


## Chapter 5

# Big Data Management in the Era of FinTech: Insights From a Literature Review

**Mona Fourati Ennouri**  
*University of Sfax, Tunisia*

**Karim Mezghani**  
 <https://orcid.org/0000-0002-9404-405X>  
*Imam Mohammad Ibn Saud Islamic University, Saudi Arabia*

### ABSTRACT

*Within the 4th industrial revolution, disruptive technologies spread along the financial value chain giving rise to FinTech phenomenon. In this context, more digitized and useful big data about customers and their transactions are generated. Managers need big data tools in order to get meaningful insights from the huge volumes of such data. Managing this vast amount of data can represent both an opportunity and a challenge for FinTech. This chapter investigates the big data management issues in the context of FinTech and proposes a framework for big data management tools adoption based on expected benefits and challenges.*

DOI: 10.4018/978-1-7998-7110-1.ch005

## **1 INTRODUCTION**

Researches in the economic and managerial literature don't agree on a single definition of Fintech (Nicoletti, 2017). Fintech could be understood as novel technologies adopted by the financial service institutions (Gai et al., 2018), financial services which leverage on modern technologies (Dapp et al. 2014) or companies (startups) which serve as enablers of such kinds of services (Zavolokina et al., 2016).

Zavolokina et al. (2016) argue that Fintech is a very broad phenomenon and that shedding light on the term and its understanding will help both practitioners to identify potentials and threats of the phenomenon, and researchers to unveil new possibilities for research regarding all aspects of Fintech (e.g., technologies behind, ecosystems, organizational matters, etc.).

The phenomenon of Fintech is supported by the development and the diffusion of modern information and communication technologies. At the same time, these technologies allowed the development of a digital environment in which we are confronted with an "information overload" (Dapp et al., 2014) from various sources and in different formats, often referred to as big data (Alharthi et al., 2017). Managing this vast amount of data can represent both an opportunity and a challenge for firms (Alharthi et al., 2017; Almeida, 2017), notably in Fintech context. Indeed, firms can take full advantage of the potential of these data to predict changes in customers' needs (Dubey et al., 2018) and to improve decision making (Mezghani, 2019; Ignatyuk et al., 2020) and firm's competitiveness (Gupta and George, 2016; Alharthi et al., 2017). For Fintech, this allows a greater personalization of services (Dapp et al., 2014) and the improvement of customer experience and innovation (Nicoletti, 2017; Palmié et al., 2020). Nevertheless, working with big data, in Fintech era, poses some challenges related to data quality, security and privacy or customer management (Lee and Yong, 2018). These challenges are not only at a technical level (Almeida, 2017), but include also managerial concerns (Alharthi et al., 2017; Vassakis et al., 2018) related to leadership, talent management or organizational culture (Shamim et al., 2019).

Based on previous theoretical and managerial studies linking big data with the development of Fintech, this chapter attempts to investigate the big data management issues in the context of Fintech.

The first section deals with the main transformations of the financial sector in a digital revolution context permitting the emergence and the development of the Fintech phenomenon. The second section discusses the main challenges of big data management with a focus on managerial issues. The importance of big data management in the era of Fintech is then considered. In the third section, we attempt to develop a framework of big data management tools adoption in the Fintech context combining expected benefits and challenges.

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: [www.igi-global.com/chapter/big-data-management-in-the-era-of-fintech/265834](http://www.igi-global.com/chapter/big-data-management-in-the-era-of-fintech/265834)

## Related Content

---

### The Conceptualization of the E-Service Quality: A Review of the Literature

Ramzi Ben M'rad (2021). *Handbook of Research on IoT, Digital Transformation, and the Future of Global Marketing* (pp. 314-329).

[www.irma-international.org/chapter/the-conceptualization-of-the-e-service-quality/286287](http://www.irma-international.org/chapter/the-conceptualization-of-the-e-service-quality/286287)

### Inclusive Digital Transformation for the Marginalized Communities in a Developing Context

Samuel Musungwini, Petros Venganayi Gavai, Samuel Simbarashe Furusaand Raviro Gumbo (2022). *Digital Transformation for Promoting Inclusiveness in Marginalized Communities* (pp. 95-122).

[www.irma-international.org/chapter/inclusive-digital-transformation-for-the-marginalized-communities-in-a-developing-context/308362](http://www.irma-international.org/chapter/inclusive-digital-transformation-for-the-marginalized-communities-in-a-developing-context/308362)

### Skin Cancer Lesion Detection Using Improved CNN Techniques

Sourav Kumar, Garima Jaiswal and Keshav Sinha (2023). *Handbook of Research on Technological Advances of Library and Information Science in Industry 5.0* (pp. 355-377).

[www.irma-international.org/chapter/skin-cancer-lesion-detection-using-improved-cnn-techniques/316589](http://www.irma-international.org/chapter/skin-cancer-lesion-detection-using-improved-cnn-techniques/316589)

### Automation in Healthcare Services

Vijay Prakash Gupta and Amit Kumar Arora (2022). *Research Anthology on Cross-Disciplinary Designs and Applications of Automation* (pp. 285-303).

[www.irma-international.org/chapter/automation-in-healthcare-services/291639](http://www.irma-international.org/chapter/automation-in-healthcare-services/291639)

### Techniques of Steganography and Cryptography in Digital Transformation

Sabyasachi Pramanik, Ramkrishna Ghosh, Digvijay Pandey, Debabrata Samanta, Soumi Dutta and Shawni Dutta (2021). *Emerging Challenges, Solutions, and Best Practices for Digital Enterprise Transformation* (pp. 24-44).

[www.irma-international.org/chapter/techniques-of-steganography-and-cryptography-in-digital-transformation/275699](http://www.irma-international.org/chapter/techniques-of-steganography-and-cryptography-in-digital-transformation/275699)