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Main text

The term "dollars" (\$) refers to United States dollars unless otherwise specified.
The term "billion" signifies 1,000 million.

Use of a dash (–) between dates representing years, e.g. 1991–1999, signifies the full period involved, including the initial and final years.

Tables

Two dots (..) demonstrate that the data is unreachable or has not been individually reported.
A single dot (.) implies that the data is inapplicable.
A dash (–) denotes that the amount is nil or scarce.
Because of adjustment, details and percentages do not always add up to sums.

Figures

Some figures include country names that have been abbreviated using ISO (International Organization for Standardization) alpha-3 codes, which can be found at <https://www.iso.org/obp/ui/#search>.



FINTECH MARKET ENTRY REPORT (FMER) 2021

ALBANIA

AZERBAIJAN

BOSNIA & HERZEGOVINA

TURKIYE



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ABBREVIATIONS

AI	Artificial Intelligence
API	Application Programming Interface
AML	anti-money laundering law
CAGR	Compound Annual Growth Rate
COVID -19	Coronavirus Disease of 2019
FinTech	Financial Technology
GDP	Gross Domestic Product
G20	Group of Twenty
IFC	International Financial Corporation
IoT	Internet of Things
IT	Information Technology
KYC	Know Your Customer
POS	Point-of-sale
PSD2	Payment Services Directive
SaaS	Software as a Service
SMEs	Small and Medium-Sized Enterprises
SWF	Sovereign Wealth Fund

ALBANIA

ACH	Automated Clearing House
BoA	Bank of Albania
NAIS	National Agency of Information Society
NPSC	National Payment Systems Committee
NRPS	National Retail Payments Strategy
RTGS	Real-Time Gross Settlement
SEPA	Single Euro Payment Area

AZERBAIJAN

ABA	Azerbaijan Banking Association
AMFA	Azerbaijan Microfinance Association
BSTDB	Black Sea Trade and Development Bank
CBAR	Central Bank of the Azerbaijan Republic
CDD	Customer Due Diligence
DFS	Financial Digital Services
DTH	Digital Trade Hub

IPS	Instant Payment System
JAA	Junior Achievement Azerbaijan
OJSC	Credit Guarantee Fund of Azerbaijan
P2P	Peer-to-Peer
SBFC	Savings Banks Foundation for International Cooperation
SMEDA	SME Development Agency

BOSNIA & HERZEGOVIN

ACH	Automated Clearing House
BD	Brčko District
CBBH	Central Bank of Bosnia and Herzegovina
FBH	Federation of Bosnia and Herzegovina
ICBL	Innovation Centre Banja Luka
RBI	Raiffeisen Bank International
RS	Republic of Srpska
SSF	SECO Startup Fund

TURKIYE

BRSA	Banking Regulation and Supervision Agency Turkiye
CBRT	Central Bank of Turkiye
CMB	Capital Markets Board of Turkiye
FCIB	Financial Crimes Investigation Board
GFHF	Global FinTech Hubs Federation
GNI	Gross National Income
TKBB	Turkiye Katilim Bankalari Birligi
PPP	Purchasing Power Parity





The FinTech Market Entry Report is an output of ICD's Financial Inclusion Platform. This platform was created by ICD to provide communities in ICD member countries with access to a wide range of financial education programs, financial products, and services, such as savings and borrowing tools, peer-to-peer funding platforms, crowdfunding platforms, financing tools, and investment tools, among many other financial implements for ICD member countries and beyond.

ABOUT US

The Islamic Corporation for the Development of the Private Sector (ICD) is a multilateral development financial institution and is part of the Islamic Development Bank (IsDB) Group.

ICD was established in 1999 to support the economic development of its 55 member countries through the provision of finance for private sector projects, promoting competition and entrepreneurship, providing advisory services to governments and private companies, and encouraging cross-border investments.

ICD financing projects are selected on the basis of their contribution to economic development, considering factors such as job creation, Islamic finance development, contribution to exports, etc. ICD also provides advisory services to governments and private sector groups on policies designed to encourage the establishment, expansion, and modernization of private enterprises, the development of capital markets, best management practices, and enhance the role of the market economy.

The FinTech Market Entry Report is an output of ICD's Financial Inclusion Platform. This platform was created by ICD to provide communities in ICD member countries with access to a wide range of financial education programs, financial products, and services, such as savings and borrowing tools, peer-to-peer funding platforms, crowdfunding platforms, financing tools, and investment tools, among many other financial implements for ICD member countries and beyond. A variety of vendors and FinTech technology solutions providers from all member countries and beyond will provide the offered financial products and services.



FOREWORD

Dear reader,

The Islamic Corporation for the Development of the Private Sector (ICD), a member of the Islamic Development Bank (IsDB) Group, is pleased to release its first FinTech report, “the Fintech Market Entry Report,” to the financial market. This report is one of a series of upcoming reports that will be developed to cover other regions of our 55 member countries. The report was developed to provide market analysis and insightful information to interested practitioners who are active in boosting the FinTech industry locally and via expansions to new international markets. Interested FinTech entrepreneurs and start-ups will learn “how attractive is the FinTech business environment and infrastructure in a particular country?”.

Today, the financial system is going through a period of rapid innovation that offers more affordable financial products and services, especially to the unbanked and underserved population. This can have significant benefits for financial inclusion as it provides better access to, and enables active usage of, affordable financial products and services to all individuals and small enterprises while supporting a competitive marketplace.



As FinTech tools are becoming increasingly popular and synonymous with “financial innovation”, financial regulators are regularly looking for more flexible ways to engage with FinTech providers to improve the FinTech ecosystem with the aim of better serving the financial industry. This growing demand and attention must be supported by all market players. ICD, as a development organization, encourages successful FinTech providers to always explore opportunities in other markets. This orientation will have significant benefits for “financial inclusion” goals because FinTechs have demonstrated that they can provide a faster, more affordable, and easy-to-access service to a larger base of beneficiaries.

I hope that the findings, analytics, and insights presented in this report are helpful to all stakeholders across the FinTech sector as well as the financial and development sectors.

Enjoy the reading!

Ayman A. Sejiny,
Chief Executive Officer



WELCOME MESSAGE

Dear reader,

I would like to start this note with a question:

Can you tell if a recent transaction you made was a FinTech?

Due to the rapid development of financial technology and the wide range of transactions it covers, users/individuals become unaware of the fact that the majority of their financial activities are FinTech-based ones. What increases the ambiguity about FinTech is the last two years of COVID-19, where the dependence of FinTech tools, applications, and platforms has doubled, at least, from before the COVID-19 era.

To simplify, any financial activity involving one person (the user) and a machine (smartphone, laptop) is a FinTech. In other words, FinTech is reducing face-to-face or human interactions when running financial transactions and activities.

As for the start-ups, it has been known as one of the main labs for FinTech innovations, experiments, and success stories. The statistics show that the number of Fintech start-ups globally jumped from around 12,500 in 2019 to 26,000 in 2021, only two years! In terms of funding, the sector witnessed a USD 20 billion increase in funding in one year, reaching almost USD 122 billion.



I'm sure most of the readers have one question by now: what does the future look like? And to be honest with you, I don't have an answer for that. However, it must be a bright and very promising future for FinTech. The level of innovative ideas we received at ICD from those who are interested in FinTech is something that can't be described or explained in a few words.

With that, I will end with a question: how many FinTech activities did you complete this day?

Mohammed Alyami, PhD
Director, Development Effectiveness Department



01

FinTech: GLOBAL OVERVIEW

1.1 FinTech

FinTech is a portmanteau for “financial technology”; a marriage of financial services and information technology. It refers to software, algorithms, and applications for both computer- and mobile-based tools that are used to augment, streamline, digitize, or disrupt the delivery and use of traditional financial services. FinTech has been engineering a shift to more consumer-oriented services, with the introduction of a variety of innovations into personal and commercial finance.

1.1.1 Evolution of FinTech

Finance has always been shaped by technological developments, with the two sharing a long and symbiotic relationship.

This interlinkage has evolved over three waves of disruption that spans a period of well over 150 years.



Figure 1.1: Summary of FinTech Evolution

Date	1866 - 1987	1987 - 2008	2009 - Present	
Era	FinTech 1.0	FinTech 2.0	FinTech 3.0	FinTech 3.5
Geography	Global / Developed	Global	Developed	Emerging/ Developing
Key Elements	Infrastructure / Computerization	Traditional financial institutions / Internet	Start-ups / New entrants / Innovators	FinTech 3.5
Shift Origin	Analogue linkages	Digitalization	2008 financial crisis / Smartphone	Last mover advantage

Source: Arner, Berberis, & Buckley (2015)



1.1.2 Timeline of key events in FinTech journey

From Pantelegraph's debut in the late 19th Century to e-banking towards the end of 20th Century, the financial services industry went through massive waves of digital transformation before it became FinTech as we know it today. By the early 2000s, FinTech as an industry was driven primarily by startups that integrated technology into major financial institutions, such as banks, brokerage firms, and insurance companies. Traditional financial institutions at the time did not prioritize creating innovative tech products, and neither did they view the emerging startups as a threat. Now we are witnessing the dawning of the age of Neobanks that exist solely online.

The FinTech Revolution Begins

1830s

Telegraph is introduced for the first time (1838)

1860s

Pantelegraph is invented to verify signatures in banking transactions by sending and receiving transmissions on transatlantic telegraph cables (1865)

1880s

Merchants begin using charge plates and charge coins to exchange good and services for credit (1880)

Financial Innovations of the Early 1900s

1910s

- The United States Federal Reserve Banks devise Federal Reserve Wire Network or Fedwire to move funds electronically (1918)
- The first allusion to financial technology and the future of financial services is brought by the publication of an important book, The Economic Consequences of Power, where the author, John Maynard Keynes wrote about the link between finance and technology (1919)

The Emergence of Modern FinTech Trends

1950s

- Diner's Club introduces the first universal credit card (1950)
- American Express introduces their own credit card (1958)

Significant FinTech Advancements

1960s

- Quotron is the first product to offer stock brokers and money managers stock market quotes on an electronic screen for them to receive up-to-the-minute prices for securities (1960)
- Telex replaces telegraph for global communication of financial transactions and information (1966)
- Barclays installs world's first ATM (1967)

A New Era of FinTech Trends

1970s

- NASDAQ introduces electronic trading (1971)
- FinTech Introduces the World to Online Banking and Trading

1980s

- E-Trade launches the first online brokerage services (1982)
- Nottingham Building Society introduces online banking (1983)

FinTech Innovations in the New Millennium

2000s

- PayPal makes its debut (1999)
- Bitcoin version 0.1 releases (2009)
- FinTech Apps like Stripe and Venmo gain widespread popularity (2010)
- Google Pay Send (formerly known as Google Wallet) launches allowing smartphone users with NFC to make tap payments (2011)
- Alibaba creates facial recognition technology Smile To Pay enabling users to pay by smiling (2017)

Prepare for the Financial Possibilities of FinTech

2020s

- Digital-only banks / neo banks like N26 create industry disruption (2019)



1.2 Segments, types, users/services of FinTech

FinTech companies provide various services, from standard banking services like payments and cash transfers, to technologically oriented services that improve the procedures in essential financial markets. FinTech companies began as solely technological businesses to improve or assist economic activity. As the industry has developed, these companies have emerged as viable alternatives to traditional financial services providers, enabling various financial services such as mobile point-of-sale (POS) payments and marketplace lending to individuals.

