



of seas and islands; clearly define the contents of coordination between relevant agencies in integrated resource management and environmental protection of seas and islands.

Fifthly, improve the quality of civil servants and public employees: Strengthen the organization of training courses on expertise and integrated marine management as well as marine environmental management to improve the capacity of civil servants to perform their duties; promote public service ethics and increase the responsibility of civil servants and public employees in performing marine environmental management tasks. At the same time, it is necessary to ensure enough civil servants to carry out marine environmental management tasks based on determining specific job positions, especially in coastal localities.

Sixthly, increase investment and effective use of facilities, equipment, and public finance for marine environmental management: Invest in improving the capacity to monitor, supervise, and forecast marine resources and environment; establish a comprehensive and synchronous information system and database on marine and island resources and environment. At the same time, promote proactiveness in finding, establishing, and promoting international cooperation on the marine environment; proactively seek foreign funding sources using new financial mechanisms such as ODA loans, concessional loans, public-private partnerships, foreign investment... Develop programs and projects with medium to large scope and scale having an impact on policy, which solves many multi-sectoral, cross-field, inter-regional, and cross-border issues. In addition, it is necessary to focus on scientific research and technology applications, promoting innovation in marine environmental management.

Seventhly, raise awareness about the marine environment: Diversify the contents, methods, and forms of legal propaganda and education, raise awareness about the sea, sustainable exploitation and use of resources, and marine and island environment protection. Deploy synchronously and effectively all forms of propaganda and education on maritime legislation, sustainable exploitation and use of resources, and marine and island environment protection.

Eighthly, improve the quality of investigation, inspection, and supervision of the implementation of policies and legislations on marine environmental management: Strengthen control of marine environmental pollution; improve the effectiveness of coordination in pollution control, prevention and response to marine environmental incidents, climate change and sea level rise. Promote the activities of elected agencies, socio-political organizations and socio-professional organizations in supervising and inspecting the implementation of policies and legislations on marine environmental management ■

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In the context that climate change is becoming a major challenge for every country in the world, with a threat to the lives of ten million people and the property of many countries worth many trillion USD. Many policies aimed at combating climate change and restoring nature are receiving attention and priority in all policies of countries. Green growth and sustainable development are the trends and directions of many economies around the world to effectively respond to the negative impacts of climate change, especially for developing countries like Vietnam. To successfully implement the national strategy on green growth towards sustainable development, therefore, it is necessary to mobilize resources from the entire society, in which the banking system plays a key role. The Fourth Industrial Revolution (Industry 4.0), with digital technology and digital transformation, will promote this role.

1. Industry 4.0 with digital transformation in the banking system

In the history of development, the global industry has gone through three industrial revolutions and today is in the process of Industry 4.0. In previous industrial revolutions, mechanical power, oil, and electricity were the materials for economic development driving force, then in the 4.0 era, data became a new resource. In the 4.0 era, IoT and Blockchain technologies are acting as data "drilling rigs", poured into the reservoir of Big Data, refined by AI based on the cloud computing platform, and have become useful information before transferring to automation



Promoting the role of digital transformation in the banking system for green growth and sustainable development

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applications (Automation/IoT). Industry 4.0 has been having profound impacts on the economy in general and the financial market, especially the banking sector. From there, the concept of “digital transformation” or “digital banking” in the banking sector, was formed.

Digital banking is a banking model that operates based on technological processes to provide all services to customers through digital devices connected to the Internet, mobile telecommunications networks, or self-service branches. In fact, recently there have been views on the nature of digital banking and electronic banking services, however, these are two different concepts. Electronic banking includes Internet Banking, SMS Banking, and Mobile Banking services, which are service delivery channels for customers based on the bank’s existing business processes; Digital banking are banks that operate based on the digitization of banking activities: From digitizing traditional distribution channels and developing modern distribution channels to automating business processes, applying big data analysis serving the decision-making process and creating digital products, applying innovative products. Thus, digital banking is more comprehensive, and modern than electronic banking.

