Greenwashing in the FinTech Sector: The Role of the EU Corporate Sustainability Reporting Directive (CSRD)

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Abstract: FinTech companies, along with other financial institutions, face increasing pressure to take the lead in promoting a more environmentally sustainable future. The EU lately incorporated Corporate Sustainability Reporting Directive (CSRD) which offers both possibilities and challenges. This study examines the most recent modifications to Environmental, Social, and Governance (ESG) standards, identifying potential shifts that could affect FinTech firms. The problem of "greenwashing," a tactic used by businesses to misrepresent themselves as environmentally conscious, is especially concerning. Through literature analysis, this study attempts to explain terms related to greenwashing. While greenwashing instances were revealed so far within the confines of traditional banking, this study ventures beyond, including FinTech firms. FinTech companies are the focus of analysis because they are expected to play a significant role in the increased regulatory scrutiny starting in 2024. The paper addresses the opportunities and challenges that financial technology companies may face as they navigate this complex field. Relevant stakeholders looking for deep insights into the relationship between financial technology and environmental responsibility will find great value in the research's conclusions. This paper adds to an ongoing conversation on sustainability and regulation, enhancing the discussion of ethical financial activities.

Keywords: Greenwashing, FinTech, EU corporate sustainability reporting directive, Environmental, Social, and governance (ESG) criteria, Regulatory implications

1. Introduction

The world is witnessing the pressing need to meet the 2030 Sustainable Development Goals (SDGs). SDGs are an example of a few international agreements, primary among them the Paris Agreement, which contains a promise to attain the net-zero aim (Lee et al., 2023). The financial sector noted the challenge and opportunity of contributing to sustainable innovation. All three pillars—economic, environmental, and social—are driven by the FinTech sustainability nexus, according to the literature (Abad-Segura et al., 2020; Goldstein et al., 2019).

Few studies have identified FinTech as a key player in energy transition and emissions reduction. Low-carbon FinTech is promoting sustainable development by facilitating green finance, lowering costs, and offering efficient, sustainable lifestyles (Sreelekshmi et al., 2023). The number of climate tech startups and scaleups is rising, with the thriving green technology sector emerging. The sector is expected to grow to $9.5 trillion by 2030. Only positive for the investors and for all the workers that the sector employs, but also for the planet. Green tech companies use innovation and new business models to reduce greenhouse gas emissions, replace unsustainable materials, and lower demand for non-renewable natural resources (Time, 2024). This new trend is only showing the speed and the need for more enablers to bring us closer to sustainability goals.

The current European Union (EU) regulatory scene helps businesses move towards greener practices.

With the implementation of the new European Union Directive (EU) 2022/2464 of the European Parliament and of the Council of December 14, 2022, the non-financial disclosures for large companies are now regulated. The Directive aims to increase transparency and comparability of Environmental, Social, and Governance (ESG) disclosures while also ensuring due diligence of the information presented. Previously, the audit of non-financial statements was not secured, leading to irresponsible practices by some companies and financial institutions. This practice was coined in literature as "greenwashing," a tactic described by companies that misleads stakeholders about their environmental practices and approaches.

There are a handful of previous studies, published just over the last year and currently, that investigated the effects of the new CSRD directive on the FinTech sector. Zhou & Wang (2024) examined FinTech's role in sustainable finance and discovered that, in the end, it promotes sustainable finance by helping to expose greenwashing by making financial services more accessible to environmentally conscious businesses. Xie et al. (2023) focused on the topic of how FinTech inhibits corporate greenwashing. The impact of bank FinTech on ESG greenwashing was studied by Liu & Li (2024). The findings included that FinTech reduces greenwashing by minimizing financial constraints and information asymmetry, particularly in high-polluting industries. While some studies examined the implications of recent regulations on the FinTech sector, including CSRD, there is a notable gap in research specifically focusing on how the FinTech sector adapts to new regulatory regimes, particularly in combating greenwashing. FinTech, as an emerging sector, is not known as well as traditional banks for adhering to ESG practices or guidelines. Given the limited studies in this specific area, this study aims to address this gap by investigating existing literature on greenwashing in FinTech and studying the implications of the new CSRD directive on the regulatory landscape of FinTech.