1.2.1 FinTech market segmentation

By Segmentation



Digital Payments

Enterprise payments are included in electronic payment solutions that encompass both remittance and merchant payments. Digital payment FinTechs have received US \$4.6 billion in funding during the last five years. During the same time span, 532 FinTechs were formed.

In this period, however, there was more rivalry, low customer loyalty, growing consumer incentive costs, and certain regulatory constraints (such as increased Know Your Customer (KYC) norms for digital wallets and data localization).



Alternative Lending

Alternative lending technology is an enabled solution to give loans to retail customers. FinTechs use alternative lending to address the country's significant credit demand-supply imbalance. To improve the customer experience and create operational efficiency, they use both standard and alternative credit scoring methods and digital processes. While the number of new alternative financing FinTechs has decreased in recent years, the quantity of money invested has increased. By focusing on new clients and digitizing the credit evaluation and disbursement procedures, the alternative lending platforms bridge the demand-supply gap in credit. Supporting infrastructure has resulted in various new loan business models fueled by growing internet penetration and client awareness.

FinTech has been engineering a shift to more consumer-oriented services, with the introduction of a variety of innovations into personal and commercial finance



By Type**Open/Challenger Banking**

The regulatory environment and changing consumer behavior are encouraging financial institutions to embrace the opportunity for open banking/challenger banks. Various FinTech companies, particularly in the European Union, are developing systems that will allow financial institutions to connect to the larger Application Programming Interface (API) ecosystem. TrueLayer, an open banking platform, has been a huge success in this space. Temasek, a global Sovereign Wealth Fund (SWF) company headquartered in Singapore, recently invested \$35 million in the company.

**Artificial Intelligence (AI) and Machine Learning Powered Platforms**

Platforms powered by AI and machine learning are in charge of the company's core operations. These are tools that assist with either paper-intensive or data-intensive activities and are critical to the complexity of financial services. These methods enable users to examine data in order to aid in decision-making or to detect anomalies. FICO and Finastra, for example, have embraced this new cutting-edge approach to fraud detection and anti-money laundering compliance.

**Personalized Advice Platforms**

The goal is to provide a better user experience that is scalable. This platform is possible because the

improvements are driven by simple procedures, client decisions that are simple to make, reporting that is simple to understand, and all of this is presented in a visually appealing UX/UI design. This method is mainly applied to asset management, life insurance, and loan subscription procedures. These platforms turn a service that many consumers see as complicated and challenging to control into something simple and somewhat fun. Furthermore, they engage with consumers to improve the user experience through perceived empathy or give data-driven support at a cheaper cost. The spectrum of applications is vast, but wealth and investment management are one of the most frequent. Nutmeg, is an excellent example of a so-called Robo-advisor that uses machine learning to provide (basic) automated asset allocation services and recommendations. Nutmeg has acquired a significant investment from Goldman Sachs, collaborating with the company to begin providing wealth management services to retail clients.

These platforms turn a service that many consumers see as complicated and challenging to control into something simple and somewhat fun





Blockchain

Most of this technology's applications have been explored and implemented in instances involving contracts, but there are other fascinating characteristics related to identity management and onboarding procedures. There hasn't been a clear standout in this market. Companies in the global FinTech sector rapidly use blockchain technology to improve security and operational efficiency. Blockchain is a system that entails the creation of a distributed database that is available to all users across a network, with each user having the ability to contribute a new data record (block) with an immutable timestamp. Blockchain technology preserves data authenticity by preventing modifications to older data blocks while enabling users to continue contributing new ones, resulting in excellent security and transparency for financial firms. It improves trade accuracy, minimizes risk, and speeds up the settlement process.



Payment Technologies

FinTech in the payment sector provides a wide range of new solutions, from cryptocurrencies to worldwide account and FX management. A mobile wallet, which is a digital device, an internet service, or a piece of software, offers payment using a smartphone application to process, view account information, and pay for services. The mobile wallet saves information about the payment card on the app to speed up the entire payment procedure. Mobile wallets are becoming more popular, and the reason for this may be traced to the growing number of cellphones on the market. The present generation has embraced the rise of mobile payment technologies.

According to NewZoo, at the end of 2019, there were roughly 3.2 billion smartphone users. As a result, as mobile users grow, so does the number of mobile wallet users. In 2019, the mobile payments industry was worth approximately \$114 billion, and by 2021, it is anticipated to be around \$190 billion. Wise (formerly TransferWise), a European cross-border transaction unicorn, was recently valued at \$3.5 billion following the sale of a share by the founders.

By Users/Service



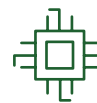
Government Entities

Regulators, central banks, sovereign wealth funds, and other bodies providing licenses and active influence over the financial industry are all examples.



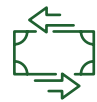
Traditional Financial Services Firms

They become involved as a potential strategic buyer, an investor, and an innovator. For instance, Citibank, is a bulge bracket bank in the United States that is becoming more and more involved in the industry. It provides a variety of programs, such as an accelerator, external acquisitions, and a venture capital team that invests in the bank's assets (on its balance sheet, no less).



Tech Companies

In addition to their primary offerings, Information Technology (IT) companies provide financial services. Uber and Amazon, for example, have internal teams of engineers and specialists dedicated to expanding their industry footprint.



Companies that Provide Technology for Financial Transactions

Companies supplying financial transaction technology, such as Bloomberg, Thomson Reuters, American Express, Visa, and others, are all part of the FinTech ecosystem and must stay afloat with any developments in the field and new rivals that may pose a threat.



Professional Investors

Professional investors are classified according to their size (small or large fund), stage (seed, late venture, private equity, etc.), and funding source (pension funds, strategic investors, family offices, and others).



New, Disruptive Companies

In a variety of industries, new, disruptive businesses are emerging. The majority of these businesses began by "unbundling" one of an established player's services.



Insurance

In 2019, the insurance market was the most important sector of the FinTech industry, accounting for \$54,831.4 million, or 49.3 percent of the total market. The money transfer industry is expected to be the fastest-growing category in the future, with a CAGR of 23.9 percent.



1.3 FinTech market drivers and dynamics

Technological advancements have led to the disruption of the financial service industry. The past decade has proven that digitalization has been an important factor in the changing banking sector. The availability of FinTech firms with simpler and more advanced technological features have skyrocketed clients' expectations of financial services. The concept of traditional banking itself is considered expensive by both banks and customers.

The FinTech industry has accelerated immensely despite the COVID-19 pandemic or due to it. Research has shown that 60 percent of the world population uses the internet, and it has increased the potential for FinTech growth. The pandemic has shifted the style of living, where staying and working at home was the major change. That factor led or accelerated the FinTech industry's growth, where the Swiss Finance Institute reported that the number of FinTech app downloads has increased from 29.2 percent to 32.8 percent. The trend of brand loyalty is shifting to more speed, accuracy, transparency, and high tech. It is easier to say that the digital age has accelerated due to the pandemic.

The beginning stage of the pandemic created uncertainties among the FinTech players, just as in other industries. New FinTech entrants were finding it difficult to access funding as ventures and investors needed FinTech entrants to have a clear business model. FinTech firms responded differently to the pandemic as some firms focused on shoring up their capital while some firms implemented cost-saving measures. Unlike other start-ups that benefited from the pandemic's accelerated growth, FinTech start-ups must follow the central bank's regulatory rules. Regulators from different countries have issued at least one law towards FinTech firms during the pandemic. It was noticeable that the FinTech firms even played an important role in COVID-19 relief funds, which allowed some of the regulators to ease

up the law. The risk of fraud and cybersecurity is always a concern for the regulators.

The use of contactless payments has immensely increased due to the pandemic. FinTech firms have expanded their operations not only in developed countries, but also in developing countries where access to finance is difficult. Pandemic has laid a path for FinTech and other start-ups in the market and has enabled them to compete with the market giants. It is important to note that the FinTech firms have started to gain more market share as the vendors were given incentives for using their services. Many circumstantial factors from the pandemic have positively impacted FinTech firms around the globe.

FinTech firms have expanded their operations not only in developed countries, but also in developing countries where access to finance is difficult. Pandemic has laid a path for FinTech and other start-ups in the market and has enabled them to compete with the market giants



1.4 Global FinTech market growth and trend analysis

The worldwide FinTech market reached almost \$111,240.5 million in 2019, with a compound annual growth rate (CAGR) of 7.9 percent since 2015, and is anticipated to earn roughly \$158,014.3 million by 2023, with a CAGR of 9.2 percent. Furthermore, the market is expected to grow at a 10.2 percent CAGR to \$191,840.2 million in 2025 and \$325,311.8 million in 2030.

As a result, the market is expected to be driven by rising digital payment popularity, increased investments in blockchain technology due to its high efficiency in data management, the exponential development of e-commerce, and the implications of COVID-19. Customer data security is a critical concern that could stymie future growth in the FinTech market.

Adoption Trends of FinTech in Small and Medium-Sized Enterprises (SMEs)

The client's use of financial services has increased dramatically in recent years. FinTech assists SMEs with various financial needs, including banking and payments, financial management, financing, and insurance. Small and medium-sized enterprises (SMEs) are critical in Asia, accounting for more than half of all jobs and 42 percent of GDP. Despite this, SMEs only received 19 percent of total bank credit in 2017. According to World Bank data, increasing lending to SMEs is an hourly requirement because at least 1 million new jobs are needed every month to meet the rising Asian workforce.

This industry offers several development prospects for FinTech businesses, with a global adoption rate of 25 percent. In addition to credit financing, SMEs may profit from the FinTech ecosystem in various ways, including by leveraging APIs and distributed accounting technology to improve process efficiency. These are just a few examples of how SMEs can benefit from the FinTech ecosystem.

✓ FinTech Strengthens the Security of Financial Data

In the field of information technology, cybersecurity is becoming a grueling task. Cyber-attacks put businesses at risk of financial loss, so they invest extensively in FinTech. FinTech not only protects the security of financial data, but also facilitates transactions, resulting in seamless financial operations and flawless cash flow.

✓ FinTech Market Trends

Major trends influencing the FinTech market include:



increased investments in blockchain technology due to its high efficiency in data management, the exponential development of e-commerce, and the implications of COVID-19. Customer data security is a critical concern that could stymie future growth in the FinTech market



Implementation of Blockchain Technology

Blockchain technology is being rapidly adopted by global FinTech firms to improve safety and operational efficiency. Blockchain is a system that involves the creation of a distributed database that is accessible to all network users, with each user having the ability to contribute a latest data history (block) with an immutable date stamp. Blockchain technology protects data authenticity by preventing changes to older data blocks while allowing users to continue contributing to new ones, resulting in excellent security and transparency for financial institutions. It increases trade accuracy, reduces risk, and expedites the settlement process. According to PwC's FinTech research, 77 percent of financial institutions plan to incorporate blockchain into their operations by 2020, while 90 percent of payment businesses plan to do so.



INSPIRATIONAL MESSAGE

Hamza Alsaktawi | ICD - IsDB Group

*Head, Innovation and Knowledge
Management, ICD - IsDB Group*



INSPIRATIONAL MESSAGE

Dear reader,

The FinTech Market Entry Report (FMER) is a program introduced by ICD under the Financial Inclusion theme to ease the FinTech market entry into its member countries, and to increase the attractiveness of the business environment. The following chapters of the FinTech Market Entry Report highlight the emerging trends in the FinTech industry in four member countries.

