Chapter 3

# Digital Transformation And New Trends In The Finance Sector

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**Abstract**

The change in many sectors with the development of digital technologies has led to digital transformations in the finance sector. Digital transformation, which tries to solve many problems in social life with digital technologies by connecting people and objects and addressing the change in this process, has brought about change especially in the field of economy and finance. Digital transformation adopts new technologies to increase productivity, create added value and increase social welfare, and in this context, it is beneficial to all sectors with the innovations brought by digitalization. Technological developments in many areas such as the Internet of Things, cloud computing, artificial intelligence, virtual reality, communication of machines, robotics and full automation, driverless vehicles and energy storage show the importance of digital technologies today and in the future. Therefore, the finance sector is constantly developing and renewing itself.

With the digital transformation, competition has become and will become fierce in the financial sector as in every field. For this reason, the financial ecosystem has radically changed and a new generation financial system has emerged. With the new generation financial system, many fintech trends have emerged. Financial trends of today and the near future; digital and mobile wallets, artificial intelligence, conversational commerce, blockchain, peer-to-peer credit (P2P), 5G technology, robo-experts, big data technology, biometric data usage, embedded finance, decentralised finance, wearable technologies, neo-banking, open banking, near field communication (NFC), buy now pay later (bnpl) / buy now pay later, RegTech (regulatory technology) and smart contracts. In this context, the purpose of this study is to examine

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the financial trends that have emerged with the developments in the financial sector during the digital transformation process and are expected in the near future. In this context, the extent to which new generation financial trends shape the financial ecosystem will be determined.

## 1. Introduction

The 1st Industrial Revolution, which started with the invention of steam engines in England in 1712, was replaced by the 2nd Industrial Revolution in 1860 by mass production with the help of steel production method and electricity. The 3rd Industrial Revolution, which started with the automation of production and the use of computers in the 1980s, was replaced by the 4th Industrial Revolution in 2011 with the use of digitalisation and cyber systems. The 4th Industrial Revolution is also known as Industry 4.0 (Arslan, Gökçe and Ateş, 2020; Kaplan Yıldırım, 2023). As a matter of fact, with the advancement of technology and the emergence of big data in 2017, Industry 5.0, which is also called unmanned technology-oriented and super smart society, emerged.

Digitalisation refers to the process of reflecting new generation technologies in all areas of life. This process has caused radical changes in the finance sector as in many areas. Digital technology, dominated by big data, new algorithms and cloud computing, is expanding in a universe where all commercial and social relations are realised. Thanks to digitalisation, it is estimated that 7.6 million jobs in business life will end and turn into new jobs and create 8.9 million new jobs by 2030 (Güneş and Arslan, 2021; Atanır, 2022). Digitalisation, triggered by the Fourth Industrial Revolution and the Internet of Things, emphasises the importance of placing advanced technology at the centre of all processes, products and services (Nalbantoğlu, 2021). Figure 1 shows the framework of the digital technologies ecosystem.

