

# Chapter 14

## The Role of FinTech and DeFi for Sustainable Development Goals and Sustainable Development: A Comprehensive Bibliometric Review

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### ABSTRACT

*Financial technologies (FinTech) and decentralized finance (DeFi) are revolutionizing traditional banking services, a trend that has accelerated during the COVID-19 pandemic. Understanding their impact on sustainable development goals (SDGs) is essential as these technologies influence core financial services. Research indicates FinTech companies in developed and developing countries play crucial roles in addressing challenges like poverty, financial inclusion, and environmental sustainability, contributing significantly to SDGs. This chapter offers a comprehensive bibliometric review of FinTech, DeFi, and SDGs, mapping the research evolution, identifying key contributors, and underscoring emerging trends. It fills a gap in the literature by systematically analyzing FinTech and DeFi's role in achieving SDGs, providing insights for stakeholders navigating these intersecting domains.*

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## **1. INTRODUCTION**

Financial technologies (or FinTech), which refer to technological innovations in financial activities, are having a significant impact on core financial services that banks have traditionally provided. This disruption has intensified during the Covid-19 pandemic (International Monetary Fund IMF, 2022). One area at the forefront of technological advancement in the financial sector is decentralized finance (DeFi). DeFi is a rapidly emerging field that challenges the traditional financial system by providing financial services without relying on centralized intermediaries (Jensen, 2021; Schueffel, 2021). As these technological advancements continue to shape the financial sector, understanding their impact on sustainable development goals (SDGs) becomes crucial.

Various scientific studies provide understanding regarding the role of FinTech companies in achieving SDGs, in both developed as well as developing countries (e.g., see Hinson et al., 2019; Hudaefi, 2020; Hoang et al., 2022; Carè et al., 2023). More in detail, many FinTech companies are playing a key role in addressing major challenges, such as poverty alleviation, financial inclusion, healthcare access, gender equality, education, and environmental sustainability (Arner et al., 2020; Moro-Visconti et al., 2020), which ultimately contributes to SDGs or sustainable development.

Despite the regulatory challenges, FinTech, particularly blockchain technology, is seen as a potential driver for green finance technologies and sustainable development (Nassiry, 2019). The potential of blockchain within FinTech to unlock green finance technologies underscores its importance in contributing to renewable energy and sustainability goals. The literature suggests that, if approached responsibly, FinTech can be a powerful force for positive change in the pursuit of sustainability (e.g., see Puschmann et al., 2020; Chueca Vergara & Ferruz Agudo, 2021; Merello et al., 2022; Carè et al., 2023). Furthermore, Arner et al. (2020) stated that FinTech is crucial for achieving financial inclusion, which is a key component of sustainable development and contributes to essential United Nations (UN) SDGs. Additionally, DeFi is based on blockchain technology and is characterized by its user-centric approach (Schueffel, 2021). DeFi has the potential to increase the transparency, accessibility, and efficiency of the financial infrastructure (Schär, 2021). Specifically, the study by Lucian et al. (2022) mentioned that if DeFi is evolved in a safe manner, it can enhance competition and financial inclusion, thereby having positive implications for overall financial stability. However, there are also risks associated with DeFi, such as security vulnerabilities and regulatory challenges (Jensen, 2021; Schueffel, 2021). Therefore, the rapid growth of DeFi poses both opportunities and risks, requiring a nuanced understanding of its potential impact on sustainable development. According to Chen & Bellavitis (2019), DeFi can potentially alter the structure of contemporary

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