2. The role of banks in green growth, toward sustainable development

Along with economic development, natural disasters and epidemics are becoming increasingly serious (such as climate change and the recent Covid-19 pandemic). That is an inevitable consequence of the process of pursuing the goal of economic development at all costs, which has left imbalances and, moreover, the destruction of the natural environment, causing extremely serious global climate change that humans are suffering from. To sustainably develop the economy, many countries around the world, including Vietnam, have chosen to develop a green economy. This policy has been clearly expressed in the National Strategy on Green Growth; National Action Plan on Green Growth for the period of 2021 - 2030 and other documents.

In the context of increasingly depleted resources and serious environmental deterioration, the change to “green” production and consumption trends is not only an inevitable rule but also represents the progress of society and the Government’s determination to promote the green economic growth model, moving towards sustainable development. Green growth is an important content of sustainable development. The pillars of green growth include; (1) Modern science and technology; (2) The use

of environmentally friendly renewable energy; (3) The consumption of goods, products, and services that cause the least damage to the environment. In that context, the banking sector also had a shift in its development strategy, and the category of “green banking” appeared.

In a broad concept, “green banking is sustainable banking” (Imeson M., and Sim A., 2010), research shows that, for a bank to develop sustainably, investment decisions need to look at the big picture and act in a way that benefits consumers, the economy, society, and the environment. In a narrow concept, “green banking” refers to the bank’s professional activities that encourage environmental activities and reduce carbon emissions, such as: Encouraging customers to use green products and services; Applying environmental standards when approving loans, or granting concessional credit for CO₂ reduction, renewable energy projects... (UN ESCAP, 2012). Thus, a bank is called “green” when it provides services associated with environmental commitments or invests in lending for clean, green production. Therefore, banks play a key role in “greening” investment capital flows; actively contribute to promoting the process of green economic development and transition, to orient sustainable development. And digital transformation promotes this role of banks.

3. Digital transformation promoting the role of the banking system in green growth, toward sustainable development

Vietnam is one of the countries most vulnerable to climate change, in recent times, Vietnam has always proactively and actively implemented many activities to both respond to climate change and towards green and sustainable development. In this context, at the 26th UN Climate Change Conference of the Parties (COP26), the Prime Minister of Vietnam made strong commitments from Viet Nam as determined to bring net emissions to “zero” by 2050 which has been highly appreciated by the interna-

tional community, thereby opening up many opportunities for cooperation on low-emission growth, promoting circular economy development, adapting to climate change, creating favourable momentum for Vietnam to develop quickly and sustainably. To realize the above goal, immediately after the COP26 with the drastic direction of the Prime Minister, the National Steering Committee for implementing Vietnam's commitments at COP26 was established with the participation of many Ministries and sectors, including the State Bank of Vietnam along with specific programs, tasks and goals and affirmed Viet Nam's determination to the international community.

According to World Bank estimates in the Vietnam Country Climate and Development Report (CCDR), to implement the green growth, climate change adaptation, and net zero emissions roadmap, it is expected that Vietnam will need to mobilize additional financial resources of about 6.8% of annual GDP, equivalent to about 368 billion USD from now to 2040, of which about 50% needs to be mobilized from the private sector. The banking sector has developed and issued the "Green Banking Development Project" in Vietnam, closely following the Government's policy on "National Action Plan on Green Growth for the period of 2021 - 2030, vision to 2050". As a financial intermediary, the banking sector needs to participate more deeply in the process of economic transformation towards green growth, sustainable development, and digital transformation to help promote this role.

When banks apply digital technology transaction space Digital Lab, will help customers enjoy, experience, and feel self-service banking through the application of modern technology and equipment; Mobile Banking, Internet Banking services with a modern, friendly, easy-to-use interface design. Updated May 2022, non-cash payment transactions increased by 69.7% in quantity, and 27.5% in value, and Internet transactions also increased by 48.39% in quantity and 32.76% in value, payments via mobile phone channels increased by 97.65% and 86.68% respectively; payment via QR Code has also increased by 56.52% and 111.62% respectively over the same period in 2021, the total number of activated e-wallets increased by 10.37% compared to the end of 2021. This result shows that banks have successfully applied the achievements of Industry 4.0.