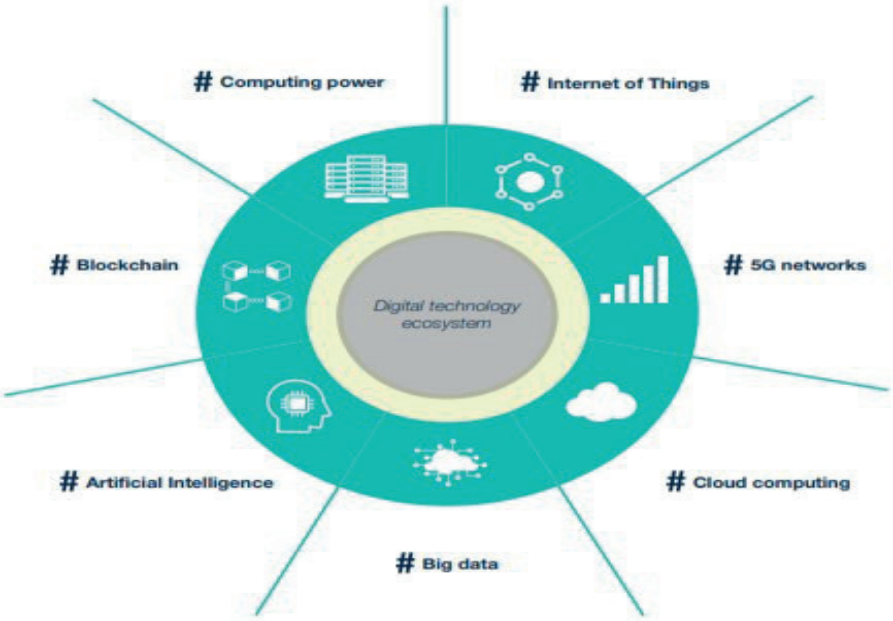


***Figure 1: Digital Technologies Ecosystem***

***Source: (OECD, 2019)***

Today, digital transformation in the financial sector is progressing rapidly. In order to respond to changing consumer demands, financial institutions have entered into a tight competition. Within the framework of this competition, financial institutions have to produce new strategies to meet customer expectations. At this point, digital transformation comes to the fore with artificial intelligence. With digital transformation, financial institutions will significantly reduce their operational costs.

Digital transformation, which refers to the integration of business processes that progress with digital technologies into a digital economy, aims to increase productivity, create added value and increase social welfare by using new technologies. Digital transformation covers the transformation effect of new digital technologies such as artificial intelligence, cloud computing and the Internet of Things (Sağlam, 2021). Figure 2 shows the technologies that create digital transformation and their usage areas.

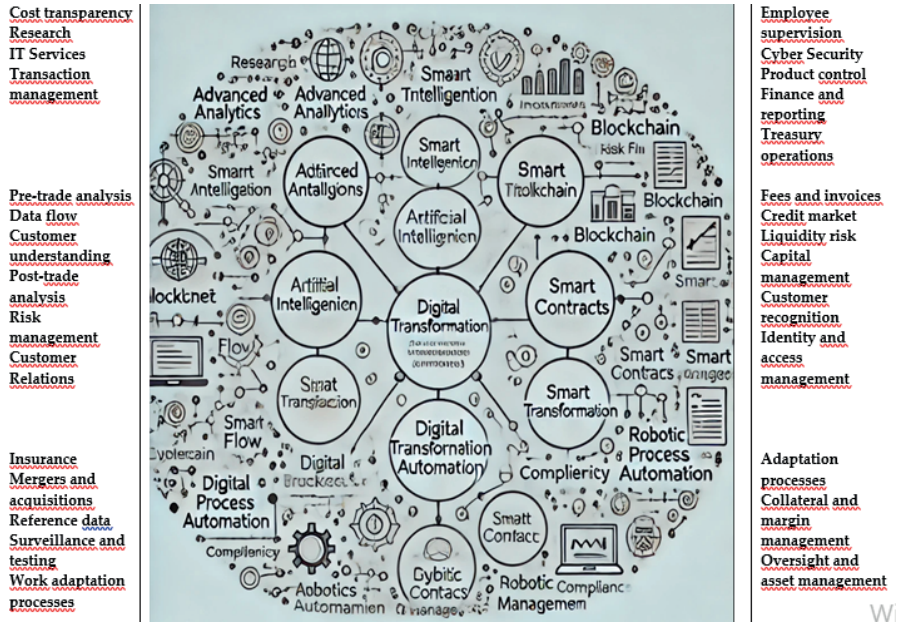


*Figure 2: Digital Transformation Technologies and Usage Areas*

*Source: (Yıldız, 2022) (Revised figure)*

Figure 2 shows the intersection of AI and finance. In this intersection cluster, the changes and transformations brought about by each innovation are shown and each structure has different sub-components.

The rapid development of technology has deeply affected the finance sector as well as all sectors. In this context, the concept of fintech was derived by combining the terms finance and technology. FinTech is the abbreviated form of "Financial Technology". Fintech uses technology in its activities in the field of finance. Since Fintech is technology-based, it offers faster and cheaper services to its users. Finance grows together with technology. Digitalisation together with technology is indispensable for finance. Those who cannot keep up with the digital world will not be able to survive. Companies that use technology and artificial intelligence by adapting to the digital world will be able to respond to changing consumer needs and thus work more efficiently. All FinTech trends that satisfy the consumer will continue to exist. Even consumers are widely using FinTech applications to control their financial situation. Figure 3 shows the key factors of a successful FinTech ecosystem.