Although most cases of greenwashing reported so far concerned traditional banking institutions that disclosed non-financial information on a voluntary basis, this study expands the discussion to include FinTech companies. This paper contributes to a more nuanced understanding of greenwashing within the evolving regulatory framework (CSRD) by focusing specifically on the FinTech industry. It also contributes to the growing body of literature on the implementation of the CSRD directive, with a particular focus on assisting FinTech firms to detect and combat greenwashing.

This study is guided by the following research questions:

Q1: What conclusions can be drawn from the literature on greenwashing that are particularly relevant to the FinTech sector's adaptation to new regulatory regimes?

Q2: What role can FinTech play in mitigating greenwashing?

The implementation of the directive shall be considered a legal factor, however, if it is deemed to affect the entire business environment of the companies. The implementation and its effects are therefore multi-related and connected to other elements. This study, exploratory in nature, aims to show the effect of these potential elements by reviewing the existing literature (desk research). To address the research questions, the study will employ a combination of inductive, deductive, and synthetic approaches. The methodology applied in the study adapts the SLEPT (Social, Legal, Economic, Political, and Technological) framework. Although the analysis does not strictly follow the traditional SLEPT framework categories, it does modify these elements in order to fully analyze the directive's complex effects. SLEPT adaptation aids in structuring the study's deductive nature.

The article is organized as follows for the remainder of it: The second section provides a synthesis of recent regulations such as the Corporate Sustainability Reporting Directive (CSRD) that aim to encourage FinTech companies (and not only) to integrate environmental sustainability into their operations. The third section gathers and explains the main terminology relevant to the study: greenwashing and FinTech. The explanation of the terms is based on the Scopus database searches of these two terms relevant to the study. The fourth section, titled "CSRD contribution to FinTech’s business landscape," presents arguments for the research questions. In the "Conclusions" section, the findings, recommendations, and contributions are presented.

2. Regulations as a Driver for FinTech’s Environmental Sustainability

Environmental sustainability is an important topic that has gained attention through the implementation of CSRD. Regulations acknowledge the significance of sustainability. New regulatory frameworks encourage FinTech companies to incorporate environmental sustainability into their operations (Vergara & Agudo, 2021).

By requiring businesses to integrate sustainability into their activities, the Corporate Sustainability Reporting Directive (CSRD) contributes to the advancement of green technology. A systematic framework that requires thorough reporting on environmental, social, and governance (ESG) factors is made available by the implementation of the CSRD. The directive itself orders the companies, and FinTech’s among them, to include sustainability aims, such as absolute greenhouse gas emission reduction targets for 2030 and 2050. CSRD also mandates to include a description of the company’s progress towards attaining its aims, as well as a declaration on whether its environmental targets rely on conclusive scientific evidence (European Union, 2022, Article 19a, 2b).

FinTech, also being in the scope of this regulation, will be required to present a plan, including how it will carry out actions and make related financial and investment plans to make sure that its business model and strategy are in line with the shift to a sustainable economy. The goal is limiting global warming to 1.5°C under the terms of the Paris Agreement, adopted on December 12, 2015, by the United Nations Framework Convention on Climate Change, and achieving climate neutrality by 2050 as set forth in Regulation (EU) 2021/1119 of the European Parliament and of the Council (European Union, 2022, Article 19a).

The directive encourages environmental practices by establishing criteria for environmentally sustainable economic activities, which “may encourage economic operators not covered by this Regulation, on a voluntary basis, to publish and disclose information on their websites regarding the environmentally sustainable economic activities they carry out (European Union, 2022, Recital 15).

