



# CERTIFIED EXPERT IN DIGITAL FINANCE

UNIT 2: NEW TECHNOLOGIES



**Certified Expert in Digital Finance**

## **Unit 2: New Technologies**

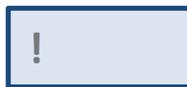
## Symbols



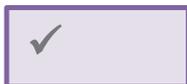
Definition



Further Reading



Key Message



Example



Exercise



Video

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## Abbreviations

DLT	Distributed Ledger Technology
FIAT currency	Fiat currency does not have an intrinsic value, but has been established as money, often by a governmental institution
ICO	Initial Coin Offering
UIDAI	Unique Identification Authority of India
CIDR	Central Information Data Repository
ROI	Return on Investment
AI	Artificial Intelligence
CRM	Customer Relationship Management
ERS	Enterprise Relationship System
HRS	Human Resource System
ERM	Enterprise Resource Management
SaaS	Software as a Service
PaaS	Platform as a Service
IaaS	Infrastructure as a Service
AISPs	Account Information Service Providers
API	Application programming interface
PISPs	Payment Initiation Service Providers

## Learning Outcomes

New technologies are the backbone of Digital Finance. New technologies that improve service speed and quality and create a great customer experience the same time. In Unit 2 we will take a closer look at the most relevant technologies that are driving change in financial services in both developed and developing countries. The Unit is designed to give you an overview of technological developments in the context of big data, the internet and the evolution of the mobile. Each technology is explained, and practical examples shall give you an idea what opportunities and business models actually open up with the new technology. The structure of the Unit is as follows...

### Phases of the Internet

The basis for the digital age is the internet. In this first section you will learn about the development of the internet in different phases and understand much better the significant changes the internet has brought in our economies. The journey of the internet has not yet ended...

### Cloud computing

The use of cloud platforms today is ubiquitous in business as well as in private life. This chapter will give more insights into the topic and show areas where you can leverage Infrastructure, Platform, and Software as a service - platforms in your business and how these environments work. Furthermore, we will analyse how companies can use the foundations of cloud services and keep all the different models in context with business requirements for performance, security, and portability.

### Open Banking and APIs

The landscape of financial service offerings is changing. One of the key concepts that stands out during this process is an open platform which opens the possibility to integrate many different banking businesses onto one product platform. Banks are opening up their customer base and product platform for digital finance providers. The connecting part is the API. The ability to connect can be crucial for both banks and Fintechs in order to leverage on each other's advantages, and recent examples have shown how digital finance providers can scale up significantly using API technology.

The chapter will examine how an open platform model in the banking industry can be realised and why it is an advantage for customers as well as businesses. Furthermore, we will explore the importance of APIs in this process and classify their different types.

## Distributed Ledger Technology

Distributed Ledger Technology (DLT) and Blockchain are technologies that can fundamentally change the financial industry as well as other industries. This chapter dives deeper into crucial aspects of the technology, how it functions and looks out to possible future adoptions in the financial sector and beyond.

The chapter contains an excursus into cryptocurrencies: Until today, cryptocurrencies are the most widely adopted application of a distributed ledger on the market, with media coverage describing it as “currency that has the ability to change everything”. Of course, this statement is highly polarising and vague, which is why we will use the content to evaluate this valuable use case of DLT technology. However, despite all the euphoria, we will also find some big obstacles cryptocurrencies must overcome to become a valuable and publicly spread payment solution.

## Biometrics

Originally, biometric scans were captured from criminals or suspects to help police investigations. However, more recently, these technologies have been used to improve convenience for users, security of systems, and inclusion in society. Biometric solutions help to achieve greater efficiency at reduced cost. The chapter will analyse the technology for identification and authentication and give you great examples how this technology has been utilised in different business models.

## Artificial intelligence and predictive algorithms

Artificial intelligence has the potential to unleash the next wave of business disruption, which is why gaining profound knowledge on the subject is important now. We already see new business models and cost benefits making it more urgent than ever before for other companies to accelerate digital transformation. Artificial intelligence has massive potential in process automation, it will revolutionise the concept of customer service and create entirely new business models, leveraging the smart use of connected data in digital finance. This chapter will go into further detail about the how artificial intelligence works and give you examples of disruption in different business fields where AI is already moving forward.