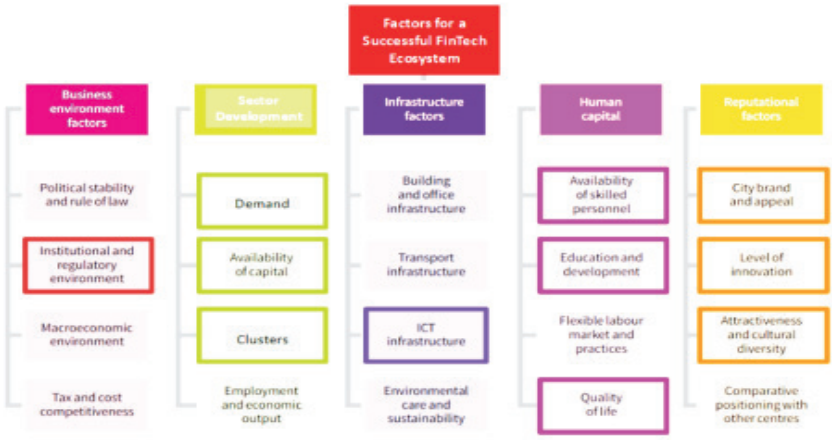


***Figure 3: Factors for a successful fintech ecosystem***

***Source: (Jain et all., 2023)***

Fintechs enable the development of new technology-oriented financial products and services. Fintechs use machine learning, artificial intelligence and blockchain technology. Artificial intelligence and machine learning are an important element to combat financial fraud. Financial technologies make life easier with machine learning and artificial intelligence. The Fintech market is expected to reach 1 trillion dollars in a few years. Therefore, FinTech products are one of the indispensables of daily life.

Artificial intelligence refers to the process of transferring human intelligence to computers through algorithms. Many financial institutions use robotic process automation with artificial intelligence and thus offer products and services efficiently by minimising costs. Artificial intelligence maintains transactions with minimum error and predicts the future. Artificial intelligence will shape the FinTech sector in the next 10 years.

Insider Intelligence, in its report "Winning Strategies for AI in Banking", found that with AI applications, banks saved approximately $447 billion in 2023, accounting for 90% of total bank savings. It also emphasised the importance of AI in preventing money laundering and combating fraud (https://www.businessinsider.com/intelligence/winning-strategies-for-ai-in-banking).

In this study, digitalisation and digital transformation are discussed first. In this framework, the effects of digitalisation on the finance sector have been determined. Afterwards, 18 new trends in the finance sector are explained and the effects of these trends in the digitalised world are presented.

## 2. Effects of Digitalisation on the Finance Sector

Technology has deeply affected many sectors from the past to the present. To give an interesting example, whether a position is a penalty or offside in football matches is instantly checked with the VAR technique and helps referees to make more decisions that are accurate.

With the development of technology, financial technologies have brought about a great change and innovation in the finance sector. While financial technology (FinTech) offers individuals, companies and organisations the opportunity to have more accessible financial services, to make faster and cheaper transactions, and to take better security measures, these new generation technologies called digitalisation also affect the finance sector. (Özer, Yücel and Er, 2023). Digitalisation is a process that leads to radical changes in the finance sector, increasing efficiency in the sector, improving customer experience and creating new business models. Below, the prominent effects of digitalisation on the finance sector are discussed at both theoretical and practical levels.

Digitalisation plays an important role especially in reducing operational costs. Banking and financial service providers make business processes more efficient with digital solutions. In the study by Gomber et al. (2018), it is emphasised that fintech solutions offer speed and cost advantages in financial transactions. The transition from manual transactions to digital transactions with the effect of digitalisation significantly reduces the operational costs of financial service providers (Gomber, Koch, & Siering, 2018). In fact, in the study conducted by Warner & Wäger (2019), it is emphasised that the integration of digital technologies (AI, big data, cloud computing, IoT), i.e. digitalisation, essentially aims to create more efficient business models in the financial sector (Warner & Wäger, 2019).