3. Definitions of FinTech and Greenwashing

Two concepts relevant to this study are financial technology (FinTech) and “greenwashing.” There does not appear to be a single, accepted definition of FinTech. Admittedly, there is a conceptual diversity of the term in the academic literature (Milian et al., 2019). According to Zhou et al. (2022), the Financial Stability Board (FCB) characterizes FinTech as financial innovation propelled by technology that presents innovative applications, procedures, and goods that have a noteworthy influence on financial markets, establishments, and offerings. Another definition describes the FinTech phenomenon as an innovation aimed at providing alternative financial services, followed by practical examples of FinTech: peer-to-peer lending, digital-only banks, mobile money, cryptocurrency, and regulatory technology (RegTech). Mobile money is a prominent example of a widely adopted FinTech innovation (Senyo et al., 2022). However, the Goldstein et al. 2019 study describes FinTech as focusing on integrating recent technology into established financial operations while downplaying the importance of the Internet. This latter FinTech definition is unique in that it places FinTech in the context of its contributions to current financial systems, highlighting the aspect of incorporating new technological advancements into already existing financial systems and procedures.

The intricacy of recognizing and comprehending greenwashing—a practice in which businesses may mislead stakeholders about their environmental efforts or effects—is within the scope of this study. Because greenwashing takes many different forms—from deceptive environmental labels on products to inflated sustainability claims in corporate reports—even to the most knowledgeable, it is challenging to identify it.

There are a range of terms that are used to describe greenwashing. These include corporate social responsibility decoupling, greenwashing, pinkwashing, bluewashing, CSR washing, or recently, social washing. These terms are interchangeable. Although greenwashing is used broadly, it will be consistently applied throughout the whole study.

Existing scientific publications on the subject of greenwashing feature methodical literature reviews. This study will rely on the outcomes of the analysis made by De Freitas Netto et al. (2020) to structure and systematize the terminology. However, the definitions gathered in Table 1 covered up to and until 2020, leaving a gap of four years of academic literature that evolved and equilibrated the terminology. To fill this gap, a more extensive search was conducted, which enhanced and completed the list of definitions of greenwashing found in scholarly publications after 2020. Aiming to refine a variety of existing definitions of greenwashing, a narrow search of the existing academic literature focused on the issue of greenwashing in the context of FinTech was done. The search was conducted using the Scopus database. Search terms that matched the definitions used in the study were included in the search string: (TITLE-ABS-KEY (greenwashing) AND TITLE-ABS-KEY (FinTech))).The search result returned seven papers, with no time bounds. It is important to note, however, that most papers were published recently in 2024 and 2023.

Table 1: Selected definitions of term greenwashing

Year	Author	Definition
1976	Weick	Decoupling among authorities in educational institutions.
1977	Meyer and Rowan	Decoupling as action of upholding formal, standardized structures while adjusting their operations to suit real-world needs.
2010	Jamali, Egels-Zandén, et al.	Separation of CSR policies from daily operations.
2012	Walker and Wan	CSR Decoupling as symbolic CSR initiatives that seek to improve society and the environment without requiring the company to materially adjust its actual business processes. Companies that have a negative CSR performance which at the same time apply a positive communication about their CSR performance.
2016	Pope and Wereas	"CSR-washing," referring to separation of CSR action from communication and a business's ability to compete.
2016	Haack et.al	Improvements to the environment and society, symbolic in nature.
2019	Sauerwald, S. and Su, W	The gap between how firms communicate CSR and what firms do in terms of CSR.
2020	Glozer and Mori	CSR decoupling as hypocritical presentation of themselves, which deviates from their true selves.

Year	Author	Definition
2020	Du, 2015; Akituran, 2018; Huang et al., 2020; Torelli et al.	Greenwashing as a type of CSR decoupling in which businesses signal their environmental responsibility publicly through environmental certification or other means, frequently without making significant changes to their actual environmental practices.
2022	Minh and Quang	Misleading information or false impressions about company's products are environmentally friendly. Businesses will use "strategic" environmental speculation.
2023	Xie et al.	Presenting false information or misleading impressions about how environmentally friendly a company's products are.

Source: Own elaboration based on De Freitas Netto et al. (2020), Minh and Quang, (2022), Xie et al., (2023).

In the academic literature, both terms "green finance" and "FinTech" are relatively new and largely unexplored, so their nexus research is even more relevant. Green FinTech gained entrepreneurial attention as evidenced by their growth in terms of number, areas under operation, regions of operation, number of employees, and recognition from funding agencies (Wan et al., 2023) According to the StartUs Insights Report, there are currently 863 green finance companies globally. Among these, green FinTech stands out for their innovative solutions in green financing, including areas like green funds, traceable investments, and ESG financing. These startups operate in hubs such as London, New York City, San Francisco, Singapore, and Berlin (StartUs Insights, 2024).