The findings affirm the level and speed of innovation and entrepreneurial thinking in these markets. Indeed, a number of innovations were presented that could be further adopted for wider applications of financial inclusion. Such innovations were fostered by great interest from innovators who took advantage of the opportunity to excel and compete, not with each other, but with time-to-market. Active FinTech companies have also worked on various areas of financial inclusion to help hard-to-reach populations and small businesses with better and easier access to financial services, in addition to a seamless user experience.

The chapters ahead reveal that the business environment encourages partnerships between FinTech companies and traditional banks to advance various applications. However, what really makes FinTechs favorable alternatives is their great ability to enrich users' experiences in different ways and fulfill the emerging needs of consumers, especially millennials and Gen Z.

Active FinTech companies have also worked on various areas of financial inclusion to help hard-to-reach populations and small businesses with better and easier access to financial services, in addition to a seamless user experience



Hamza Alsaktawi
Head | Innovation and Knowledge
Management, ICD - IsDB Group

Governments' policies and regulations related to FinTech complete the wellbeing and attractiveness of any business environment. In fact, they address the challenges and measure the opportunities in the industry. Hence, with the increasing number of regulations in these markets, the report provides remarkable insights and experts' opinions for FinTechs that are interested in entering these markets.

As a final note, ICD will continue developing the FinTech Market Entry Report (FMER) for its other member countries. For that, we are keen to receive your feedback and inquiries on this report or upcoming reports. All inquiries should be addressed to the Head of the Innovation and Knowledge Management (IKM) Unit: Eng. Hamza A. Alsaktawi via his official email: Hamza@isdb.org

Enjoy reading,

Hamza Alsaktawi,
Head, Innovation and Knowledge Management,
ICD - IsDB Group



02



ALBANIA



ALBANIA

Capital city: Tirana

GDP	GDP per capital	GNI	GDP per capita
\$14.8 bn	\$5,215.3	\$14.5 bn	\$5,210

Figure 2.1: Distribution of employment rate

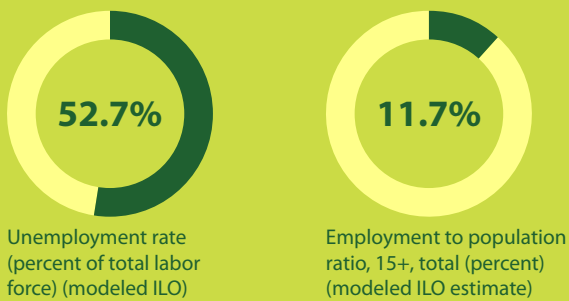


Figure 2.2: Consumer prize index rate (CPI)



Figure 2.3: Distribution of population and urbanization percentages

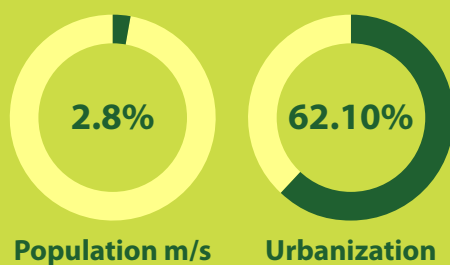
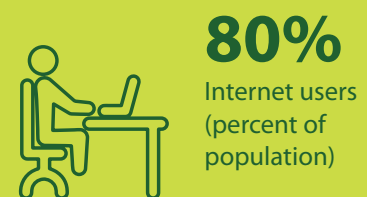
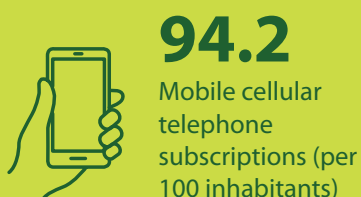


Figure 2.4: Share of trades in goods and services



Technology adoption



2.1 FinTech ecosystem

2.1.1 FinTech ecosystem, in terms of growth, talent, investment, and market drivers (consumer behavior, technology adoption, COVID-19)

According to a World Bank report in 2020, Albania has a basic level of FinTech development. The Digital Readiness score for the country is 11 out of 25, and the Digital Readiness rating is low compared to Turkiye as Bosnia & Herzegovina. The availability of the internet and improvements in technology also encourage customers to use digital financial services daily. In 2020, 62.1 percent of the population lived in urban areas, and the internet penetration rate was 69.9 percent. In January 2021, there were 2 million internet users, and 80 percent of the population used the internet in 2020. Mobile connections in 2021 were 3.8 million, which is 0.3 percent lower compared to January 2020. Due to lower awareness of financial literacy, Albania had one of the highest account inactivity rates in 2019. With 18 percent of account owners not using their accounts, The Bank of Albania (BOA) has implemented a Medium-term Development Strategy of 2016 promoting financial literacy as one of the key objectives for 2016 to 2018. The number of customers who have a bank account in Albania was 3.5 million to 3 million from 2016 to 2019.

According to the Findex 2017 report, 40 percent of Albanian adults have an account, with a 4 percent gap between men and women who own an account. 13.7 percent of adults have no account due to a lack of necessary documents, and 76.5 percent of adults have no account due to having a lower income.

In 2017, the government's expenditure on tertiary education was 3.6 percent of GDP. In 2019, 256,072 people completed secondary education, with 95 percent of the gross school enrollment ratio. The gross school enrollment ratio is 60 percent in tertiary education, which is lower compared to secondary education. An increase in school graduates enables the country to have a pool of talented young people to develop new innovative solutions in the development of the FinTech ecosystem.

The following are 12 FinTech start-ups in Albania with their established dates and in which FinTech verticals they operate:

01	Rubicon-providing payment financial technology solution (2008)
02	Allend- credit lending digitally (2019)
03	Banka Kombetare Tregtare BKT- providing banking services through digitally (1925)
04	Intesa Sanpaolo Bank Albania- digital bank (1998)
05	Easypay- digital mobile payment solution platform (2010)
06	M-Pay- digital mobile payment solution platform (2013)
07	Symmetric- digital mobile payment solution platform (2010)
08	Kredo finance- Microfinance lending (2017)
09	luteCredit Albania- Microfinance lending (2014)
10	Paylink- Payment processing in banking (2007)
11	Gjirafa- E-commerce (2013)
12	Paysera- provide online banking and payment solution (2004)



The TUMO Tirana Center for Creative Technologies was established in October 2020 in Albania with the aim of building a talented young generation in digital technology. They provide an opportunity for young people to be more digitally aware by providing an excellent environment to learn theoretical and practical knowledge. Thus, it contributes to the growth of start-ups in the FinTech ecosystem. In addition, BKT, the oldest bank in Albania, offers paid internships to the students as a part of the FinTech Academy program 2020. It would allow them to gain first-hand working experience, which would lead to an increase in their skills and expertise in the FinTech area. The central bank of Albania held Global Money Week 2021 to raise awareness among young people and students about the management of finance, which helps increase financial literacy. This would largely contribute to the demand for

FinTech services. The event was held virtually to follow the COVID-19 rules.

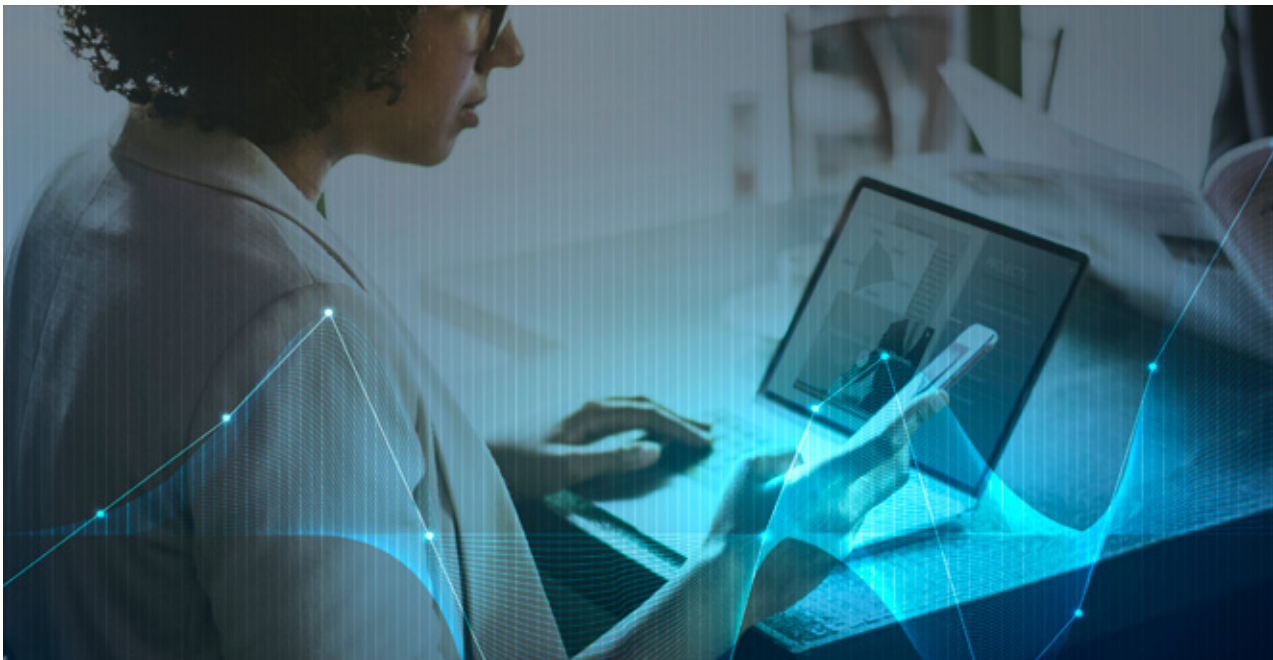
Rubicon, an Albanian FinTech company, raised capital for a pre-seed round from local Angel Investors, US Venture Capital firm Navy Yard Capital LLC, and APC Integrated in June 2021. This gives Rubicon a chance to expand into domestic and international markets. Prior to Rubicon, in 2019, Gjirafa, an e-commerce platform, raised \$6.7 million in Series B funding from Rockaway Capital. The Series B funding will allow the company to more than double its current team (currently at 70 full-time employees and about 100 total part-time employees), scale its existing products regionally, and deliver other digital services.

2.1.2 Overview of the FinTech hubs in the country FinTech evolution

In 2020, the RBI initiated the Regional Elevator Lab Bootcamp in the country to support FinTech start-ups in the early stage of developing minimum viable products and help build a better and innovative solution. Furthermore, AlbaniaTech is a place that encourages building up start-ups and innovative technological solutions in the country and connects investors and start-up entrepreneurs to develop and expand their businesses. It gives start-ups in different stages, like seed phase, start-up phase, pre-ideation, and ideation, an opportunity to grow.

In January 2021, there were 2 million internet users, and 80 percent of the population used the internet in 2020. Mobile connections in 2021 were 3.8 million, which is 0.3 percent lower compared to January 2020





AlbaniaTech is a place that encourages building up start-ups and innovative technological solutions in the country and connects investors and start-up entrepreneurs to develop and expand their businesses.

FasterCapital, an incubator, supports start-ups in Albanian by investing capital, providing sales and marketing consultants to find investors, and mentoring to help FinTech companies grow in the economy. Moreover, the country also has various accelerators like Uplift Western Balkans 2021–2022, Start-up Sauna in Tirana, OFICINA-Accelerator Tirana, SEW Albania, and Uplift Albania 2019 to promote the growth of the FinTech ecosystem.

2.1.3 FinTech verticals in the country that have potential to grow

Albania has a regulatory framework for cryptocurrencies that issues a license to entities operating in the field of distribution and trading of virtual currencies. The country is at the head of other European countries in terms of having a regulatory framework for cryptocurrencies that protects consumers from fraudulent activities in the market.