Digitalisation is increasing the use of big data analytics and artificial intelligence technologies in the financial sector. These technologies enable banks and financial service providers to offer personalised services by analysing customer data. Boukherouaa et al. (2022) explain how big data and artificial intelligence are used in customer relationship management, thereby increasing customer loyalty. The integration of digitalisation into data analytics processes enables financial services to be provided more effectively (Boukherouaa, Pérignon, & Tadjeddine, 2022). In addition, with the transformation created by digitalisation in the financial sector, innovations have also emerged in the field of risk management and security. Although digital systems have increased cyber security threats, they also enable the establishment of more advanced risk management systems. Bouveret (2022)

emphasises that digitalisation has made new security protocols mandatory for financial institutions and that stronger protection systems should be developed against cyber threats (Bouveret, 2022).

The use of technologies such as artificial intelligence and machine learning in credit assessment processes is another innovation that digitalisation has brought to the financial sector. Fuster et al. (2022) showed that machine learning algorithms provide more accurate results and better manage credit risks compared to traditional credit assessment processes (Fuster, Goldsmith- Pinkham, Ramadorai, & Walther, 2022). In addition, Blockchain technology is one of the most striking effects of digitalisation by making financial transactions more secure, transparent and fast. Treleaven et al. (2017) stated that blockchain reduces the dependence on intermediaries, especially in financial transactions, reduces costs and enables faster transactions (Treleaven, Brown, & Yang, 2017).

Digitalisation leads to the emergence of fintech companies and increased competition in the financial sector. Haddad and Hornuf (2019) emphasise that fintech firms challenge traditional financial service providers with innovative business models and cause a serious change in the sector. Fintechs offer alternatives to the traditional financial sector with innovative technologies such as blockchain, cryptocurrencies, smart contracts and robo-advisors (Haddad & Hornuf, 2019). In addition, digital payment systems are one of the most important outputs of digitalisation. Arner et al. (2020) state that digital payment systems increase financial inclusion and enable more people to access financial services, especially in developing countries. Mobile payment applications and digital wallets allow a wider audience to be reached by reducing barriers to access to financial services (Arner, Barberis, & Buckley, 2020).

Thanks to digitalisation, non-banking actors such as big technology companies (BigTech) and telecom firms have also started to offer financial services. Zhang et al. (2020) state that the digital services offered by these actors threaten the market position of traditional banks and further increase competition in the financial sector (Zhang, Xie, & Han, 2020). On the other hand, digitalisation reveals the necessity of new regulations in financial services. Philippon (2020) emphasises that with the rapid spread of digital finance, regulators have had to develop new approaches to regulate this area. In particular, issues such as data security, customer rights and regulation of fintechs are new challenges brought by digitalisation (Philippon, 2020).

The impact of digitalisation on customer experience is also significant. Especially mobile banking applications and online services make financial

services accessible from anywhere at any time. BátizLazo and Efthymiou (2021) emphasise that there is a significant increase in customer satisfaction thanks to the flexibility and speed that digital banking services offer to customers. In addition, artificial intelligence-based solutions that offer personalised services based on customer data take this experience to higher levels (BátizLazo & Efthymiou, 2021). As a result, the financial sector has rapidly adapted to digital technologies and significant innovations have been realised in this field. Digital transformation has not only embraced technology, but also brought about a radical change in business culture.

## 3. New Trends in the Financial Sector

With the development of technology, the financial sector has also developed itself. In this context, many financial trends have emerged recently. These financial trends will be analysed under 18 headings. These are

-Digital and Mobile Wallets: Digital wallets, which replaced physical wallets with the widespread use of smart devices and the internet, are mobile payment tools that enable people to perform their transactions in a short time using mobile payment systems. Digital wallets offer the opportunity to pay physically or over the internet. It also enables payments to be made quickly with other technologies such as QR code and NFC. Today, more than half of e- commerce payments are made with digital wallets (Öksüz and Demir, 2023). Mobile wallets are payment systems in which multiple payment mechanisms or cards with different features are kept together. Since more than one debit or credit card can be stored in mobile wallets, the need for customers to carry too many cards is reduced. The most frequently used mobile wallets in the world are Google Pay, Samsung Pay, AliPay, PayPal and Apple Wallet. In Turkey, Mobilexpress and BKM Express are the most commonly used mobile wallets (İşler and Gülaç, 2017). While mobile wallets such as Google Pay, Samsung Pay and Apple Pay work within a certain mobile operating system; digital wallets such as Alipay, PayPal, Amazon Pay and WeChat Pay work independently of the operating system (Özsoy and Demir, 2022). In short, mobile wallets are digital wallets that are used on smartphones and tablets and enable contactless payments, while digital wallets are applications that store customers' payment and password information and enable transactions to be made quickly and are not mandatory to be on the mobile device.