The academic literature mentions that some scholars consider only environmental issues when defining greenwashing, distinguishing it from the term bluewashing, which stands for social issues. Other researchers do not make this distinction and consider greenwashing to have a social and environmental focus. Greenwashing can be perceived from several different angles, from product-level claims with environmental labeling to firm-level elements being a part of sustainability reports. This multifaceted way of greenwashing offers consumers difficulty in identifying and addressing this phenomenon (De Freitas Netto et al., 2020).

Over the course of decades, several academics and researchers have contributed to our understanding of the concept of "greenwashing." Although the concept has evolved over time, it still presents a persistent challenge to ensuring corporate actions match their stated intentions.

3.1 FinTech Greenwashing in Scientific Research

The searches for definitions of FinTech and greenwashing in the academic database of Scopus sought to highlight so far carried out research that would center around the problem in a specific FinTech environment. Zhou and Wang (2024) state that their research examines how FinTech can help historically non-environmentally conscious companies (referred to as "brown firms") recognize and minimize their greenwashing practices, with an emphasis on the convergence of sustainable finance and FinTech. The study claims that many brown businesses may falsify their environmental friendliness to obtain sustainable financing, therefore finding themselves participating in greenwashing. According to the study, financial institutions can now choose companies that genuinely qualify for sustainable finance based on their environmental contributions, thanks to this technological capability. The study highlights the pivotal function of FinTech in augmenting the effectiveness of sustainable finance. This is achieved by providing the necessary instruments to counteract greenwashing, thereby guaranteeing that financial support is allotted to authentically sustainable endeavors instead of those preventing them. A similar outcome is included in the study by Xie et al. (2023. The research highlights that corporate greenwashing behavior is inhibited by financial technology and that this inhibitory effect is positively reinforced by financial constraints. The article illustrates that FinTech is perceived as a powerful tool to help achieve transparency when identifying greenwashing. It also underscores the importance of financial constraints reinforcing this effect, which will contribute to more sincere and sustainable corporate practices. The most recent study by Liu and Li (2024) shows that by removing financial barriers and reducing information asymmetry, FinTech successfully lowers ESG greenwashing.

Although the academic literature seems to be limited, the studies agree that FinTech contributes to diminishing greenwashing by improving straightforwardness and transparency, monitoring, and guaranteeing the genuineness of environmental claims. The integration of advanced technologies used by FinTech creates an environment where honest and genuine sustainable practices are stimulated and the opposite is discouraged.

4. The CSRD Contribution to FinTech's Business Landscape

This study draws on the SLEPT framework to investigate the broader environmental factors influencing FinTech's under new regulations. While not strictly adhering to the conventional categories of SLEPT framework, the analysis adapts these elements to thoroughly analyse the directive's multifaceted influences. Adapting SLEPT helps to structure the deductive character of this study.

4.1 CSRD Implementation

The Corporate Sustainability Reporting Directive (DIRECTIVE (EU) 2022/2464) went into effect on January 5, 2023. The implementation of CSRD is linked to the European Green Deal that envisions the EU as a contemporary, resource-efficient, and competitive economy.

CRSD introduced the requirement to report on sustainability by large companies (with an average number of employees exceeding 500) and publicly traded corporations. Parent undertakings being a part of a large group (with an average number of employees exceeding 500 on a consolidated basis) are also in scope. In the case of non-European-based companies with an annual turnover exceeding EUR 150 million on the EU market or companies with securities traded on EU-regulated markets, these companies will also be required to issue sustainability reports. Additionally, all subsidiary undertakings are exempt from reporting non-financial information under Directive 2013/34/EU's Articles 19a(3) and 29a(3), provided that both the parent undertaking and its subsidiary undertakings are included in the consolidated management report, and the report also includes non-financial information reported in compliance with that Directive (European Union, 2022, Recital 25). This could be seen as a regulator's latitude to ease the load on certain companies. Regardless of the industry, businesses covered by the CSRD are subject to these standards. They complement and add to global standardization efforts while being adapted by EU policies. One of the major differences of the recently launched directive is that the non-financial reports are called "sustainability reports" (Directive 2022/2464, EN-CCSRD Directive, EUR-LEX). The information that undertakings should disclose regarding the business-relevant principles of ESG in sustainability reporting standards is collected in Table 2.