2.1.4 Country's FinTech responses to COVID-19 challenges and opportunities/solutions

During the COVID-19 Pandemic, FinTech firms, especially start-ups and small FinTech at the seed phase in Albania, faced a lack of capital as it is a developing market. One of the other challenges the country faces is the lack of regulation, legal framework, and security issues for FinTech's operations in the COVID-19 Pandemic.

However, in April 2020, the law on the Second Payment Services Directive (PSD2) was permitted by the parliament of Albania. This gives an excellent opportunity for FinTech start-ups to provide financial services digitally and provide innovative solutions to customers during the pandemic. The main objectives of this law are to allow innovative business models, form a consumer protection framework, ensure licensing and regulation, and strengthen the regulatory supervisory framework of the Bank of Albania on payment service providers. The country had around 40 percent of the unbanked adult population in 2017. Nonetheless, COVID-19 made it easier for younger generations, other customers, and FinTech companies to provide financial services digitally with lockdown measures in order to reach out to the unbanked and under-banked market segments. About 62 percent of the population lives in urban areas, whereas the rest lives in rural areas. With digital financial services, FinTech providers have a better chance of reaching out to more people in the country who require financial services.



BANKER INSIGHT

Amel Kovacevic | United Bank of Albania

***Chief Executive Officer
United Bank of Albania***

- Banker's Perspective on Albania's FinTech Industry
- API Regulation: The Effect on FinTech Development
- UBA challenges in implementing FinTech
- Future recommendations to grow Albania's FinTech
- UBA's Project on Digital Payment

BANKER INSIGHT

Banker's Perspective on Albania's FinTech Industry

Many private and public institutions have expressed an interest in the field of technology and innovation. Whether they like it or not, every banking institution is rapidly digitizing their systems and services. This is supported by a profile of the population at a young age, very eager for technology.

The financial markets will be in constant movement until the end of the last phase of digitalization, when there will be only one digital financial provider left. Governments, legislation, government and central bank platforms are all in line with digitalization.

API Regulation: The Effect on FinTech Development

The e-commerce process is becoming an integral part of the global economy. Since the outbreak of the pandemic, digitalization has grown rapidly, and its impact has been felt in Albania as well.

During the ongoing COVID-19 pandemic, e-commerce has become an important pillar in the fight against the virus, first of all because it reduces the risk of infections and, secondly, because it preserves jobs despite the social distancing requirement. Because of the difficulties during the pandemic, FinTech has become stronger and more convenient for the customer. Although FinTech is not new, it has been under the spotlight in recent years. The bank sector and the financial institutions in Albania have seen the benefit of it and now are focusing more on FinTech investment and how to improve customer experience through it.

UBA challenges in implementing FinTech

The Albanian regulatory system and law are very suitable for the FinTech market to thrive. Albanian legislation for customer e-identification and e-signature has already been in place since 2008. Also, the E-Albania platform is the biggest database for Albanian citizens in order to have a full customer profile assessment on their financial/social/family capabilities related to the bank's products and



Amel Kovacevic
CEO | United Bank of Albania

services. Hence, E-Albania is yet the last door to be opened. They are still working on developing the legal framework that will allow third parties, such as banks or other financial institutions, to access customer data.

Future Recommendations to Grow Albania's FinTech

FinTech and digitalization have become an important part of our daily lives. The ecosystem has helped and stimulated technology innovation, made the financial markets more efficient and improved customer experience for many sectors. There are four key factors and elements that support the development of a FinTech ecosystem, and these factors are:



UBA's Project on Digital Payment

UBA Bank is nearing completion of the parameters, scoring, and data retrieval from various government and private agencies. The first sale category for these projects will be the vendor's premises, for installment purchases of various types of products such as electronic devices, home furnishings, and so on. UBA will collaborate with 3 main institutions. These three institutions will all submit their data via web services.

01

Bank of Albania

Each customer's credit history will be submitted by the Bank of Albania.

02

E-Albania

The national data centre for Albanian individuals and businesses. E-Albania will submit the customer's social, financial, and family composition data.

03

E-Aleat(IDEMIA)

The national certified company for the Albanian biometric data. E-Aleat will supply and verify the customer's e-identity and e-signature.

UBA will create a customer profile score based on all of the data collected for the customer, and the application-approval-disbursement process will be entirely digital in the vendor's premises. The entire process will take no more than 10-15 minutes. This new workflow will have a significant impact on the time processing and cost management of bank HR. The electronic signature and identification will be a significant milestone, significantly improving the security of customer identification and effectively eliminating the problems associated with customer identification via the human 4 eye principle. The system provided by E-Aleat will operate on the same principle, but electronically and with the highest level of security for two-factor authentication.

FinTech and digitalization have become an important part of our daily lives. The ecosystem has helped and stimulated technology innovation, made the financial markets more efficient and improved customer experience.



2.2 FinTech venture capital ecosystem

2.2.1 Investment analysis

The WEF report on global competitiveness discovered that Albania ranks 118 out of the total of 140 countries regarding the issue of accessing finance for entrepreneurs and start-ups. Lack of access to finance is the second largest barrier in the country. The report criticizes the unavailability of financial services, the underdeveloped equity market, and the difficulty in accessing loans and VC due to strict regulations. The report concluded that the essential requirements for start-ups to access finance are non-existent in Albania.

2.2.2 Market performances

In addition to the existing problems in accessing finance, the problems are multiplied by the difficulties or challenges in accessing finance, especially for early-phase ventures. Out of all Balkan western European countries, Albania is the only one without the existence of an own angel investor network. Moreover, the interest from the Venture Capital funds to invest in the country is limited as the start-ups do not meet the requirements or the demands from VC funds in the country. Despite the above-mentioned issue, Yunus

Social Business, a social business fund has made equity investments in many start-ups apart from the incubation program run by the firm. It is important to note that the fund availability of a social venture fund is very limited to finance conventional start-ups. There are other foreign venture capital funds such as South Central Venture which is keen to invest in Albanian start-ups even though they have not done any investments yet. SCV is backed by the Western Balkans Enterprise Development and Innovation Facility program, and European Bank for Reconstruction and Development, and its subsidiaries.

Furthermore, the Albanian banking sector is 100 percent privatized which adds more challenges to finance options available for the start-ups. Two investment funds, namely Raiffeisen Prestige Equity and Raiffeisen Euro Fund are the only investment funds working in the Albanian economy where both investment funds invest in government bonds and securities. The lack of government-owned banks and the assured returns from the government's bonds and securities make the private banks not to focus on the Albanian start-ups. A very few banks and financial intermediaries provided finance backed with guarantees to the innovative entrepreneurs. Finally, the Albanian government did not develop any system or a legal framework to date to set up peer-to-peer lending and crowdfunding facilities in the country.

The lack of government-owned banks and the assured returns from the government's bonds and securities make the private banks not to focus on the Albanian start-ups. A very few banks and financial intermediaries provided finance backed with guarantees to the innovative entrepreneurs.



Table 2.1: List of FinTech corps in Albania

FinTech corps	Investors	Date	Investment update
Rubicon	Navy Yard Capital LLC, APC integrated	2010	Pre-Seed (EUR450000)
Gjirafa	Rockaway Capital	2019	Raised Series B Funding (\$6.7m)
Allend	Self-Funding	2019	Allend is Self-funded
EasyPay	Self-Funding	2010	Undisclosed
Intesa Sanpaolo Bank Albania	Intesa Sanpaolo Group	2008	Intesa Sanpaolo Group own 100 percent this company
luteCredit Albania	lute Credit Europe	2014	Joint Stock Company (JSC)
MPay	Ludovic Laventure (CEO)	2013	The CEO owns the company
Banka Kombëtare Tregtare (BKT)	Çalik Financial Services	2009	Acquisition
Kredo Finance	Mogo Group	2021	Acquisition from Finitera
Paysera	Kostas Noreika, Šarūnas Broga, Audrius Lučiūnas, Rolandas Razma	2004	100 percent owned by investors
Paylink	Undisclosed	2007	Undisclosed



START-UP INSIGHT

Eneida Thomaj | PayLink

MD - PayLink

- The Evolution of Technology: The Role of PayLink
- COVID-19 Pandemic: The End of Everything?
- Towards a More Electronic-Based : Expansion?
- Lagging FinTech Concept in Albania: PayLink's Future Plan

START-UP INSIGHT

The Evolution of Technology: The Role of PayLink

I can proudly say now that we are the only Albanian processing company in the local market, and since our first year of going live, we have been able to build up our brand name (PayLink solutions). Surely it was difficult to compete with other international brand processors operating in our market, especially when associating with their brand name, the economies of scale. We have managed to offer our clients tailored-made solutions in a very short period of time, at reasonable prices, which has enabled us to enter and gain a stable market share. Since the beginning, we have opted to enter the market with the newest technology in terms of our core business. For example, we were among the first to offer vertical printing solutions for card personalization and Pin Over SMS solutions. In any case, our moto was to introduce new technology while implementing the highest security standards. We needed to make sure our customers were using the newest technology. The last two years have shown how fast the payment industry can change. We have made ourselves well positioned in the market by offering "Payment as a Service" solutions. As a result, we provide new solutions to the market that are secure, but also have a short implementation time.



Eneida Thomaj
MD | PayLink

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COVID-19 Pandemic: The End of Everything?

Absolutely not. It is true that in the first months following the start of the pandemic, when the world knew nothing about the new virus and it was quite impossible to make predictions about the near future, it was difficult to rearrange all of a sudden the whole concept of how we were operating. Later on, step by step, after reorganizing work from home and work from the office, we knew that this would be the new normality for the coming years. As such, we knew that dramatic changes would be required from the end customer, and as such, we needed to be prepared by having in place new technologies. And by the latter, I mean, technologies associated with the highest security standards. As such, we also entered into cooperation with other third parties (qualitative third parties) by bringing to the market innovative solutions, adapted to the new market conditions.

Towards a More Electronic-Based : Expansion?

Yes, it is our aim to continually expand our core services, both in personalization and processing. Since our market is still a cash-based market, ATM terminals are by far the most used terminals in Albania. But as the last two years of statistics from the Bank of Albania have shown, our market is changing its behavior. The customers are oriented toward using more and more electronic money (the expansion of e-pos terminals) and also using POS terminals. Anyhow,

The customers are oriented toward using more and more electronic money (the expansion of e-pos terminals) and also using POS terminals. Anyhow, within the ATM terminals, we have offered other additional services such as ATM surcharges, DCC, contactless solutions, cash in functionalities, recycle functionalities, advanced fraud monitoring services, etc., and our aim is to expand likewise to other customers

within the ATM terminals, we have offered other additional services such as ATM surcharges, DCC, contactless solutions, cash in functionalities, recycle functionalities, advanced fraud monitoring services, etc., and our aim is to expand likewise to other customers.

Lagging FinTech Concept in Albania: PayLink's Future Plan

I think that the best way to assist in this direction would be by implementing in the market a "success story" of new technologies. We, as a company, are committed to entering the market with new technologies but implementations that are valuable to our customers and that really add value. During pandemic times, we knew that less "physical contact" was needed between end users and bank tellers, and that is why we entered the market with our Pin over SMS solutions. This way, we entered

with a new technology, which really impacted the market during those hard times. Furthermore, we have focused and emphasized our virtual solutions in order to make known to the market that there are alternative solutions which can adapt to the new, drastically changed market. We are also members of national payment committees or participate in national and international conferences where we share our knowledge and our views for the upcoming future. We are cooperating with third parties (other successful FinTechs) which can help us deliver to the market a steady FinTech model.