-Artificial Intelligence: The work done by machines, which is called intelligent when done by humans, is called artificial intelligence. Artificial intelligence creates algorithms by trying to understand the structure of

intelligence with computer programmes that control machines. At the same time, it makes predictions for the future with machine learning and artificial neural networks. With artificial intelligence, financial information is presented to users quickly, costs are reduced, a wide range of portfolios are offered, and users are enabled to make rational investment decisions (Kocaman and Vaysal, 2021). Artificial intelligence, which gives the most appropriate data from big data to the user, ensures that the transactions performed manually with algorithmic predictions are made with minimum error and in minimum time. Thus, productivity increases in companies that use digital technologies using artificial intelligence (Chohan, 2020). Artificial intelligence will be a disruptive element for professions such as credit managers, credit analysts, bank service personnel and accountants in the field of finance. Today, artificial intelligence is frequently used in product creation, marketing and communication in the finance and banking sector. Artificial intelligence is indispensable for the field of economics and finance as it contributes to defining and predicting the past and the future. Artificial intelligence controls and supervises the big data stack in the field of finance. Thus, artificial intelligence plays a game-changing role in banking and finance. Artificial intelligence facilitates the accountability of banks by collecting, organising and auditing very large data with the cloud technology it offers. Artificial intelligence is used in areas such as fraud detection, chatbot, reporting and analysis in the field of finance and banking (Özdemir, 2023).

- Conversational Commerce: Conversational agents are systems that mimic human speech using communication channels such as speech, text, facial expressions and gestures. These agents (however the agent or agent is translated) can often appear in the form of chatbots or avatars. These agents have been widely used in banking in recent years. With the digital transformation, the concept of conversational commerce has become very popular with the use of conversational agents in online commerce. In conversational commerce, customers interact with artificial intelligence, encounter many suggestions and are satisfied with their shopping within the framework of a humanised ecosystem. Thus, customers spend more time on online trading platforms and increase customer experience. As a result, the profitability of companies increases (Lim et all., 2021). Due to global expansion, the ability to do business 24/7 and high personnel costs, financial institutions can perform financial transactions through chatbots with artificial intelligence and machine learning. Through chatbots, customers can ask questions to their personal assistants in conversational commerce,

receive advice and recommendations, or make purchases (Conversational Commerce The Customer Experience of the Future, 2018).

-Blockchain: The cornerstone of blockchain technology is the introduction of Bitcoin. This is because this currency is transparently managed in a trusted and secure network, but without any role for central banks. Therefore, the internet of robust digital identity and reliable data stands out as one of the important financial technologies of today and the future (Pant, 2020). In addition, since blockchain technology is secure, banks prefer this method for cross-border payments.

Peer-to-peer (P2P) lending: Developed in recent years as an alternative to traditional banking services, P2P is a system that brings together borrowers and investors. This sector has grown with large investments and is expected to grow further (Jain et all., 2023).

5G Technology: 5G technology, also called 5th generation wireless network technology, is the next generation mobile communication technology designed to provide higher capacity and higher data rates than previous generation mobile communication technologies. 5G technology, which enables the active use of innovations such as robotics and the Internet of Things with its very low latency and high reliability, enables companies to access data in a very short time and thus enables them to make faster decisions. In this respect, 5G technology is expected to add

$500 billion to the country's GDP and create around 3 million new jobs. It is even predicted that it can open new employment paths for 8 million people in China and create an increase in national income of more than 600 billion dollars (Aydın, 2021). Together with the Internet of Things and machine learning, 5G technology will carry the Industry 4.0 process to an unmanned era and thus significant cost reductions will be experienced.