Table 2: Reporting requirements per ESG factor based on CSRD

ESG Factor	Reporting topic	Disclosure information
Ecological	Climate	Risks and resilience related to climate scenarios, including adaptation plans for achieving climate neutrality by 2050
Ecological	Climate	GHG emissions and removals, usage of offsets and their sources
Ecological	Energy	Reducing energy use and increasing energy efficiency
Ecological	Climate	Climate, air, land, water and biodiversity
Social	Human rights	Forced and child labour
Social	Forced labour	Import of goods produced through human rights abuses
Social	Employment	Risks, trends, conditions of employment
Social	Inclusion	Equal opportunities and workplace conditions
Social	Gender equality and equal pay	Gender and pay gap
Social	Disability	Accessibility measures
Social	Training and skills development	Access to training
Social	Collective bargaining	Policies and strategies related to collective bargaining
Social	Participation of workers	Participation in administrative and supervisory boards
Social	Diversity	Gender diversity in leadership and board representation
Governance	Sustainability oversight	The expertise and skills needed to fulfil roles of board members
Governance	Risk management	Risk and control systems related to sustainability
Governance	Corporate ethics	Anti-corruption and anti-bribery
Governance	Suppliers	Payment practices, terms, interest, recovery costs

Source: European Union, 2022, Recital 14,49

Enhancing the comparability and transparency of ESG disclosures made by companies is the directive's main goal. The regulator wants to encourage uniform and consistent ESG information disclosure. It mandates that information on policies, key risks, and results pertaining to environmental matters, social and employee factors, human rights, anti-corruption issues, and diversity on the board of directors be included in annual sustainability reports. Firms in the scope of the directive will now be required to use EFRAG (European Financial Reporting Supervisory Group), which is a private association established in 2001 with the encouragement of the European Commission to serve the public interest (EFRAG Today, EFRAG). These unified standards replace GRI (Global Reporting Directive), SASB (Sustainability Accounting Standards Board), or the Task Force on Climate-Related Financial Disclosure (EFRAG, n.d.).

4.1.1 S for social contributions of CSRD

Except for the impact on the engagement of stakeholders, investors, consumers, and civil society the new directive will have, the regulation supports the system of classification for environmentally sustainable economic activities with the aim of scaling up sustainable investments and combating greenwashing of financial products that unduly claim to be sustainable (European Union, 2022, Recital 2). This measure aims to mitigate the risk of greenwashing by guaranteeing transparency, consistency, and accountability in the promotion of environmentally sustainable investments. All are particularly important for sustaining social trust in FinTech companies and their practices.

CSRD emphasizes how crucial sustainability reporting is to preserve public confidence and business reputation. The absence of trustworthy sustainability data may cause a deficiency in accountability, which in turn may diminish public confidence in companies and impede the smooth operation of the social market economy. In addition, the inability of investors to allocate capital to initiatives that mitigate social and environmental problems undermines the goals of the Green Deal, the Action Plan on Financing Sustainable Growth, and the Paris Agreement. Organizations lack the ability to hold companies accountable for their effects on people and the environment when sustainability reporting is weak. The public's trust in businesses may be damaged by this lack of accountability, which would reduce the efficiency of the social market economy (European Union, 2022, Recital 14).

