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INVESTIGATING THE RELATION BETWEEN FINTECH AND SUSTAINABLE BANKING

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Abstract

Since the Global Financial Crisis (GFC) in 2007 two important outcomes have affected banking development. The first refers to the launching of Bitcoin and distributed ledger technology that opened the doors to decentralized finance (DeFi), and thereby threatening to disintermediate banks in the banking value chain, while the second one relates to the increased visibility of the phenomenon of sustainable banking that highlights the importance of environmental awareness, social responsibility, transparency, and accountability. Even though these two outcomes may seem to lead banking development into divergent pathways, one might ask can the fintech companies contribute to building a more inclusive, resilient, and sustainable banking system. The aim of this research paper is to explore the intersection of fintech and sustainable banking by analyzing its purpose, fintech development and its role as a facilitator in the sustainable banking and, finally, by finding the intersection between them.

Keywords: *Sustainable finance; Sustainable banking; Fintech;*

JEL Codes: *G20, O14, M14*

Introduction

Many unethical banking practices have occurred throughout history, starting from the late 19th century to the early 21st century. Empirically, unethical practices and banking behavior follow the examples of irresponsible and risky lending practices, insider trading and market manipulation, speculative investments, fraudulent accounting practices, which were followed by widespread foreclosures, bank failures, financial crisis and economic downturns. Therefore, the banking industry has an ongoing need for robust regulatory oversight, ethical leadership, and accountability mechanisms to prevent and address misconduct within it. The advent of GFC, especially, has shown how the conventional model of banks has many temptations of operating in unethical manners, and in the aftermath of it, the banking industry has faced the greatest challenges, coming from macroeconomic uncertainty, environmental and social risks, regulatory frameworks, technological advancements, and competitive challenges. All these pressures do not come solely, instead their

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interrelation and causal relationship create complex and dynamic, i.e. turbulent, environment that asks from banks to adapt to these pressures, embrace innovation, and prioritize customer-centricity, resilience, and sustainability. In general, the GFC has eroded the public trust in traditional and conventional banking institutions due to the prioritization of short-term profits over long-term benefits for society, environment and, of course, for shareholders. These circumstances have enhanced the movements of ethical banking, i.e. banking on values, and responsible banking. Banking on values, proposed and defined by the Global Alliance for Banking on Values since 2009, presupposes that banks and financial institutions should operate by following the core set of values and principles that promote sustainability, social responsibility and ethical banking practices (GABV, 2012). Responsible Banking, on the other hand, defined as such in 2019 on behalf of United Nations, refers to a banking approach that integrates environmental, social, and governance (ESG) considerations into banks' business strategies, operations, and decision-making processes with the aim of promoting sustainability, ethical practices, and positive societal impact (UNEP FI, 2021). Both movements have an established network of financial institutions with more than 420 signatories on a global scale, or member banks that follow a comprehensive framework of values-based and responsible principles.

In the aftermath of GFC, what has also emerged in the banking industry is the partnerships between banks and FinTech companies, and the usage of new technologies such as Big Data, Internet of Things, blockchain, cloud computing and robo-advisers). The Blockchain and distributed ledger technology (DLT), which imposed tremendous disruption in the payment systems, are threatening the banking value chain. Digital banks, i.e neobanks and challenger banks, partnerships between banks and FinTechs, crowdfunding platforms, peer-to-peer lending platforms, online trading platforms and integrated financial and payment services into mobile applications are transforming the banking ecosystem and push conventional banks to reinvent their business model (Danevska, 2020). Furthermore, fintech innovations are used as tools for incorporating sustainable practices, for example, they can be used when selecting appropriate selection of investment opportunities and to reinforce the transition to sustainable and inclusive economy (Hayne et al., 2020).

By highlighting the importance of sustainable banking practices, the goal of this paper arises with the intention of exploring the intersection between fintech and sustainable banking, and how fintech can complement and reinforce sustainable banking. The goal of this research will be achieved through answering the following research questions:

1. How can conventional banks implement and follow sustainable banking practices?
2. Have FinTechs embraced sustainability practices?
3. To what extent can fintech be utilized for sustainable banking?

The research questions will be answered by using theoretical background, empirical evidence and case studies from academic articles, journals, newspapers, and books.