Robo-advisors: Robo-advisors is a system that provides online portfolio management services and uses artificial intelligence to provide algorithm-driven, personalised investment advice and portfolio management services. Robo-advisors, which first emerged during the 2008 global crisis, directed investors to low-risk and low-cost investments. Robo-advisors make it easier for people to invest and manage their wealth. Thus, people are directed to investment instruments such as stocks, bonds or real estate. Robo-advisors provide services without coming face-to- face with customers through surveys depending on the financial situation and risk profile of customers (Ünkaracalar, 2022, Jain et all., 2023). Robo-advisors offer online solutions

using online surveys and use passive investment techniques. While providing these services, they charge very low consultancy fees (Karz, 2015).

Big Data Technology: The concept of big data, which was first used by Michael Cox and David Ellsworth in the study "Application Controlled Demand Paging for Out-of-core Visualization" in the "Proceedings of the 8th Conference on Visualization", emerged because the data sets were very large and these data filled even the external disk of the computer (Cox and Ellsworth, 1997). Big data has 4 main characteristics. The first is that the number of data increases year by year in the world. Beginning of recorded history till 2003-5 billion gigabytes; in 2011 5 billion gigabytes every 2 days; in 2013 5 billion gigabytes every 10 minutes; in 2015 5 billion gigabytes

every 10 seconds; in 2023 38,1 petabyte (38 billion gigabytes) data is generated every 10 seconds. The second feature is that big data is organic, in other words, it provides more information about reality. The third feature is that big data is potentially global and everyone can access it. The last feature is that big data emphasizes correlation rather than causality (Zwitter, 2014). This dimension of big data shows the importance of big data in banking and finance. Big data is of great importance in measuring customer satisfaction through any network or social media or call centre, keeping customer data comprehensively, customer security and preventing fraud.

Biometric Data Usage: Biometric data are systems that identify people according to their physical and behavioural characteristics. The most commonly used biometric data are biometrics such as fingerprint, palm, retina, voice, face and wet signature. Biometric data are frequently used in e-commerce, digital cameras or computers and airports, as well as for entry-exit in high-security buildings (Yalçın and Gürbüz, 2015). Today, many banks carry out banking transactions smoothly with palm, eye, and voice, face recognition or fingerprint technology.

Embedded Finance: Embedded finance is an application that adds financial products and services to non-financial platforms such as digital spaces, mobile applications or websites, and enhances e-commerce. Embedded finance is growing rapidly with cloud computing technology. So much so that the number of open banking users, which was 24.7 million in 2020, reached more than 130 million in 2024 (https://www.squadstack.com/blog/top-5-fintech-trends-and- predictions). With embedded finance, many institutions that are not financial institutions started to provide financial services. For example, car rental companies, insurance companies or GSM companies offer services such as lending, one-click payment or cash advance like banks. In this way, many SMEs or companies can receive

financial services without the need for a bank. Embedded finance, which is very flexible, can provide many services from money transfer to payment, from credit to insurance without banks.

Decentralised finance (DeFi): DeFi are financial systems that handle financial transactions such as lending, borrowing or payments without centralised intermediaries such as banks or financial institutions. It is somewhat similar to blockchain technology. Therefore, it is secure and transparent. DeFi are systems based on open-source software and using smart contracts, managed by decentralised organisations. The most widely used DeFi platforms are Ethereum, Solano, Poligon and SushiSwap (Beştaş, 2023). With DeFi applications, all transactions such as loans, deposits, insurance and stock exchange are carried out without an intermediary institution and without being connected to a single centre. Cryptocurrencies, NFT, metaverse applications are blockchain technology-based applications that eliminate the need to depend on a single centre. Therefore, decentralised finance applications are needed today to determine investments without dividends (Parlar, 2022).

Wearable Technologies: One of the 21st century's important technological developments, wearable technologies are innovative products that are integrated into the clothes worn or accessories used and transfer data to smart devices with the help of smart sensors. The first examples of wearable technologies were realised in 1884. This product, called Electric Girls, was created by adding LED packaging to ballerina tutus. These products, which are mounted on fabrics or accessories, collect and record data thanks to sensors and perform defined tasks. Not every product in daily life has wearable technology features. Products have the feature of wearable technology by transferring the data collected with the help of smart sensors to the technological product (Sönmez Çakır et all., 2018). There are many wearable technologies ranging from smart watches to smart glasses, from health monitoring wristbands to tools that measure body temperature. These technologies are used in smart clothes (products that look like normal clothes and monitor all activities of users throughout the day such as body temperature, heart rhythm), smart watches (watches that can perform many smart tasks such as phone calls, writing or reading messages, e-mails via smartphone) and smart glasses (wireless devices that allow users to take photos and videos without using their hands and collect data from computers, smartphones or other electronic devices). There are also many smart applications that can be used in the field of health, such as smart shoes, smart tattoos, fitness trackers, life belts and life jackets (Aydın, 2019).