The directive contributes to addressing social responsibility issues by specifying disclosures on social factors such as working conditions, social partner involvement, collective bargaining, equality, non-discrimination, diversity, and inclusion, as well as human rights. Such data should help to address how this will affect people, employees, and people's health and wellbeing. The details that undertakings reveal regarding human rights should, where appropriate, incorporate information regarding child labour and forced labour into their value chains. The implementation of sustainability reporting requirements pertaining to forced labour should not prevent public authorities from fulfilling their obligation to confront the import of goods resulting from human rights violations, including forced labour, through trade policy and diplomatic channels. Businesses should also be able to report on potential hazards and changes in employment and income trends, the inclusion of people with disabilities, and accessibility measures taken by undertakings. The reporting standards assume the reporting obligation to disclose information on available workers' training and skill development. Bargaining should include information about work councils, collective agreements, and the proportion of workers covered by them. Sustainability reporting standards should include disclosures on worker participation in administrative and supervisory boards. Gender diversity at top management and the representation of underrepresented groups on boards are integral parts of the directive (European Union, 2022, Recital49).

In summary, enhancing the social responsibility of the undertakings is the goal of the CSRD Directive, which requires a comprehensive and transparent way of reporting. This should be an enabler to promote public trust in companies through their actions and policies. All these factors support the effective operation of the social market economy.

4.1.2 L for legal contributions of CSRD

The sustainability reports should be published with an assurance opinion expressed by a person or firm authorized to give an opinion on the assurance of sustainability reporting, either under the national law of the third country undertaking or of a Member State, in order to ensure the quality and reliability of the reporting. The subsidiary undertaking or branch of the third-country undertaking should make a statement in case such an assurance opinion is not provided. The public should have free access to the sustainability report via the central, commercial, or company registers of the Member States or via the subsidiary undertaking's website (European Union, 2022, Recital 20). Furthermore, the European Union (2022) permits annual reports from Member States to the Commission on subsidiary or third-country undertakings, including those where the subsidiary or branch claimed inability to obtain relevant data (European Union, 2022, Recital 60).

The regulations governing the actions and sanctions that apply to any violations must be established by the Member States. Member States establish effective investigation and sanction systems to detect, correct, and prevent poor statutory auditing and sustainability reporting. Additionally, the directive suggests that the Member States must impose effective, proportionate, and dissuasive sanctions on statutory auditors and audit firms that fail to comply with the directive. Member States may choose not to establish administrative sanctions for infringements already covered by national criminal law. In this case, they must notify the Commission of any relevant criminal law provisions (European Union, 2022, Article 2, Recital 30).

Summarizing, the directive imposes legal obligations on companies in scope to issue sustainability reports, not leaving FinTech companies alone. It is anticipated that this change will have a significant impact on how FinTech businesses function within the EU, encouraging them to apply their technology and novel nature to the approach towards sustainable reporting. However, the anticipated challenge for FinTech businesses may come from their unregulated nature, and more scrutiny is being applied to the consequences of noncompliance.

4.1.3 E for economic contributions of CSRD

The European Union has standardized regulations to address the gap between user needs and current corporate sustainability data, warning against the potential for disparate national standards, higher compliance costs, and eroded capital market coherence (European Union, 2022, Recitals 15, 16).

Investors may struggle to assess risks in the absence of sustainability information, which could result in systemic financial hazards. Acknowledged by organizations like the European Central Bank and the Financial Stability Board, especially regarding climate change, this shortcoming inhibits investors from funding initiatives that support social and environmental advancement objectives like the Green Deal and Paris Agreement. In addition, the lack of uniform standards for evaluating sustainability impedes the endeavours of labour unions and civic society, to proficiently deliberate on sustainability practices with corporations (European Union, 2022, Recital 14).

In conclusion, the directive indicates that there will be financial savings and benefits that the businesses will experience in the medium- to long-term when it comes to a decline in reporting expenses. However, there is no mention of the extra expenses businesses will incur as a result of hiring experts in the field of sustainability or using the right software to facilitate reporting. ESG is the third area that CFOs will be looking to outside experts for assistance with because it will be challenging to automate, according to the most recent State of European FinTech 2023 report. Not to mention the mandatory audits that FinTech companies must follow, these will generate expenses.

4.1.4 P for political contributions of CSRD

In the Green Deal, the Commission committed itself to supporting businesses and other stakeholders in developing standardized natural capital accounting practices within the Union. Internationally, with the aim of ensuring appropriate management of environmental risks and mitigation opportunities and reducing related transaction costs (The European Green Deal, 2021). This European Union agenda is a key step in the European political arena towards a more sustainable future.