Literature Review

Finance is the main pillar of every economy, and in the development of sustainable and inclusive economy, sustainable finance matters. Sustainable finance refers to mobilizing capital, allocating resources, and driving investments towards the defined sustainable development priorities. According to the World Bank (2023), "sustainable finance", narrowly defined, comprehends a range of financial tools, which aim on raising capital for activities beneficial for the society and the environment. However, in a broader sense, it refers to the transformation functions of the financial system when channeling funds, ensuring that the financing and investment allocations have a *positive impact over society*. As part of sustainable finance, which is used as a main tool in advancing towards Sustainable Development Goals (SDGs), responsible banking is also known as sustainable banking or ethical banking (Riegler, 2023). Value driven and sustainable banks demonstrate that it is possible to align financial interests with social and environmental objectives, by promoting prosperity for people and the planet while fostering resilience and stability in the financial system. (Forbes, October 2023) However, even though the term sustainable banks is used interchangeably with ethical banks, there is still a difference between value driven banks and sustainable banks. Their difference can be seen (as shown in Table 1) from many aspects, in terms of their business model, principles they follow, and products they offer. Additionally, it can be noted that sustainable banking is a wider term that includes not only the social and community impact, but also and the environmental impact of banking activities.

Table no. 1. Differences and similarities between Sustainable Banking and Banking on Values

	Responsible/ Sustainable Banking	**Banking on Values**
Originator and year	United Nations Environmental Program Finance Initiative - 2019	Global Alliance for Banking on Values – 2009
Focus and Aim in Banks' Business Models	Responsible banks focus on including environmental, social and governance factors in their practices. With a wider focus, their aim is to emphasize the importance of aligning business strategies with global sustainability goals, engaging with stakeholders, and transparently reporting on sustainability performance.	Values-driven banks have incorporated value driven decision-making and social impact investing to support their mission and purpose. Their aim is to promote positive impact on society, by building communities and investing in real sector.
Scope	Principles for Responsible banking is offered as framework	Principles on Banking on Values hallmark the values that underpin

	for banks to adopt responsible banking practices to address issues such as climate change, financial inclusion, sustainable finance, and social impact.	responsible banking practices, emphasize the importance of ethics and social responsibility in banking operations. They highlight the role of values-based banks in promoting a more sustainable and equitable financial system.
Goal	Achieving financial return alongside complementing towards SDGs.	Achieving financial return while serving people and the planet.
Product offerings	Products support the achievement of SDGs, i.e. green loans, green bonds, sustainable investment funds, microfinance for underserved communities, and impact investing opportunities.	Products are personalized and tailored according to customers' values and preferences, fostering trust and loyalty among their customer base, i.e. affordable housing, loans for renewable energy, supporting community development, and initiatives, volunteer programs and philanthropic practices.
Ownership structure/ Types of banks	Commercial, universal, investment banks	Cooperatives (credit unions, building societies), or community-owned banks

Source: Author's own research

Additionally, in the table, it is also shown how responsible and values-based banks differ in terms of their structure and ownership, i.e. setting the ground for different types of banks to embrace ethical and/or sustainable practices into their business strategies and operations. Even though, sustainable, or ethical banking may not be mandatory in a legal sense, the convergence of regulatory, stakeholders' behaviors, industry, market, and global sustainability trends is pushing banks towards adopting sustainable and ethical practices as a strategic imperative for long-term success and resilience.

On the side of FinTech, in the most recent literature can be found many articles and research papers related to the impact of Fintech on sustainable banking practices (Vergara and Agudo, 2021). For instance, according to Galeone et al. (2024), Fintech products are instrumental for sustainability achievements. By analyzing BNP Paribas, they have found that Fintech does not have a significant impact over the incorporation of sustainability in banks' practices, but instead, developed sustainability orientation reinforces the usage of the newest FinTech. This is in line with the findings of Cen and He (2018), and Mejia-Escobar et al. (2020). However, according to Serdarusic et al. (2024), Malamas et al. (2020), Vergara and Agudo (2021), there is an inverse relation, i.e. they have found that there is a significant impact of sustainable practices on Fintech adoption.

Fintech and Sustainable Banking: How can Fintech empower banks towards embracing sustainable practices?

Even though sustainable banking and fintech widen banks' horizons in different directions, their convergence can be used as an accelerator for sustainable development. In general, all digital technologies have an immense role in the building of sustainable future (Kyurova et al., 2023). In the area of sustainable banking, which requires alignment of bank's practices with long-term sustainability goals, Fintech leverages technology to revolutionize not only traditional banking services, but also simultaneously offers ~~and~~ innovative solutions to enhance efficiency, accessibility, inclusivity, and mitigation of risks (Bayram et al., 2022). Data technologies and large digital financial platforms from the Fintech Era 4.0 (Stanoevska et al., 2023) might reinforce the sustainable banking evolution (Moro-Visconti et al., 2020) from several aspects as shown in Table 2. Each of these aspects covers the principles of responsible banking that define the role of banks in sustainable development.