Neo Banks: Neo banks, also called branchless digital banks, are among the banks preferred by many users in banking services recently because they offer fast solutions based on automation (Haksever and Baykal, 2023). Neobanks have functions such as providing technology- oriented services, being customer-oriented, working with traditional banks to provide state-of- the-art banking services through mobile applications, the ability to open an account in just 3 minutes, the ability to easily open foreign currency and cryptocurrency accounts, and the ability of neobank customers to easily control their spending (Monis and Pai, 2023). According to Simon-Kucher, a global business consultancy, there are approximately 400 neobanks in the world as of 2022, and only 5 per cent of them show a positive and stable financial performance. According to Statista, the number of neobank users worldwide is estimated to reach 394 million by the end of 2023, up from 39 million in 2018 (Prodanova and Bondarenko, 2023).

Open Banking: Open banking, which emerged after the fourth industrial revolution, refers to the process by which two or more independent financial institutions can transfer and share all banking services and data through APIs (Application Programming Interface). With open banking, customers can manage their portfolios, save time and receive banking services at an affordable cost. In open banking, data, software and programmes can be accessed with the help of APIs. For example, websites, banking, social media or news services can be easily accessed through APIs on phones or computers, and control is completely transferred to the customer (Güney, 2023). Open banking system does not work without APIs. Android and iOS systems developed by Apple also provide a platform for mobile applications of APIs. In open banking, information will be shared with FinTech organisations with the permission of the customers, thus facilitating the financial life of the customers. The concept of open banking, also known as democratisation of data, has introduced two new concepts to the financial literature: Account Information Service Providers (AISP) and Payment Initiation Service Providers (PISP). In this framework, customers can carry out their transactions in a transparent and fast manner with the increase in competition among banks (Yallı, 2024).

Near Field Communication - near-field communication (NFC): One of the innovations in the financial services sector is near-field communication (NFC) technology, which is modernising banking. NFC is a wireless connection that uses radio frequency identification technology to send small packets of data between two devices held close together. Making payments in seconds by touching the phone to the counter, making all payments in many areas of life using the watch or bracelet shows the size of NFC

technology (Reddy and Goud, 2024). The fact that PIN is not used in most of the mobile payments made with NFC enables transactions to be handled quickly. NFC technology has recently been added to many phones with Apple Pay and Google Pay applications, and thus many financial transactions can be realised in a very short time. With the spread of NFC transactions, it is estimated that there will be approximately 86 million mobile payment POS (mPOS) terminals in 2022 (İşler and Gülaç, 2017).

Buy now pay later (bnpl): Buy now pay later (bnpl), which emerged after changing customer requirements, is a method that offers fast and easy financing to the consumer. Buy now pay later provides financing for the purchase of any product or service. In short, bnpl, which is not based on cash lending, is offered to people with high reliability by determining the target customer group. In this method, in any holiday purchase, the tour company can find the opportunity to sell the product to the customer through banks without giving cash credit to the customer or making a change in the credit card limit (Sandıkcı and Şaykol, 2022). Offering customers an uninterrupted shopping opportunity, bnpl is a low-cost or no-cost financing method that facilitates the one-click payment process and has a flexible repayment system. At the same time, bnpl is completely transparent and customers can know exactly how much they will pay (Kinikar and Nanduri, 2023).

RegTech (regulatory technology): Regtech refers to the applications of innovative technologies that support compliance with the requirements of financial institutions (Kandemir, 2021). RegTech developments play an important role in transforming the way financial firms manage compliance and risk. This technology offers innovative solutions to overcome these challenges in a dynamic and cost-effective manner. RegTech is being applied in more and more areas. RegTech utilises advanced technologies such as AI, ML, big data analytics and blockchain to streamline the compliance process. RegTech can automate tasks such as monitoring transactions for suspicious activity and play an important role in preventing money laundering. One of the most significant benefits of RegTech is its potential to reduce the costs associated with compliance and risk management. By automating routine tasks and providing more accurate risk assessments, RegTech can reduce the operational costs of maintaining compliance (https://www.avenga.com/magazine/fintech-industry-trends/). Regtech investments are generally used for data collection and improvements in information systems. While financial institutions spent more than $30 billion on regtech in 2020, this figure is estimated to be over $130 billion in 2025 (Charoenwong et all., 2024).