2.3 Financial services ecosystem

2.3.1 Entering, competing, and partnering (between Fis and Fintech firms) in the country's financial services marketplace

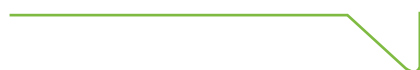
Albania has the advantage of being an emerging market where innovative start-ups and FinTech firms have been emerging in the market widely due to its market structure and the high rate of IT graduates. While the Albanian banks' engagement with innovative technology is as slow as the adoption of technological development in the country. Although the priority of Albanian banks is to be involved with FinTech, the cost of promoting their apps and platforms is much higher than the cost of developing such services. Albanian banks continue to enjoy the cash-loving community of Albania but fail to recognize the cost of maintaining physical cash is higher than the technological costs. FinTech firms have mentioned on many occasions that working with Albanian banks is a challenge. The FinTech firms note the difficulty of integrating with banks, who see them as competitors and place high costs on the ability to grant access to the payment network.

While the Albanian banks' engagement with innovative technology is as slow as the adoption of technological development in the country. Although the priority of Albanian banks is to be involved with FinTech, the cost of promoting their apps and platforms is much higher than the cost of developing such services.

2.3.2 Changes to existing products and services

Albanian banks have commenced their transformation in the last three to four years, with a very strong rate towards the digitalization of their services and products. The pandemic sped up this transformation, especially taking into account the need to be close to customers even at a time when they could not freely access branch offices. Digitalization is seen as a necessity that will not end with the pandemic but will continue for a long time and will be the way in which all banks and financial institutions will transform.

One of the examples is implementing artificial intelligence solutions, such as the first chatbot in Albania. By using these innovative products and services and providing guidance to young customers, the Bank paves the way for future generations of technology enthusiasts. Banks such as Raiffeisen Bank in Albania do not consider innovation only related to the products but try to make it a part of their culture in every area – including in products and services. The bank tries to find innovative solutions that provide an excellent customer experience. Furthermore, various programs that promote internal innovation within the bank have been organized, believing that each member of the team is an innovator.



2.4 Incubator and accelerator system

2.4.1 Shifting of business model

FinTech consumers and lenders in Albania were heavily impacted by COVID-19. The business has seen tremendous changes due to the shift in market demands. Due to an increase in unemployment, the market's demand has decreased dramatically, and the demand for luxury goods such as laptops and smartphones has also decreased. Although FinTech players initiated work-from-home strategies, the financial capability of microfinance and their investment in digitalization led to higher competition for FinTech players. Incubators and accelerators in the FinTech players from the high competition they face.

2.4.2 incubation and acceleration programs

In order to clearly distinguish these organizations with their type of involvement with start-ups, different phases such as pre-ideation (raising awareness through lectures and workshops where cultural upliftment is focused), ideation (developing various start-up ideas while increasing the competition and workshops), seed-phase (developing

business plans, research, prototypes, etc.), start-up phase (incorporating with enterprises, technologies, sales structures, marketing techniques, etc.), emerging growth (market penetration through more sales channels and improving the product, tech, and services), and expansion or maturity (internationalization and diversification of product and service portfolios) were added.

2.4.3 FinTech projects

The Albanian economy has different incubators, accelerators, and other organizations that have country have played an important role in upbringing.

FinTech players initiated work-from-home strategies, the financial capability of microfinance and their investment in digitalization led to higher competition for FinTech players



Table 2.2: FinTech projects in the country

Type	Pre- ideation	Ideation	Seed-phase	Start-up phase	Emerging growth	Expansion or mature
Accelerators						
Officina		✓	✓	✓		
UK-Albania TechHub				✓	✓	✓
Yunus Social Business	✓	✓	✓	✓		
Incubators						
TechSpace	✓	✓	✓	✓		
InnoSpace		✓	✓	✓		
Co-Working						
Talent Garden				✓	✓	✓
Community/Event						
Start-up Weekend Tirana		✓				
GOA Summer School		✓				
ICT Awards		✓	✓	✓		
Innovate		✓	✓			
Garazh	✓	✓				
Open Labs	✓	✓				
Universities						
Epoka University	✓		✓	✓		
Tirana Business University	✓	✓		✓	✓	✓
European University	✓	✓	✓	✓		
Polis University	✓	✓				
Marin Barleti University	✓	✓				
University of Tirana	✓	✓				
Service Provider						
GIZ-ProSeed (CEFE Intl)		✓	✓	✓		
Protik	✓	✓	✓	✓		
Swisscontact		✓	✓	✓		
Regional Development Agency		✓	✓	✓	✓	✓
Deloitte				✓	✓	✓
Private Sector						
Vodafone Foundation	✓					
Raiffeisen Bank Elevator Lab					✓	✓
Microsoft	✓	✓	✓	✓		
Balfin Group		✓				
Government						
Municipality of Tirana		✓				
Donors						
GIZ		✓	✓	✓	✓	
UNDP		✓	✓			



2.5 Regulatory responses & government interventions

2.5.1 Development of regulatory sandbox

Albanian habits rely on the high use of cash, reflecting a heavily cash-based economy. In 2018, a World Bank study found that 96 percent of the 127.5 million annual payments were made in cash, while businesses made 66 percent of their transactions in cash. Despite this, Albania is struggling to increase the financial inclusion of its unbanked population by developing electronic payments that are shifting to a more cashless basis. FinTech, in this case, plays a crucial role in the development of a more innovative and efficient financial infrastructure. To overcome this issue, in 2018, the Bank of Albania (BoA), together with the National Payment Systems Committee (NPSC), released the National Retail Payments Strategy (NRPS) for 2018–2023. One of the objectives leads to facilitating and boosting innovative business models while ensuring transparency and consumer protection. The framework is expected to develop more new FinTech models, including providing and developing regulatory sandboxes, although no regulatory sandboxes existed in Albania until recently.

2.5.2 Laying out the foundation to support innovation through collaboration among ecosystem participants

Albania's National Retail Payments Strategy 2018–2023 aims to provide a modern and inclusive retail payments market at the national level, supported by a safe and efficient payment ecosystem.

The framework involves various stakeholders, including the government (BoA and NSPC), the association of banks, payment service providers, payment service operators, and any other related parties in developing payment infrastructure in Albania until 2023. To support the growth of NRPS, the Albanian parliament approved the Law "On Payment Services" in 2020, which was drafted by the Bank of Albania and proposed by the Ministry of Finance and Economy. The law is regarded as a significant step forward in Albania's integration with the European Union and with the Single Euro Payment Area (SEPA).

Albania is now supporting the development of FinTechs and other innovative payment service institutions through this law.

The law is expected to increase financial inclusion, lower payment service costs through competition, and eventually encourage the use of electronic payment instruments. To assist new start-ups, the law introduced new FinTech concepts such as open banking and Strong Customer Authentication (SCA). The law also aims to increase competition by providing the best customer experience and the lowest cost service, which will appeal to many new payment institutions. The law lays out rules for transparency and supervises payment institutions, as well as rights and obligations for payment service users and providers, providing a solid foundation for the modernization and development of the domestic payment market.

2.5.3 Government incentives in driving FinTech

Albania has seen an exponential increase in digital investments in the financial system over the last 5–6 years. The implementation of the National Retail Payments Strategy (NRPS) 2018–2023, bolstered by the Payment Services Law, has demonstrated the government's commitment to driving Albania's FinTech.

While the NRPS becomes a financial development milestone, the Payment Services Law establishes a solid foundation to support FinTech innovations and ecosystems. At this level, the government assists the country's association of banks and non-banks in coordinating and representing the interests of their members (banks and non-bank institutions) on all matters pertaining to the strategy's action plans. The government's action encourages FinTech payment service providers to adopt strategic directions and transparency in conducting business for their users, as well as payment system operators to maintain fair and open access to their infrastructures.

Some of the most prominent banks and institutions in the Albanian market have already begun the second phase of digitalization, which is the transformation of their use rather than simply recognizing this innovation.

This system's advanced status is the result of legislative developments that strongly support this sector, as well as the development of unique government platforms for access to biometric, social, financial, and other data. There are some platforms developed by governments that have become neuralgic points in this evolution. These platforms are the most important pieces of a digital puzzle that will lead to the advancement of financial services and a significant reduction in the risk of informality.



Digital platforms

01 E-Albania



The E-Albania platform is the main portal through which any Albanian citizen or enterprise can digitally access and have any information and documentation with a digital stamp in real-time. The platform in question has brought together the services of nearly all government institutions, including the Ministry, Municipality, Administrative Units, Mortgage Office, and so on. This platform is managed by the National Agency for Information Society (NAIS), and it acts as a gateway through which any interested person can receive electronic services provided by Albanian government institutions via the Internet. E-Albania is linked to the Government Interaction Platform, which is the basic architecture that enables interaction with public institutions' electronic systems.

02 E-Aleat

E-Aleat is a device that functions similarly to a card reader in terms of data identification. The company that provides the device, Aleat Sh.p.k (referred to as Aleat), is the official and sole manager of every Albanian citizen's biometric data. This company's servers provide real-time access, allowing for an immediate profile of each citizen. The biometric fingerprint is one of the identification methods, and this element is unique to each customer. Aleat was founded on a Concession Contract signed between the Ministry of Internal Affairs of Albania and a consortium of IDEMIA (a public limited company) and the Albanian American Enterprise Fund (Albania) for the production and distribution of Albanian citizens' Identity Cards and Biometric Passports. The Concession Contract was ratified by law No. 9972 on August 27, 2008, and was recently amended and extended by law No. 129/2013 on April 25, 2013.



02 E-Albania Credit Registry



The Central Bank of Albania recently launched the digital platform of the credit register of Albanian citizens/businesses on the financial market in 2021. This platform, in addition to taking a significant step forward by digitizing it, has created the opportunity to integrate it with various systems of analysis, control, and scoring.

REGULATORY INSIGHT

Ledia Bregu | Bank of Albania

***Director of Payment Systems, Accounting and Finance
Department at Bank of Albania***

- Exploring Albania's Digital Space Development
- Collaborating to Drive Fintech Ecosystem
- Dealing with Demanding Digitalization



REGULATORY INSIGHT

Exploring Albania's Digital Space Development

As an overseer and catalyst of payment systems, the Bank of Albania closely monitors the developments of electronic payments in Albania, taking into consideration the fact that payment instruments and services are an integral part of payment systems. To this extent, in recent years, after a detailed analysis of the Albanian retail payment markets, the Bank of Albania, through the National Payment Systems Committee, has launched the Albania National Retail Payments Strategy (2018–2023). This strategy aims to create a modern and inclusive retail payments market in Albania supported by safe and efficient payment infrastructures and a wide range of payment instruments and services that meet the needs of financially capable payment service users throughout the country. We expect that improvements in the retail payments market will give citizens more choices across more places for conducting their day-to-day transactions in a convenient and cost-effective manner, thus also supporting the objective of broader financial inclusion.

In the context of this strategy, we have transposed into the Albanian legislation the PSD2 Directive, which can be considered as a very innovative piece of legislation aiming to regulate recent developments of innovative solutions in advanced retail payment markets.

We also consider that, as regulators, we have paved the way for any future developments of the market actors, and at the same time, as catalysts, we are enhancing the market to develop innovative and efficient payment services aiming to increase financial inclusion and the use of electronic payments.

However, it is note worthy that the COVID-19 pandemic during the last few years has contributed materially to promoting the use of electronic payments in Albania.