By implementing CSRD, the consistent way of reporting, data capture, and comparison is standardized, which is a major enabler of cooperation between member states. Such harmonization of reporting will position Europe as a pioneer in collectively achieving the goals of the European Green Deal. European FinTech will have a chance to demonstrate that they can lead the way with their access to technology and expertise to carry out ESG matters.

4.1.5 T for technological contributions of CSRD

The EU Commission hopes to enhance the comprehensiveness, comparability, completeness, and reliability of non-financial reporting (European Union, 2022, Recital 39). The so-far gap exists in a lack of common steer with regards to approaching ESG-related topics, also by FinTech businesses. With the implementation of the new CSRD, these gaps are filled. As a result, both the reporting regime's application and reports' contents are expanded; this applies to FinTech as well. However, European FinTech shall prepare to comply with such a development, which may require additional resources in terms of technology, experts, or internal advice. Although some elements of the directive might still be ambiguous and need more extended exemplification, the directive can be considered a major step in progressing with businesses on ESG-related matters. The intense time constraints that are placed on businesses, in addition to the uncertainty they experience regarding the contents of both the CSRD's final draft and the European Sustainability Reporting Standards (EFRAG), play a role (Baumüller & Grbenic, 2021).

It is expected that the practices of sustainability reporting standards will be harmonised and standardized. There is a likelihood that third-party data providers will improve and that expertise will grow in this area, with the potential for job creation. This is a great challenge for FinTech businesses but also an opportunity for new product propositions to be offered to the market.

5. Conclusion

This paper aimed to address the latest alterations in Environmental, Social, and Governance (ESG) criteria regulations, pinpointing anticipated changes that may impact FinTech companies. Through the literature review and analysis of the CSRD directive, this paper aims to consolidate the diverse terminology surrounding greenwashing as well as focus on FinTech advancements and market trends with utilizing the technology to progress on the implementation of SDGs.

Regarding the FinTech industry's ability to adjust to new regulatory frameworks and its function in reducing greenwashing, this study aimed to address two important research questions: What conclusions can be drawn from the literature on greenwashing that are particularly relevant to the FinTech sector's adaptation to new regulatory regimes? Analysis shows that the literature on greenwashing places a strong emphasis on the necessity of accountability and transparency in business sustainability initiatives. This is especially important for FinTech companies getting ready to support and comply with the EU's Corporate Sustainability Reporting Directive (CSRD), which requires consistent disclosures about sustainability. The CSRD minimizes the risk of greenwashing by ensuring that sustainability claims are true and verifiable, which helps to reduce information asymmetry and increase investor trust. The following was the second research question: "What role can FinTech play in mitigating greenwashing? According to the analysis, FinTech, also through the recent emergence of companies active in the green technology sector (green tech), can make a big difference by utilizing its technologies to track business behavior, enable compliance, forecast sustainability trends, and identify possible instances of greenwashing. FinTech businesses can also create thorough sustainability reporting systems that compile information from multiple sources to enable truthful disclosures and adherence to legal requirements.

The study had limitations. Due to the CSRD Directive that applies to companies for the reporting period of 2024, with first reports expected to be published only in 2025, the analysis is not yet supported by the application of the directive and empirical evidence. However, this presents an opportunity for further research in the identified area of this study. Empirical data and its analysis will serve as confirmation of the direction FinTech companies take towards the application of ESG factors into their business models. Gaining more insights will enhance understanding the advancements and contributions to achieving net zero targets.

In summary, the recently launched CSRD directive can help FinTech companies normalize standards and utilize technology, big data, data mining, and AI to advance their product offerings. Recently noticeable trends of FinTech companies that become active around green technology are a sign that only advancing on the scope of activity is the scenario and the direction for these businesses moving forward. FinTech companies, in contrast to traditional banking institutions, regularly perform market research and instantly respond to the needs of the market or consumers. Compliance with recently launched regulations or FinTech's ability to serve other businesses to prevent greenwashing is one of the examples of FinTech leading the way to a more sustainable future.

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