Smart Contracts: First introduced by cryptography expert Nick Szabo in 1993, smart contracts are the determination of the protocols to be followed by the parties when fulfilling a certain commitment in a digital form. Smart contracts operate without the need for human intervention. Szabo showed the first example of a smart contract as vending machines or vending machines. When money is thrown into these vending machines, the machine checks the correctness of the amount and delivers the specified product to the buyer if the amount has been paid correctly. These machines operate on the principle of "if the condition is true, do it". With the development of blockchain technology by Satoshi Nakamoto in 2008, smart contracts have become very important. In other words, blockchain technology underlies smart contracts. The first smart contract system used today is the Ethereum platform, a famous cryptocurrency (Durdu and Gökçe, 2022). Smart contracts are programmes that predefine the conditions and convert them into code and store these codes in blockchain in an unchangeable form. Once programmed, smart contracts reach large masses. Being transparent and reliable makes smart contracts more attractive. Smart contracts, which previously referred to simple machines such as vending machines, now appear in many areas from electronic sales to car hire. Since smart contracts do not require a physical document and are technology-based, they are expected to be used in many areas in the near future (Bölükbaşı, 2023). At the same time, the transparent processing of transactions in smart contracts without the need for financial intermediaries such as banks makes smart contracts one of the technologies of the future.

## 4. Conclusion

The FinTech sector is growing rapidly by offering new digital solutions to the classical finance sector. Digital financial literacy is important for financial intermediaries to enable consumers to assimilate financial products. At this point, customers have turned to digital transformation by using new products such as mobile banking, digital wallet and peer-to-peer lending. Banks have also embraced digital transformation in the face of increasing competition, and the reduction in costs with FinTechs has brought transparency. However, banks have realised that unless they continue to invest in FinTechs, their profits will decline and they will not be able to survive against increasing competition. Automation enables employees to increase added value in their work. Therefore, finance and technology must be intertwined. So much so that the competition 5 years ago is not comparable to today's competition. Many banks have closed more than half of their branches and will continue to close them by implementing

digital processes in the future. Banks have to produce customer-centred solutions to meet consumer demands. Banks need an urgent action plan for cloud-based systems, data sharing, transparency and fraud prevention. The technologies that will provide these are FinTechs within the framework of advances (Polishchuk, 2023). With cloud computing technology, fintech companies offer more innovative financial products and services to their customers by storing big data securely. With the Internet of Things, new financial products such as smart wallets and wearable technologies have been developed. Artificial intelligence lies at the heart of all this.

With artificial intelligence, technology and fintechs are integrated and financial services become more transparent, more accessible and less costly (Jain et all., 2023).

The fact that the price of Bitcoin, which was $ 16 000 in early 2023, increased approximately 4 times to $ 72 000 in October 2024, indicates that cryptocurrencies will continue to exist in the near future. The financial sector will not remain indifferent to the rapid increase in blockchain wallet holders worldwide and the use of virtual cards and digital currencies instead of money. In this context, fintechs to be formed are expected to include cryptocurrencies.

The near future of the 18 new financial trends discussed in the study is uncertain. Machine learning, artificial intelligence and blockchain technology will continue to be effective in the financial sector in the next 20 years. Apart from this, it is expected that many new trends that are trending today will develop or change themselves in the next 20 years. The innovations in today's financial life were even difficult to imagine 20 years ago. We could not think of withdrawing money with fingerprint, retina or palm without any card 20 years ago. In this context, it is inevitable that there will be many innovations in financial life 20 years later. However, with machine learning, it is obvious that artificial intelligence and blockchain technology will continue to exist. At the same time, embedded finance and open banking will continue to develop. The capital market will become even more digitalised. However, it will not be a surprise that 5G technology will update itself and leave it to new technologies such as 6G. As technology continues to develop at this pace, more innovative trends are inevitable.

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