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FINTECH AND SUSTAINABILITY

SEEMA DAHIYA
Assistant Professor
Tika Ram College of Education, Sonipat.
(HR) INDIA

ABSTRACT

Current concerns about environmental issues have led to many new trends in technology and financial management. Within this context of digital transformation and sustainable finance, Fintech has emerged as an alternative to traditional financial institutions. This paper, through a literature review and case study approach, analyzes the relationship between Fintech and sustain- ability, and the different areas of collaboration between Fintech and sustainable finance, from both a theoretical and descriptive perspective, while giving specific examples of current technological platforms. Additionally, in this paper, two Fintech initiatives (Clarity AI and Pensumo) are described, as well as several proposals to improve the detection of green washing and other deceptive behavior by firms. The results lead to the conclusion that sustainable finance and Fintech have many aspects in common, and that Fintech can make financial businesses more sustainable overall by promoting green finance.

INTRODUCTION

Currently, more and more new issues are emerging that affect fifinancial management. These are the consequence of increasing customer concerns for sustainability and respect for the environment in the goods and services they purchase and consume, as well as with growing digitization. Important examples of these issues are corporate social responsibility (CSR) and environmental, social, and governance (ESG) factors. Similarly, the 2030 Agenda for Sustainable Development Goals (SDGs) promoted by the United Nations plays an important

role in combating climate change. The growing awareness of global warming and its negative impact on the planet means that customers are increasingly demanding ecological or environmentally friendly products for a more sustainable lifestyle. Customers, investors, and public administrations are exerting increasing pressure on organizations to obtain more transparent information on the environmental impact of their activities. For example, Nielsen Media Research reports that "66% of global consumers" (and 73% of millennials)"are willing to pay more for environmentally friendly products. Thus, when these customers perceive fifirms to be socially responsible, they may be more willing to buy the products of these fifirms, and at a higher price". Hence, fifirms strive to differentiate their products and their brands from their com petitors, setting up "green marketing" campaigns and modernizing their technologies.

In addition, they compete for consumers' approval by advertising their products as environmentally friendly.

The sergeant marketing in iterative "are helpful to consumers by letting them know which products possess said green properties, but only if the claims in advertisements and product descriptions are honest and accurate " . Furthermore, as the supply and demand for sustainable fifinancing have evolved, several providers of (new) products and services have emerged over recent years. These providers offer solutions for the (new) needs or demands set out in the new sustainability paradigm. These new products and services have emerged in support of the ecological transition process to promote the link between sustainability and economic and fifinancial activities. Their various objectives include increasingly available information on climate; support for the design of more sustainable products and services; and the improvement of public transparency and information. For example, in Spain, the Fundación Ecología y Desarrollo, or ECODES (Ecology and Development Foundation), offers a climate-change risk assessment model that enables the fifinancial sector to assess the predisposition to risks and opportunities of its credit and investment portfolios. This service was designed to be used by the banking sector, but is also useful for other fifinancial sector entities, such as fund managers, investment advisers, insurance companies, and public sector entities in charge of socio-economic planning and development.On a global level, the organization that conducts this kind of activity is the Intergovernmental Panel on Climate Change (IPPC), the United Nations body for assessing the science related to climate change. Fintech "allows performing business transactions from anywhere at any time, which gives flexibility to all actors" [13]. Companies that have developed Fintech have more innovative methods of extending banking services to customers and investors through cellphone apps, with increased flexibility and efficiency of financial services, and with the promise of saving time and costs through the use of digital technologies [13]. Furthermore, Fintech is a key driver "for financial development, inclusion, social stability, and integrity, and consequential

sustainable development through building an infrastructure for an innovative digital financial ecosystem" [12]. It makes financial services more accessible, efficient, and affordable for customers and changes the ways of providing traditional services, representing the digitization of the financial industry.

However, for the last decade, large financial institutions have increased their interest, along with investments, in Fintech innovations, to the point that, in 2019, most competitive financial institutions considered Fintech to be their major investment [15]. Both operate in the same (financial) market and sometimes share customers [14]. In fact, it is expected that financial institutions will be able to reduce their costs and increase customer inclusion with the help of Fintech, leading to an increase in profits. Thus, Moro-Visconti, Cruz Rambaud, and

