


# Chapter 1

## When Technology Meets Finance: A Review Approach to FinTech

Yousif Abdullatif Albastaki

 <https://orcid.org/0000-0002-6866-2268>

Ahlia University, Bahrain

### ABSTRACT

*There is a paradigm shift in the financial services industry. Combined with ever-changing customer expectations and preferences, emerging technologies such as artificial intelligence (AI), machine learning, the internet of things (IoT), and blockchain are redefining how financial institutions deliver services. It is an enormous task to remain competitive in this ever-changing environment. Financial institutions see FinTech as a major part of the digital future, and as proof of this, since 2015, financial institutions have invested over US\$ 27 billion in FinTech and digital innovation. This chapter is an introductory chapter that explores FinTech in the literature. It focuses on how FinTech is reshaping the financial industry by describing FinTech phases and development process. The financial products and services using FinTech are also described with a highlight on Islamic FinTech. The chapter finally concludes by describing the future of FinTech.*

### INTRODUCTION

There is nothing new about the relationship between finance and technology. However, the global financial crisis of 2008 (GFC) was a pivotal moment separating prior phases of FinTech and Regulatory Technology growth from the current paradigm. Fintech is the term used to refer to financial and technology convergence space technologies and usually refers to companies or organizations that use software to provide businesses or customers with financial services. Fintech defines any company providing financial services through software or other technologies and encompasses anything from smartphone to cryptocurrency payment applications. Fintech specifically defines any business that uses internet, mobile devices, technology or cloud services to conduct or communicate with financial services. Most fintech

DOI: 10.4018/978-1-7998-3257-7.ch001

products are designed to link the finances of customers with easy-to-use software, although the concept often refers to Business-to-Business (B2B) innovations. Today, FinTech has entered a rapid development period marked by start-ups and other new entrants proliferating, such as IT and ecommerce companies that have disrupted the financial services sector. The new era presents new challenges to regulators and underlines why FinTech's development needs regulatory to evolve in parallel.

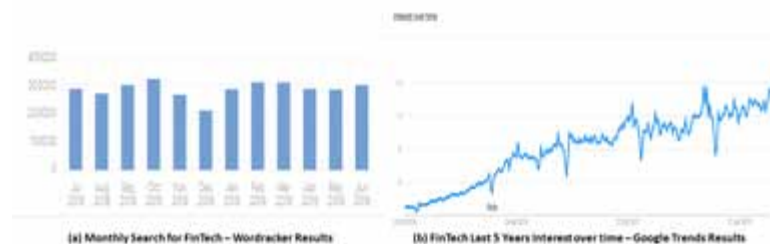
The word 'fintech' has recently appeared in the literature and related publications to describe the financial sector's revolutionary mission of providing quicker, cheaper and more human-cantered financial services. Accenture reported (Accenture, 2015) the term FinTech has become a motto for private and institutional investors who between 2010 and 2015 invested more than \$50 billion in the sector. Bill Gates 'ground-breaking claim in 1994 that "banking is required, banks are not" has become a self-reinforcing prophecy, with 6,000 – 7,000 fintech firms around the world now trying to get a slice of the profitable business of the banking industry. Investment in financial technology (fintech) companies increased by 201 percent globally in 2014, compared to 63 percent growth in overall investment in venture capital, establishing this market as a hot ticket. Expectations for new digital start-ups in the industry continue to rise, with the amount of money alone flowing into first-round investments rising by 48%. In 2014, global investment in fintech companies tripled to \$12.21 billion, clearly indicating that in the financial services sector, the digital revolution has arrived. It is still unclear whether this presents more of a challenge or an opportunity for the incumbents in the industry. Nevertheless, established players in financial services are beginning to take bold measures to engage with new technologies.

The financial ecosystem is rapidly changing due to increased use by financial institutions and new competitors of information technology. Broadly speaking, the word "financial technology," from the invention of digital money to double-entry bookkeeping, can refer to any advancement in how people transact business. Nevertheless, financial technology has grown explosively since the internet revolution and the mobile and smartphone revolution, and fintech, which originally referred to computer technology being applied to the back office of banks or trading firms, now represents a wide range of technical developments in personal and commercial finance.

According to Wordtracker, Fintech receives about 270'000 google searches worldwide on average on a monthly basis. What's more interesting, however, is the increase in Fintech's search popularity. We can see a large increase in interest in the term Fintech when normalizing the ratio between the fewest search entries and the most search demand over the past five years on a scale between 0 and 100

Fintech also defines a range of financial activities, such as money transfers, checking with your mobile, bypassing a bank branch to apply for credit, raising money for a start-up or managing your business. This chapter is an introductory chapter which attempts to highlight on how FinTech is reshaping and disrupting

*Figure 1. FinTech Search Worldwide*



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