities underscore the inherent value of green banking, reinforcing its long-term sustainability and strategic significance within the broader concept of sustainable finance.

Conclusions

Green banking is undoubtedly at the core of sustainable finance, representing its fundamental driving force. It translates the goals of sustainable development and the green economy into financial strategies and operational actions. Through comprehensive "greening" of internal operations – driven by digital innovation, resource efficiency, and the deliberate reorientation of financial activities toward environmentally responsible investments – banks directly contribute to mitigating ecological damage and promoting sustainable development. The synergistic integration of FinTech further amplifies these benefits by reducing costs, enhancing reputation, and mitigating risks in green lending operations. Despite existing challenges, such as lack of awareness, complexity, and regulatory uncertainty, the strategic opportunities offered by green banking – including market differentiation, improved risk management, and enhanced reputation – reinforce its position as a transformative force that continuously drives the financial sector toward a more resilient, equitable, and sustainable future.

Achieving the Sustainable Development Goals should be understood as a long-term process rather than a clearly measurable outcome. One challenge is that the concept of sustainability currently implies certain approaches and actions, which may change significantly over the next decade or two as global human and environmental conditions evolve. In this context, neither green banking nor sustainable finance can be seen as predetermined goals that will be fully achieved within a few years. They function as supportive mechanisms, whose strategies will need to be redefined periodically, with increasingly concrete outcomes required over time. Nevertheless, achieving the objectives of both green banking and sustainable finance will primarily require international coordination, accompanied by clear requirements for transparent reporting. The growing challenge of sustainability will undoubtedly make global cooperation on this issue an imperative in the coming years.

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