

Chapter 1

FinTech Development, Adoption, and Financial Performance of Banks: Bank–Based Novel Comprehensive FinTech Index (BBNC–FTAI)

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ABSTRACT

Extraordinary growth and rapid dependence on Financial Technology (FinTech) have reshaped the entire banking system worldwide. FinTech has introduced novel business models, enhanced operational efficiency, and redefined customer preferences. FinTech, including mobile banking, digital banking, artificial intelligence-driven risk assessment, and blockchain transactions, has altered banks' exposure to stability and profitability. This chapter aims to explain how the FinTech adoption

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influences the financial performance of Banks. For this purpose, the chapter provides an overview of FinTech, its various dimensions and discusses the FinTech adoption in relation to different theories. The chapter offers the evolution of FinTech, the components of FinTech used in previous studies, and how such adoption enhances the financial performance of banks. Moreover, the chapter presents a Bank-Based novel comprehensive FinTech adoption Index (BBNC-FTAI) using Python software. The proposed index can best measure FinTech adoption in banks and enhance the performance of the banking industry.

1. FINTECH AND ITS SCOPE

Financial technology refers to a set of innovative services supported by advancements in information and communication technologies and systems (Barbu et al., 2021). FinTech encompasses those revolutionary actors that provide financial services primarily through technology (Segura et al., 2020). FinTech integrates computer software and technologies to support banking services, enabling various transactions, including credit card payments, wire transfers, ATMs, e-money, and online payments (Nurlaela et al., 2020). Additionally, it signifies the use of the Internet and technological advancements in the financial sector (Zaghol et al., 2021). Therefore, FinTech is incorporating advanced technology to provide financial sector services (Gai et al., 2018). FinTech fundamentally relies on advanced technologies, including AI, blockchain, mobile wallets, IoT, and NFC (Lim et al., 2019). The know-how of such services is essential in FinTech (Suseendran et al., 2019). The availability of round-the-clock financial services, customised design, delivery, and improved consumer experience are the results of FinTech's dependence on technological innovation and the adoption of new processes, as highlighted by recent researchers (Barbu et al., 2021). FinTech represents innovation in financial business models and services (Nangin et al., 2020). Unlike traditional organisations, FinTech firms are technology-oriented and provide better, convenient, lower-priced, and faster services by incorporating digital infrastructure. Romanova and Kudinska (2016) documented that both cutting-edge IT firms and the conventional banking industry are monitoring financial technology and utilising it to enhance their offerings. Speedy and continuous growth of banks in a progressive and agile way can be expected through the use of computers and other digital technologies associated with financial services. FinTech can take several forms, such as the digitalisation of the financial services industry and the exploration of potential financial solutions through information technology (Zaghol et al., 2021). The chapter aims to: 1) provide an overview of FinTech and its various dimensions, 2) discuss the FinTech adoption in relation to different theories to explain how FinTech adoption influences

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