Dealing with Demanding Digitalization

From the Bank of Albania's perspective of market development evaluation, this represents more of a desirable result than a fact. We consider that consumer demand is an important mechanism driving market developments as well as genuine competition. In the Albanian context, unfortunately, the level of Financial Education and Financial Literacy, that contribute to and lead to such demands is relatively low.

Thus, the Bank of Albania is also working in the field of Financial Education aiming to establish a National Strategy



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Albania

for Financial Education with a main focus on innovation and FinTech.

Collaborating to Drive Fintech Ecosystem

Collaboration is crucial for handling developments in the field of FinTech and beyond. Albania's National Payment Systems Committee is an important tool for such collaboration. FinTechs in the area of payment services are constantly increasing the demand for collaboration beyond the traditional actors. Thus, e-commerce nowadays imposes collaboration with several different areas like e-communication, e-records, e-contracts, and e-signatures, which is an example of the areas of cross-interventions and collaboration.

We also consider that, as regulators, we have paved the way for any future developments of the market actors, and at the same time, as catalysts, we are enhancing the market to develop innovative and efficient payment services aiming to increase financial inclusion and the use of electronic payments.



2.6 Challenges and barriers in FinTech development in the country

2.6.1 FinTech disruption - where it succeeded and where it still lacks

There is yet more to be discovered regarding the FinTech market in the Western Balkans, despite the high penetration of mobile phones and the internet, and despite the skilled IT workforce and the region where the use of electronic cards and digital payments has grown exponentially.

The development of several systems is essential for the success of independent FinTech start-ups without any hindrance. For instance, a potential barrier to entry for FinTech firms in the Western Balkans includes access to credit databases and methods of accessing them.

Albania suffers from conflicts, shortages, or missing title to land, posing a problem for using the property as collateral for loans or insuring it. FinTech services require access to payment systems to develop payment processors or to

build financial products to gain control of existing payment infrastructure. For instance, merchants in Albania only have to connect to a bank with an e-commerce license to sell goods. However, SEPA (Single Euro Payments Area) payments may be timely. Alternatively, developments are taking place with the Albanian Central Bank and Visa payment system, which will enable RTGS (Real-time gross settlement) and potentially Euro payment settlement.

The development of many high-tech corporations, including businesses providing FinTech services, requires a large sum of capital, time, and investment. Despite a supportive regulatory framework, there have not been any stocks listed at the Albanian Securities Exchange yet - only state-issued securities.

The number of investors in corporate bonds is also limited, given that the corporate bonds are reserved for private placements.

Electronic signatures are an upcoming innovation to speed up processes. Although Albania is among the most advanced countries in this region, implementing this practice has somehow proven difficult. Similarly, the

Albania suffers from conflicts, shortages, or missing title to land, posing a problem for using the property as collateral for loans or insuring it. FinTech services require access to payment systems to develop payment processors or to build financial products to gain control of existing payment infrastructure



* Societe Generale Albania, Banks in Tirana, exchange rate Tirana (visit-tirana.com)



product offering of giant firms is relatively limited, and obtaining equity investment or project financing for product development for these firms is quite challenging. Some banks, such as Société Générale, seek to partner with FinTech to create related solutions. Albania gives the winning party access to the bank's international accelerator lab. According to the CEO of one Albanian FinTech payment processor, working with banks in the West Balkan region is quite challenging.

The processor and each new retail client signed up by the processor must sign a trilateral agreement with one bank. Additionally, the CEO of another Albanian payment processing company notes the difficulty of integrating with banks and views them as competitors, thereby imposing high costs on the ability to access the payment network.

Albanian e-money institution EasyPay, which provides electronic money payments services via desktop and mobile phones, has been adopted as one of the payment options available through various Albanian websites. The websites can take electronic payments via e-money providers instead of incurring the significant initial expenditures of implementing a standard virtual POS into their sites. Furthermore, there is no need to commit purchasers' sensitive financial data to a third party. Local e-money providers are currently just partial replacements for older electronic payment methods such as cards. The only online currency accepted in Albania is the Albanian lek, and both merchants and payers need to have accounts with the same provider to engage in online transactions. Currently, e-money accounts cannot be operated with bank accounts, meaning there is no option to transfer funds directly from one account to another. However, this is anticipated to change with the ongoing revisions to the Bank of Albania's regulatory framework, while payment institutions can participate directly in ACH (Automated Clearing House) transfers.

2.6.2 Hurdles of the cooperation between FinTechs and traditional Fis

The Albanian economy is well-known for the under-utilization of financial instruments and the high use of physical money (cash). In these frameworks, considering the PSD2 directive, the economy welcomes the adoption of the new law on payments.

It mainly focuses on encouraging the intensive use of modern payment instruments. In 2022, the government



The Albanian economy is well-known for the under-utilization of financial instruments and the high use of physical money (cash). In these frameworks, considering the PSD2 directive, the economy welcomes the adoption of the new law on payments

intends to reach a percentage of account ownership of 70 percent of the adult population, which will be achieved by increasing the number of ten "non-cash" payments per capita per year.

The following hurdles pose challenges to finance and present opportunities to regional FinTech providers looking to expand access to customers and SMEs.

The low levels of account ownership in Albania and reduced digital use of financial services are partially due to impeding factors to account opening. For instance, as per the Findex data 2017, 13.7 percent of people cannot open an account due to extensive paperwork in Albania.

The Austrian National Bank reports that only 30.6 percent of rural citizens had a bank account, compared to 39.3 percent of all citizens. This could be due to the difficulties in infrastructure while delivering financial services to rural communities having only 17 branches for 100,000 inhabitants.

The cost of account opening also prevents many potential customers from accessing FinTech services that require a

*Kreu - Pay Link Send money online to mpesa mobile accounts (worldremit.com)





The majority of the population lacks financial literacy, with education as their number one concern. The Central Bank of Albania is actively working to educate people about fraudulent financial schemes via TV and publications, and the benefits of investing in government pension plans or stock markets.

For example, the Albanian economy is dominated by micro, small, and medium enterprises, and many businesses lack access to financing.

Even though digital and internet-based financial services are increasing, high cash usage rates remain prevalent across the West Balkans region. The World Bank surveyed Albania's payment system in 2018 and found that 96 percent of the 127.5 million payments in the country were cash payments, while 66 percent were cash payments by businesses.

The majority of the population lacks financial literacy, with education as their number one concern. The Central Bank of Albania is actively working to educate people about fraudulent financial schemes via TV and publications, and the benefits of investing in government pension plans or stock markets.

link to a bank account. It may mean a slower penetration of FinTech activities in the medium term, although online services may allow this market to be better catered in the savings sector.

Several initiatives are being undertaken to improve financial inclusion for suburbanians, such as establishing Euro standard Bank as well as Post Office agreement. Telecom-based mobile money initiatives have been made in the region but have so far not acquired traction. For example, the M-Pesa initiative in Albania has not found traction yet.

Banks in the Western Balkans are more competitive on margins and interest than in user experience or convenience, which often sets apart FinTech services. The industry profile makes loan provision a relatively non-profitable area for banks.

Paying and remitting money is costly, presenting a challenge to many individuals seeking finance. World Bank research indicates that the cost of payments represents 1 percent of GDP in Albania every year, with payment network and interchange fees accounting for significant sums. AML obligations have resulted in high commissions for transactions over payment cards in the region, likely due to increased compliance costs.

The use of financial technologies is an advantage for e-commerce in enabling its functions. The Albanian Gjirafa is one such example.

According to Gjirafa's CEO, there are many barriers to the development of e-commerce. For instance, merchants wishing to sell online in Albania may find it challenging because their activity can be classified as deposit-taking.



2.6.3 Regulatory compliance and security concerns

Every Western Balkan country has a specific set of financial institutions and markets regulated by particular regulators. There are usually three main areas of competence where regulators in this region approach the FinTech sector, despite some differences between countries: 1. In general, banking, payments, and credit 2. Capital markets and securities trading 3. AML/CTF monitoring

FinTech has been the focus of some recent and upcoming regulatory cooperation initiatives. Albania, for example, has been preparing a law on financial markets based on distributed ledger technology (DLT) to be enacted by its Parliament.

Often, regulators are increasingly challenged to respond to technology-specific questions from industry. One example is the supervision department within the Bank of Albania.

In the Western Balkans, most jurisdictions have AML/CTF frameworks, which are mostly aligned with AMLD IV. Albania has also implemented some elements of AMLD V and the Law Enforcement Directive. Customers' identities can be established by verifying their qualified electronic signatures in Albania.

Few firms or individuals have such signatures, necessitating a highly laborious process for electronic KYC. As per plans of three jurisdictions in the region with its new directive, one of which includes the new law on payments in Albania, which

will implement provisions of PSD2, it has been submitted to Parliament for approval.

2.6.4 Capital requirements and access to financing

To ensure its capital adequacy, the Bank of Albania monitors it using the rules and ratios, among other measures. These requirements are set by Albania's regulator, determining the statutory capital required.

New capital adequacy ratio regulations, which came into effect in 2015, were issued according to Law No. 8269 of 23.12.1997, entitled "The Bank of Albania" and Law No. 9662 of 18.12.2006, entitled "On Banks in the Albanian Republic".

Regulatory capital levels are based on risk-weighted exposures, calculated as the sum of credit risk, credit counterparty risk, market risk, and operational risk capital requirements for the balance and off-balance sheets. The minimum Regulatory

Capital Ratio for the Bank of Albania is 12 percent for risk-weighted exposures. Maintaining at least a 6 percent Tier 1 Capital Ratio and a 4 percent Common Equity Tier 1 ratio is necessary.

As reported by Banka Kombëtare Tregtare (BKT), the largest and oldest operating commercial bank in Albania in December 2019: Regulatory Capital Ratio of 18.62 percent (December 2018: 17.53 percent); -Tier 1 Capital Ratio of 17.37 percent (December 2018: 16.19 percent); -Common Equity Tier 1 Ratio of 17.37 percent (December 2017: 16.19 percent).

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03

*

AZERBAIJAN



AZERBAIJAN

Capital city: Baku

GDP	GDP per capita	GNI	GDP per capita
\$42.6 bn	\$4,214.3	\$42.2 bn	\$4,450

Figure 3.1: Distribution of employment rate



Figure 3.2: Consumer prize index rate (CPI)

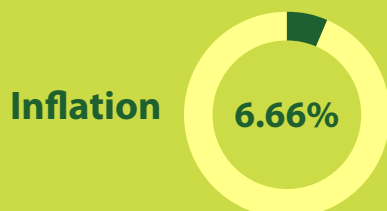


Figure 3.3: Distribution of population and urbanization percentages

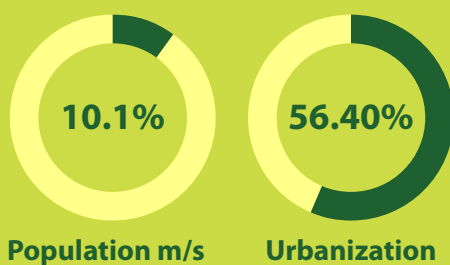
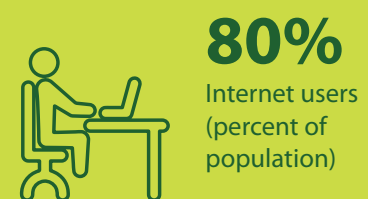
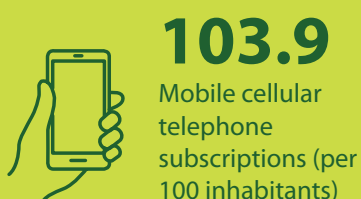


Figure 3.4: Share of trades in goods and services



Technology adoption



3.1 FinTech ecosystem

3.1.1 FinTech ecosystem, in terms of growth, talent, investment, and market drivers (consumer behavior, technology adoption, COVID-19)









The Strategic Road Map for the Development of Telecommunications and Information Technologies in the Republic of Azerbaijan established strategic objectives for the development of the country's telecommunications infrastructure. Among the primary objectives are the extension of the fiber optic network infrastructure's coverage area and the adoption of LTE technologies in the mobile sector. The expansion of digital payments is a priority for the Strategic Road Map.