Table no. 2. Examples of areas of utilizing Fintech potential for development of sustainable banking

Principles of Responsible Banking	***Examples of areas where Fintech potential can be utilized for sustainable banking practices***
1. Alignment of bank's business strategy with SDGs.	- Fintech platforms use data analytics to measure and track bank's impact on SDGs.
2. Increase in bank's positive impact and decrease in bank's negative impact on society.	- Fintech payment solutions offer paperless transactions, promoting financial sustainability and eco-friendly practices. - Fintech payment platforms are easily accessible for population in rural areas, thereby increasing financial inclusion. - Fintech solutions enable transparent and responsible lending practices.
3. Encouraging customers' and clients' activities towards development of sustainable projects, business models, lifestyles and/or investment opportunities	- Fintech investment platforms that offer green bonds or social impact funds. - Sustainable crowdfunding platforms (green, social or for startups) that connect investors with sustainable projects, such as renewable energy development or affordable housing, allowing individuals to direct their capital towards initiatives that address pressing social and environmental challenges.
4. Building proactive and consulting relations with all relevant stakeholders for achievement of society goals.	- Fintech learning platforms and personalized financial guidance enable increased stakeholder financial literacy, including education on responsible finance. - Fintech platforms for stakeholder engagement, fostering open and transparent communication.

5. Integration of sustainability in the everyday business culture and practices	- Fintech platforms can be used as learning tools for all employees regarding ethical and sustainable behaviour, and compliance practices. - Fintech solutions can be used for real-time compliance monitoring, and governance dashboards that provide insights into adherence to ethical standards.
6. Banks will review the implementation of these principles periodically, thus committing to transparency and assuming full responsibility for positive and negative impacts.	- Blockchain technology can be used for transparency and traceability of all bank's activities. - Fintech platforms for crowdsourcing that would enable banks to gather feedback from all stakeholders, thereby fostering transparency, and accountability in decision-making processes.

Source: Author's own research

If analyzing the real case examples, Fintech companies already show a significant maturity and expertise when using their innovations to abide to the sustainability principles. Table 3 includes examples of how Fintechs lead banks in sustainability practices. Furthermore, these examples give practical insights into how banks and FinTechs can establish mutual and interdependent relationship, especially in the area of impact investment, financial inclusion, increasing awareness of ethical financial practices, and embedding sustainable behavior among all stakeholders.

Table no. 3. Sustainable Practices of Fintechs

Fintech company	**Sustainable offerings and activities**
Challenger Bank Aspiration	Rounding up every dollar on each usage of card on POS terminal and uses the spare change for planting a tree.
Tree card	- In partnership with Sutton Bank, Tree card issues Mastercard® debit card, made of recycled and sustainable materials. - For ethical spending (e.g. usage of public transportation or bike, purchasing from trusted brands, or sustainable tourism, clothing etc.) points and rewards in their mobile application are received.
Challenger Bank Triodos UK	- Finance projects in sustainable sectors that provide real, social and cultural benefits. - Before making a decision for lending or donating it accesses the positive and negative impact of this investment - Does not invest in gambling, tobacco and war industry, companies that undertake testing on animals or cause damage in biodiversity

	- Finances and invests in companies that respect human rights, labour rights, companies that demonstrate awareness of deforestation, of climate change and make credible efforts to eliminate their impact.
Neobank Tred	- First carbon – neutral neo bank - Does not invest in fossil-fuels or other industries - Debit card Mastercard® produced from recycled plastic, that calculates customers' carbon footprint of every purchase that they make. - As Triodos, it uses its profit for deforestation.
Neobank Tomorrow	- In partnership with Solaris Bank, for every 10 euro paid with their card, customers restore 1 wheelbarrow of habitat. - Financed projects that contribute towards achievement of SDGs.

Source: Author's own research

Despite the value that Fintech innovations and companies bring to banks in terms of enhancing their sustainable practices, there are still many challenges that need to be addressed. The greatest challenge arises from the greatest advantage of fintech platforms, i.e. the data collection, processing and storage which requires increased data security and privacy and might transform itself into a threat of cyber threats and breaches. Furthermore, according to IMF (2023), fintech innovations may introduce new systemic risks to the financial system, i.e. cyber risks, interconnectedness, and concentration risks. Therefore, banks, policymakers and regulators should assess the potential impact of fintech on financial stability, monitor emerging risks, and develop contingency plans to mitigate systemic risks associated with fintech adoption (Vucinic, 2020).

Conclusion

Sustainable banking, defined as a process of taking environmental, social and governance (ESG) considerations into account when making decisions in the banking industry, leads to more long-term investments in sustainable economic activities and projects. On the other hand, fintech innovations, derived from the digitalization trend in the banking industry, have transformed banks and banking industry, leading to establishment of Fintech startups that operate solely or in partnership with conventional banks. Conventional banks, as it is known, depending on their type can embark on the journey for embracing sustainability in their value chain, and affirmatively they have at their disposal many fintech innovative solutions to do so, since Fintechs are those that lead their way towards sustainable development.

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