▲ *Digital transformation helps banks reduce direct transactions, contributing to protect natural resources and the environment*

But even more meaningfully, in terms of environmental protection, applying digital transformation helps banks save a lot of paper and ink, contributing to reducing CO₂ emissions and protecting the environment - towards green growth and sustainable development.

Digital transformation helps banks reduce direct transactions, moving towards "no customers at the transaction office", contributing to protect natural resources and the environment, towards sustainable development. If green credit activities are just the beginning, green internal activities have been focused on developing by banks in recent times. Therefore, digital transformation helps banks reduce carbon emissions in banking by performing online activities, using ATM systems, mobile banking, cards, and exchanging via email... In addition, when banks apply digital transformation, customers do not need to travel to transaction offices, contributing to minimizing the use of gasoline and oil that depleting resources. Besides, limiting traffic will also reduce CO₂ emissions into the environment, helping to keep the environment clean. Therefore, digital transformation helped banks fulfil their role in promoting green and sustainable development.

On the basis of Industry 4.0, along with taking advantage of scale and sharing economies, the deployment of high-tech digital technology applications related to Internet connection, cloud computing, sensor tech-



nology, virtual reality... will help reduce transaction, transportation, and management costs, contributing to financial savings for Vietnamese banks and improving profits, ensuring high availability for the system in meeting customers' needs for using electronic banking services...

The role of digital transformation in banking for green economic development and sustainable development is important. However, there are currently a number of issues that need to be resolved for this role to be more effective, such as the national database systems are not complete on economic and financial information, standardization of the format and content of collected information; the mechanism for collecting, linking, and sharing information effectively between entities participating in the financial market in general and the green financial market, in particular, has not yet been completed...

4. Solutions for digital transformation to promote the role of the banking system in green growth, toward sustainable development

Firstly, the Government and relevant Ministries, agencies, and sectors need to build a database system as well as mechanisms and methods to access and share information effectively, transparently, and publicly among management agencies from central to local levels and to market participants.

Information is an important input factor in developing digital transformation of the banking system to promote green economy and sustainable development. Information about businesses or projects that need to mobilize green financial capital will help banks more easily make decisions to finance those projects. From the perspective of control and management of lenders, investors, or state management agencies throughout the investment, funding, and use of green financial resources, information about businesses and projects also plays a particularly key role. Therefore, one of the top priorities in digital transformation for banks to mobilize and use green financial resources is to ensure the ability to provide, store, and access quality, transparent, and public information sources to provide data to evaluate the greenness of a business, a project... In the coming time, Vietnam needs to soon complete and put into use a complete national database system of economic-financial information, and standardize the format, as well as the content, of collected information. Next, it is necessary to build an effective mechanism for collecting, linking, and sharing information between entities participating in the financial market in general and the green financial market in particular. This will create a foundation for banks to exploit information and apply digital transformation to help the economy develop green and sustainably.

Secondly, about internal transactions of banks. Banks should encourage, advocate, and propagate to employees to limit the use of printing in reports or pol-

icy approval submissions. At the same time, banks should also use alternative and energy-saving products, the one hand, to save costs and on the other hand to help protect the environment. In addition, banks can also switch to using renewable energy such as solar, and wind energy... to manage their offices and ATMs.

Additionally, banks need to expand and bring more complex products and services to the online transaction system, such as the transfer of money abroad, foreign exchange transactions, the opening of letters of credit, requests for issuance of guarantees, or requests for automatic disbursement or automatic payment from the customer's accounting system.

Thirdly, banks need to establish a specialized department that understands digital transformation and has in-depth knowledge and experience in green banking, sustainable growth, and has expertise and experience in appraising issues related to the environment... to make the bank a leading enterprise in commitment to the environment, society, and sustainable finance.

The specialized department is also the focal point in encouraging the entire bank to implement internal initiatives to minimize the bank's own impact on the environment, by managing and reducing its carbon emissions. Once established, the specialized department will conduct training and develop unified policies so that all member units of the bank can jointly research and develop initiatives to increase positive impacts of banking operations on the environment and society. Training on environmental and social risk management for bank officials and employees needs to be regularly focused on so that this specialized department can operate effectively. A further step is to link with universities and include these contents as one of the mandatory trainings content at universities ■

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