The expansion of the introduction of innovative financial technology solutions is driving global interest in FinTech companies. Currently, 80 percent of financial institutions collaborate with FinTechs. In 2011, global investment in FinTechs totaled \$1.8 billion; by the end of 2018, that figure had risen to \$30.8 billion. Investments will increase in the future as the performance indicator for FinTech companies improves. The government could also think about privatizing state-owned enterprises in the telecommunications sector,

which would increase transparency and likely lead to more investment and innovation. According to a World Bank report in 2020, Azerbaijan has a basic level of FinTech Development. Digital Readiness score for the country is 11 out of 25, and the Digital Readiness rating is low. Thus, compared to Türkiye, the FinTech development in the country is underrated.

56.4 percent of the country's population lives in urban areas, where 80 percent utilized the internet in 2020. Among the 34 countries in Asia, Azerbaijan is ranked 13th in the telecom maturity index with a score of 54.6. The Mobile cellular telephone subscriptions were 103.9 per 100 inhabitants. So, internet users and technology adoption in telecommunication areas are growing at a stable rate.

The following are 10 FinTech start-ups in Azerbaijan, with their established dates and in which FinTech verticals they operate:

	online payment (2009)
	mobile wallet application (2017)
	Credit and debit card provider (2011)
	Crypto payment (2013)
	Online mobile payment (2019)
	Investment company which invest in Defi technology (2020)
	Online bank providing buying and selling of currency (2002)
	Online payment services provider (2011)
	Loan comparison and online application provider (2013)
	Providing digital banking services (1992)

The expansion of the introduction of innovative financial technology solutions is driving global interest in FinTech companies. Currently, 80 percent of financial institutions collaborate with FinTechs.





The International Financial Corporation (IFC), a member of the World Bank, collaborated with the Central Bank of the Azerbaijan Republic (CBAR) in improving digital financial services as part of the government's efforts to promote robust economic activities for individual people and businesses, especially micro, small, and medium enterprises (MSMEs).

It aims to increase innovation and competition in Azerbaijan's financial sector and to improve the financial inclusion of unbanked and underbanked customers across the country in the COVID-19 pandemic.

To support the start-ups in the country, the government has taken measures like forming a state fund to develop IT firms that invest in building start-up businesses. In addition, a joint consortium with the involvement of the Innovation Agency, AzIn Telecom LLC, and companies like Lenovo, Nutanix, and iQRex provides a platform for the start-ups to have access to financial capital.

Baku, Azerbaijan's capital, hosted the second Finance and Investment Forum in 2018 to discuss investment strategies, funding strategies, tax policy, and accounting. The main objective of the forum was to build a digital economy in the country and develop and adopt legislative and infrastructural frameworks for the digital economy to global standards.

It would further promote FinTech in the economy. Moreover, Baku hosted the 25th International Business Forum, which gave the country the opportunity to build up bilateral and

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multilateral relations with other countries, especially Türkiye, and attract foreign investors to invest in domestic start-ups and businesses.

In building up the FinTech ecosystem, financial literacy is an essential element. In March 2017, the Financial Literacy Council was established by the Azerbaijan Banking Association (ABA) to increase awareness of financial services among individuals and people. The financial literacy rate was 36 in Azerbaijan.

The CBAR, Azerbaijan Banks Association (ABA), the Azerbaijan Microfinance Association (AMFA), the Savings





The gross school enrollment ratio was 32 percent in tertiary education, lower than in secondary education during the same period. Having young people with knowledge of digital financial services is a competency for a country looking to grow FinTech start-ups.

Banks Foundation for International Cooperation (SBFIC) and Junior Achievement Azerbaijan (JAA) are the institutions that are trying to improve and raise awareness of financial literacy through financial education programs in the country.

In 2018, the government's expenditure on tertiary education was 3.6 percent of GDP. In 2019, 967,454 people completed secondary education, with 95 percent of the gross school enrollment ratio in secondary education.

The gross school enrollment ratio was 32 percent in tertiary education, lower than in secondary education during the same period. Having young people with knowledge of

digital financial services is a competency for a country looking to grow FinTech start-ups.

3.1.2 Overview of the FinTech hubs in the country FinTech evolution

In 2017, the project Digital Trade Hub (DTH) of Azerbaijan was launched to promote Financial Digital Services (DFS) within the region with government support. By digitizing financial activities such as e-payment and electronic signature on import and export documents, thus, it would help to boost domestic and international trade between the countries in the region.

In 2019, the Finapolis forum was held by the Central Bank of Azerbaijan to initiate a blockchain-based

Digital Information System within the framework of the "State Program on the Expansion of Digital Payments in 2018-2020 with government support".

After receiving approval from the state, the central bank and the FinTech Association held a meeting on promoting the digital payment ecosystem to provide an innovative payment solution to customers.

Baku, the capital of Azerbaijan, hosted a FinTech summit 2020 exhibition. The FinTech summit aims to exchange ideas and experiences and understand the new trends in the financial technology ecosystem in digitizing banking and payment.



3.1.3 FinTech verticals in the country that have potential to grow

The digital payment verticals are expected to grow faster than the other FinTech verticals, which estimated a total transaction value of \$4,242 million in 2021. By 2025, it is estimated that 3.85 million users will be using digital payments.

At the Fintex summit in Baku, an official from CBAR stated the implementation of a blockchain system and Artificial Intelligence (AI) in the banking sector.

It would encourage the development of new start-ups by allowing them to enter the FinTech market. Hence, this could enhance the FinTech verticals further in the country.

3.1.4 Country's FinTech responses to COVID-19 challenges and opportunities/solutions

The country went into a nationwide lockdown in March 2020, and during the lockdown, the use of digital financial services became vital for businesses and customers to survive. Nevertheless, there is a lack of financial regulation and liberalization in the digital payment market in Azerbaijan, prohibiting foreign transactions. It makes

it difficult for FinTech start-ups to set up and develop innovative FinTech services in the market.

One of the difficulties of FinTech start-ups has been a lack of access to capital. The investor's confidence level is also likely to be lower during a time like the COVID-19 pandemic. In the Azerbaijan economy, there are no official business angels or venture funds available. The start-ups need to apply for consumer loans from a bank as there is no special legislation for credit lending. However, private corporations like Azercell, Bakcell, and Nar Mobile act as incubators to provide funds to start-ups.

In April 2021, an event was held between the Central Bank of Azerbaijan and the FinTech association to expand the FinTech ecosystem by developing digital payments. The event was a part of executing the State Program on expanding digital payments in the Republic of Azerbaijan for 2018-2020 to create a cashless economy.

The event highlights the drafting of a Law and creating legislation on Payment Services and Payment Systems which is a huge stepping stone for the growth of digital payment. This would further provide an opportunity for FinTech companies to develop an innovative payment solution that would benefit both the company and its customers.

The digital payment verticals are expected to grow faster than the other FinTech verticals, which estimated a total transaction value of \$4,242 million in 2021. By 2025, it is estimated that 3.85 million users will be using digital payments.



EXPERT OPINION

Tamerlan Rustamov | Bank of Baku

**FinTech Association
Banking Association
Bank of Baku**

- FinTech's potential to boost financial inclusion
- COVID-19 pandemic, both for those affected and for financial institutions
- Current development in Azerbaijan's FinTech industry
- FinTech competing with traditional financial institutions in Azerbaijan

EXPERT OPINION

FinTech's potential to boost financial inclusion has been on the radar of global leaders and policymakers for long. Are there any initiatives currently implemented in the banking sector to achieve financial inclusion?

The development of financial inclusion and the usage of the advantages of digital payment ecosystems for this purpose is one of the priority goals of the Central Bank of the Republic of Azerbaijan and the banking sector in general.

It is not a coincidence that the Digital Payment Strategy of the Central Bank for 2021–2023 sets the goal of creating an affordable payment ecosystem that will be at the same time innovative and competitive.

Currently, the most important project for the development of financial inclusion in the country is the adoption of the draft law "on Payment Services and Payment Systems". The draft law, prepared by the Central Bank, defines the regulation and oversight framework of non-bank payment service providers, including electronic money, payment institutions, AISP, and PISP. Simultaneously, this draft law would formulate a legal basis for the establishment of an agent banking network in the country and set the requirements for the issuing and usage of electronic money.

It is obvious that the first fundamental factor of financial inclusion is access to bank accounts. Considering this, a "basic banking services" project was implemented in the banking system in 2021. The basic banking services package included execution of some bank operations based on a free-of-charge approach.

These services include opening a current bank account, issuing a payment card, giving access to electronic banking services, withdrawing a certain amount of cash, and conducting cashless payment operations. The basic banking service package covers about 600,000 citizens.

Reforms conducted by banks to develop electronic banking services, including mobile and Internet banking, as well as the introduction of innovative payment solutions, directly influenced financial inclusion.



Tamerlan Rustamov
FinTech Association
Banking Association
Bank of Baku

Reforms conducted by banks to develop electronic banking services, including mobile and Internet banking, as well as the introduction of innovative payment solutions, directly influenced financial inclusion. If we look at statistics, in 2021 the value of mobile banking increased by 14.1 times and the volume by 7.4 times compared to the last 4 years, and the value of Internet banking increased by 5.1 times and the volume by 2.1 times. In addition, it should be mentioned that among innovative payment solutions, the application of tokenization technology and the issuing of virtual payment cards have been expanded by banks. In December 2021, for the first time in the country, the Apple Pay project was launched by four banks.



Financial literacy is one of the main tools to develop financial inclusion and strengthen confidence in financial markets in the country.

Taking into account this factor, the Central Bank, together with the Azerbaijan Banking Association, has been executing various projects that cover the preparation of videos, holding seminars and conferences, organization of press meetings, publishing of textbooks etc.

Parallel to this, improving the remote bank account opening procedure, introducing Tap to/on phone technology, developing the legal basis and unit standards for Open API technology, establishing the E-KYS system, and ensuring remote identification on banking services would all help to increase financial inclusion in the country.

This year has been difficult as a result of the COVID-19 pandemic, both for those affected and for financial institutions. How has this impacted Azerbaijan Association of Banks?

To reduce the impact of the global pandemic while strengthening the banking system's stability and future development, the Azerbaijan Banks Association has

implemented several projects together with the Central Bank and the banking sector during the pandemic.

During the pandemic, at the instructions of the President, to maintain economic activity and improve the living standards of unemployed citizens, lump sum payments were made to the minimum subsistence level. It should be noted that all banks operating in the country were involved in the process of making lump sum payments for several months, covering 600,000 people.

Thanks to the operative organization of the activity, payments were made quickly. It should be noted that payments were made through payment cards.

Issues related to strengthening the social welfare of low-income people, reducing poverty and increasing employment are also in the focus of attention, and also in the focus of attention, and relevant measures are being taken to increase financial inclusion, diversify banking services, and provide effective and efficient access to banking services, especially for low-income groups.