López Pascual also believe that Fintech will "disrupt and reshape the financial industry by cutting costs, improving the quality of financial services, and creating a more diverse and more stable financial landscape". Banks have changed their role in funding new financial technology entrepreneurs, since they now serve as a major provider of funding for young companies. Thanks to digital technology development, they have shifted from traditional money-lending activities to become stakeholders in Fintech and, therefore, equity investors [17]. Some authors [17] recommend "collaboration and trust-based relationships to mutually benefit Fintech and established banks", as Fintech "must be operated by experienced founders with a clear vision", because "investors expect founders to run the business successfully from Day 1" [17]. Moro-Visconti, Cruz Rambaud, and López Pascual state that all these ideas can be summarized by the word "co-opetition", according to which Fintech and banks are both able to compete and cooperate [14]. It is frequent practice for banks to internalize Fintech by buying it, so both "converge towards a common market, with co-opetition strategies that reduce conflicts of interest and other governance concerns. This strategic convergence is also catalyzed by the very fact that banks are digitizing their business models, thus reducing their atavistic differences".

In addition to these platforms, it is necessary to highlight the important role of Fintech in the process of transforming agriculture's business process into a more sustainable one. In this context, Fintech offers farmers different ways of obtaining funding, through crowdfunding and digital payment systems, as well as a digital marketplace that can connect "all actors (farmers, landowners, investors, and consumers) into a platform that can promote transparency, empowerment, resourcefulness, and public engagement in agriculture". This strategy contributes to increasing competition among suppliers and improves the sustainability of agricultural products, since customers are able to see prices, compare products, and be aware of their sustainable features.

Clarity AI

Clarity AI [23] is a global Fintech company founded by Rebeca Minguela in 2017, with offices in the USA, UK, and Spain and clients all over the world. Clarity AI is a "societal impact rating agency and tech company offering a software solution for investors to optimize the societal and environmental impact of their investment portfolios". It allows investors to manage the social impact of their portfolios through a technological platform using big data and machine learning to assess the sustainability and environmental impact of more than 30,000 firms in 198 countries, 187 local governments, more than 200,000 funds, and following 1000 indicators. The main objective of Clarity AI is to measure the social and environmental impact of companies. Investors often find it difficult to assess the impact of their investments, as there are limited and unreliable data, so it is laborious and expensive for them to draw clear and simple conclusions. Clarity AI offers an easy solution to this problem through its technological platform. It "aggregates multiple data sources and selects the most reliable ones" and "offers the largest coverage of social and environmental impact data about publicly traded securities in the market, with the highest level of reliability and accuracy". Clarity AI contributes to more socially and environmentally efficient capital allocation. To achieve this goal, it provides decision makers with "the most reliable and comprehensive tools to understand and optimize social and environmental impact, leveraging scientific research and the latest technologies" [23]. Fintech offers an "end-to-end technology solution based on scientific research, quantitative assessment, and global preferences that optimizes the societal impact of investment portfolios" [23]. To do this, Clarity AI enables investors to import or create a portfolio of securities and either select their social and environmental personal preferences or allow Clarity AI to apply the global standard. Then, it shows investors the social and environmental impact and the financial performance of the portfolio they have created. This portfolio can be rebalanced by considering Clarity AI's recommendations on how to opti- Sustainability 2021, 13, 7012 11 of 19 mize social and environmental impact and financial performance. As a result, investors have a rebalanced portfolio based on their initial preferences, interests, and conscience, but by considering social and environmental issues and leveraging multiple sources of data and information.

Discussion

Having examined the relationship between Fintech, sustainability, and environmental development and after analyzing two important examples of sustainable Fintech platforms, both general and specific proposals for improvement to make these Fintech initiatives even greener and more environmentally friendly will be discussed. These proposals must consider consumers, as it is essential for them to be informed and aware of the behavior of the businesses they deal with regularly, as well as for the bonds and stocks they invest in.

General Proposals for Sustainability in the Fintech Sector

In general, to promote a more environmentally informed society, more standardization would be required in both the format and metrics of ESG reporting and sustainability reports. Thus, ESG reporting, benchmarking, and rating could be improved with new technologies such as AI, big data analytics, and DLT. These tools could compile information from disparate sources (including articles), "processing of large amounts of data (even non-standardized and unstructured) about companies' social and environmental impacts, as well as translation in more standardized and comparable data, with positive effects on pricing accuracy and the level of reliability of ESG data". In fact, a large amount of data from "NGOs, specialized websites, and satellites (publicly available through the European Union's Copernicus network and the US Landsat network) might be combined and processed by AI to track air pollution and emissions by single power plants and, more generally, doublecheck information provided by companies". Another important point to consider is Fintech regulation, since, according to MoroVisconti, Cruz Rambaud, and López Pascual, this will be the key to determining the kinds and number of Fintech companies entering the industry and who the dominant players are. In 2018, the European Commission adopted the "Financing Sustainable Growth" Action Plan to redirect private capital towards more sustainable investments and the Fintech Action Plan, with the aim of creating a harmonized and dynamic European framework for Fintech. The Commission released a package of proposals to implement ESG considerations in the decision-making process of investors, including "a Regulation with criteria to determine the environmental sustainability of economic activities (Taxonomy Regulation) and therefore clarify for investors what activities can be considered to be "green" and used as a basis for standards and labels for sustainable financial products". The final text of this regulation was signed by the Parliament and Council on June 18, 2020, with the aim of reducing greenwashing and market and regulatory fragmentation among the Member States. "The Commission is also evaluating the opportunity of introducing, also for nonfinancial information, a European Single Electronic Format (ESEF), as for financial reporting, of issuers in regulated markets". It will be important in the near future to adapt company reporting and transparency, accounting standards and rules, sustainability research and ratings, labeling tools for financial assets and products, and corporate governance. Moreover, it will be necessary to increase "opportunities for citizens, financial institutions, and corporates to actively engage in the sustainable finance debate regarding green investments and investor protection, through varied actions such as the development of guidelines for financial advisers, programs to raise awareness and financial literacy about sustainability, green securitization, and the deployment of digital technologies in the sector". To conclude, there are still many regulatory issues related to customer and consumer protection to be resolved. More specifically, consumers need regulation regarding data protection,

accessibility, portability and interoperability, wrongful assessments, opacity and discrimination, and financial exclusion.

CONCLUSIONS

As has been discussed in this paper, the current concerns over global warming and environmental issues, as well as the importance of corporate social responsibility (CSR) and environmental, social, and governance (ESG) factors have led to the emergence of different kinds of behavior (e.g., greenwashing) and finance trends and tools (such as socially responsible investment and the use of sustainable Fintech initiatives) due to a willingness by investors to incorporate not only financial criteria but also non-financial attributes into their investment decisions. In the current environment, the financial sector plays a key role in fighting climate change, as it has the task of financing the investments needed to transform our economy into a more sustainable one. The new financial services relating to sustainability are provided by both traditional suppliers and, above all, Fintech companies, aimed at improving, developing, and automating financial services. Fintech companies are becoming increasingly popular, with great expectations for growth, and they are used to assist and support firms, investors, and customers in managing their financial activities, using specialized applications and software. Furthermore, the Fintech industry is a driving force for sustainable economic growth with several effects on social, environmental, and ecological benefits. As far as environmental and ecological development is concerned, Fintech can promote the use of funds for energy and environmental projects, as well as the construction of renewable energy and environmental infrastructure. Fintech shows consistency and continuity with ESG criteria through the use of tools such as crowdfunding, big data analytics, blockchain technology, and artificial intelligence. As indicated above, sustainable finance and Fintech have many shared aspects, and Fintech can make financial business overall more sustainable, as it promotes green finance. Throughout this paper, the strategic perspective of Fintech has been described, and it has been possible to study the relationship between Fintech and sustainability by providing an extensive review of the literature. Furthermore, the theoretical scope has been applied to some examples of real, sustainable Fintech, which show ways to implement sustainable behaviors and to promote green investment. The paper emphasizes the need for greater standardization in both the format and the metrics of ESG reporting and sustainability reports, as well as the implementation of different systems and technologies to detect and prevent greenwashing practices. **Implications for Practice**

Theoretical implications have been put into practice by analyzing and describing two cutting-edge Fintech companies: Clarity AI and Pensumo. The analysis of these two important Fintech platforms leads to the conclusion that this kind of app and platform still needs improvements to keep consumers, users, and investors informed and aware of the behavior of

the businesses they usually deal with, as well as of the bonds and stocks in which they invest. In this context, this paper gives some practical advice and recommends improvement measures in order to optimize the platforms' performance from the perspective of consumer information and protection.

Future Research Direction

Future research will focus on European and global regulation frameworks. They play an essential role, but it is still necessary to resolve many problems related primarily to customer and consumer protection. Thus, future research into the impact of user information and protection on sustainable Fintech companies is needed. It will be necessary to study different examples of sustainable Fintech and seek out their weaknesses in order to propose new improvement measures. What is more, it will be essential to design a plan for each platform so as to put all these measures into practice and to modify their apps by taking into account all the considerations discussed throughout the paper.

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