As part of the related measures, the Central Bank of the Republic of Azerbaijan, together with the Azerbaijan Banks

During the pandemic, at the instructions of the President, to maintain economic activity and improve the living standards of unemployed citizens, lump sum payments were made to the minimum subsistence level. It should be noted that all banks operating in the country were involved in the process of making lump sum payments for several months, covering 600,000 people.



Association, prepared and submitted to the banking sector a package of free “basic banking services” proposals for low-income groups.

In parallel, to increase the financial literacy of society, the Central Bank of the Republic of Azerbaijan and the Azerbaijan Banking Association, together with international financial institutions, produced several videos.

These videos include protection against coronavirus infection when shopping, protection against coronavirus when using banking services, efficient use of payment cards in a quarantine mode, etc., and were broadcast on a number of local television channels, websites, and social networks. The implementation of such financial literacy measures is still going on successfully.

Simultaneously, considering the rapid development of electronic commerce, the Central Bank, together with the Azerbaijan Banks Association, issued recommendations for commercial banks to mitigate payment card fraud.

What is your view on the current level of development in Azerbaijan’s FinTech industry and in your opinion, how do you create a leading FinTech ecosystem if not yet in place?

It should be noted that the formation of the FinTech ecosystem in the Republic of Azerbaijan is at an early stage. At this stage, FinTech companies are beginning to gather under a single umbrella, deepen relations with international financial institutions, as well as identify areas of cooperation with banks and new operating fields.

Based on the initiative and support of the Central Bank, the Azerbaijan Fintech Association was established in 2020 to coordinate measures for the development of the FinTech ecosystem, investigating international experience and gathering organizations represented in the ecosystem under a single umbrella.

The participants of the FinTech ecosystem have implemented several important projects directly related to the development of the digital payment ecosystem and financial inclusion in the country. Their activity in the digital payment ecosystem is mainly focused on the formulation of payment gateways, the issuing of electronic money, QR-code payments, MasterPass technology, the issuing of virtual payment cards, etc. Improving the normative legal framework, creating a more favorable environment for implementing innovative solutions, and expanding collaboration with local and international financial institutions, as well as attracting commercial banks to this field, all play critical roles in propelling the FinTech ecosystem to the next stage of development.



Creating an affordable environment for representatives of the FinTech ecosystem to participate in state projects, including them as one of the main participants in the tender conditions, would usher in a new era for the development of this ecosystem while also strengthening public trust.

The above-mentioned draft law included provisions on the application of the sandbox regime, which is an important and globally accepted tool for the development of the FinTech ecosystem.

A sandbox regime would allow FinTech to test their products and services on terms that are more favorable without obtaining a license or permission during the specified test period.

The formation of the legislative framework defines the licensing procedure of FinTech companies currently operating in the country. Adoption of this draft law would increase the number of payment services provided by FinTech companies, including the issuance of payment cards and electronic money, the formation of an agent network, etc.





Application of the Open API technology should be one of the related priority projects. That is why the Central Bank, in cooperation with the International Finance Corporation, adopted an Open Banking Road Map. It should also ensure direct or indirect participation of FinTechs in digital payment systems.

Creating an affordable environment for representatives of the FinTech ecosystem to participate in state projects, including them as one of the main participants in the tender conditions, would usher in a new era for the development of this ecosystem while also strengthening public trust.

Participation in payment systems is one of the main points in the development of this ecosystem. Involvement of FinTech in payment systems as a direct or indirect participant would reduce transaction costs and increase the efficiency of payment operations.

Simultaneously, the platform of cooperation and experience sharing of the Azerbaijan Fintech Association and its members with international financial institutions should be further expanded to apply best international practices and accelerate the use of innovative solutions.

How do you see FinTech competing with traditional financial institutions in Azerbaijan?

Although the competition between FinTechs and banks has not intensified yet, in many cases, the lines of business intersect or become interdependent.

Some of the FinTech companies act as payment aggregators and provide the necessary gateway to commercial banks to accept digital payments for mass services. They provide a wide network of payment terminals to gather cash payments on behalf of commercial banks.

Contrary to that, commercial banks serve FinTech companies and provide them with the necessary platform to execute digital payments. FinTech companies could use the processing platforms of commercial banks to transmit, process, and store sensitive payment card data. Based on mutual close cooperation, FinTech companies issue digital payment cards together with commercial banks.

Their activity mainly intersects with the execution of digital payments. Both financial institutions provide the necessary platforms to execute payments on various services or P2P transactions. In this field, their competition mainly focuses on formulating user-friendly platforms, expanding the list of services, and providing reduced transaction fees. Alongside it, both of them try to cooperate and attract more local and international financial institutions to expand the use of digital payments.

As it's mentioned, the adoption of the draft law would grant additional privileges to FinTech companies. Providing new payment services, such as remittances, issuing electronic money, and payment cards, the usage of Open API technology would create new spheres for future competition. At that stage, competition between FinTech companies and banks would be stronger.



3.2 FinTech venture capital ecosystem

3.2.1 Investment analysis

The start-up projects in Azerbaijan are on the verge of finding momentum with the help of state support received both financially and technically. Unfortunately, it is hard to accept that the number of local investors in Azerbaijan is quite low when there are not any fully developed venture capitalists in the country to support any innovative projects.

The start-up ecosystem around the world is mostly financed by business angels, venture capitals, banks, large private companies, and the state. Azerbaijan faces issues with most of the sources of investment available in the country. For instance, as per the official data, the number of business angels in Azerbaijan is nil. Additionally, due to tax inspections, most entrepreneurs hide their assets, and large open investments are neglected at times.

It is important that start-ups do not get involved in illegal fund allocation as it will affect foreign investors in the future. If the start-ups have to get a loan from the banks, their only option is to obtain a consumer loan, as there are no loans specifically provided for the development of start-ups. Banks frequently choose to fund start-ups that will help them improve their FinTech capabilities in the market.

The start-up projects in Azerbaijan are on the verge of finding momentum with the help of state support received both financially and technically. Unfortunately, it is hard to accept that the number of local investors in Azerbaijan is quite low when there are not any fully developed venture capitalists in the country to support any innovative projects.

3.2.2 Market performances

The past few years have seen private large corporations funding start-ups. Unlike banks in Azerbaijan, private companies choose to fund incubators to hold out competition between start-ups, and the winner will receive \$1000–\$2000 for their development costs. Venture capitals, on the other hand, are poorly developed in Azerbaijan. The legislation gaps are not entertained well in the country, which led to no local venture capitalists in the country and foreign venture capitals are not keen on entering Azerbaijan's market. These drawbacks force Azerbaijani start-ups to register in a foreign country. Recently, Turkish venture capitalist Bogazici Ventures opened a representative office in Azerbaijan with the intention of investing \$5 million in local start-ups. This has attracted many other venture capitals from other countries into the Azerbaijan market.

At the end of 2020, the innovation agency of Azerbaijan joined hands with leading US ventures to fund 500 start-ups in Azerbaijan. These 500 start-ups signed a memorandum to cooperate jointly in the field of entrepreneurship development. It is agreed that these 500 start-ups will work jointly to improve the start-up ecosystem in Azerbaijan by helping the innovation agency implement acceleration and investment programs.

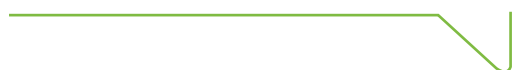







Table 3.1: List of start-ups in Azerbaijan

Rank	Company	Investor	Announcement date	Transaction value (\$)	Investment stage
1		Inpro	2009		Early Stage
2		Khagan Khaligzade, Dai mler Investments, Carl O'Brien, Janine Carter	2021	1.2 million	Private Equity
1		Sup VC	2016	12,000	Seed



EXPERT INSIGHT

Naina T. Mehdiyeva | GoldenPayOJSC

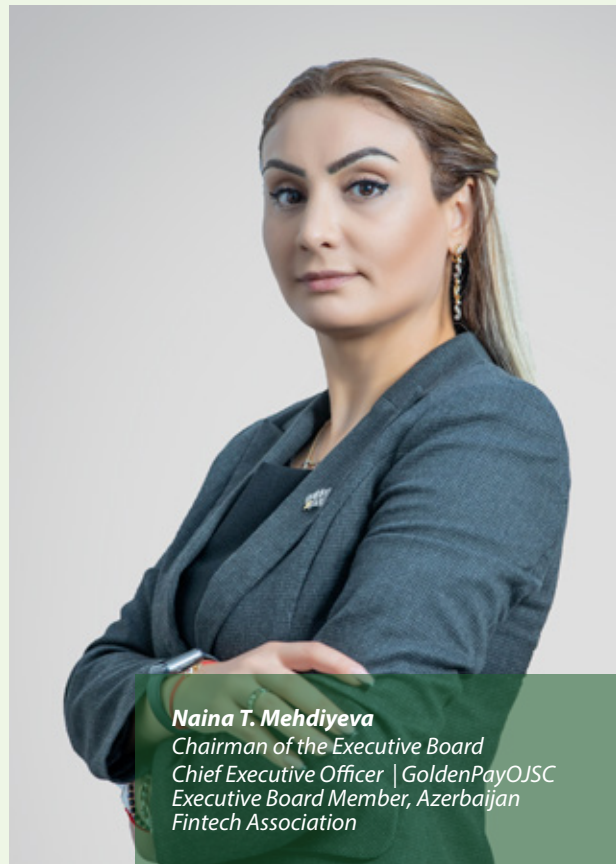
***Chairman of the Executive Board
Chief Executive Officer, GoldenPayOJSC
Executive Board Member, Azerbaijan Fintech Association***

- Dealing With the Growing Consumer Demand
- Accelerating the Integration of Digital Financial Solutions During Pandemic
- The Importance of Collaboration to Develop FinTech in the Country
- The need for the expansion and elevation of financial literacy

EXPERT INSIGHT

Digital technology: Dealing With the Growing Consumer Demand

The growing digital economy sets the direction for the transformation of the traditional sectors of the economy and the emergence of new markets and niches. New business models are becoming more customer-centric now, which completely determines their structure: from a value proposition aimed at a solution to a predicted customer need, to timely delivery (just-in-time), to revenue streams based on the time a customer uses a product. The key source of value creation is the high-speed processing of large amounts of data, as transactions take place in real time and often at the same time. Technologies for the analysis of large data sets and AI help to find new sources of value creation based on the study of digital portraits of consumers and patterns of their economic behavior. Customer data is turning into the main asset of digital companies, and access to large arrays of it increases the assessment of their market value. The current trend is the development of open data platforms (open data), which stimulates the emergence and spread of innovative business models in the economy. In the financial sector, the embodiment of this concept was the Open Banking system, which provided for third parties to analyze or use data, integrate various applications and services, thereby improving the quality of customer service and growing consumer demand.



Naina T. Mehdiyeva
 Chairman of the Executive Board
 Chief Executive Officer | GoldenPayOJSC
 Executive Board Member, Azerbaijan
 Fintech Association

Accelerating the Integration of Digital Financial Solutions During Pandemic

The COVID-19 pandemic has accelerated digital transformation and highlighted its importance in mitigating economic downturns, preserving prosperity, and hastening

Regulators need to keep abreast of fast-paced technological changes in FinTech to ensure consumer and data protection, cybersecurity, and interoperability between users and countries. At the same time, it is important to ensure an adequate level of competition in FinTech to maximize the value of digital financial services.



recovery. The COVID-19 pandemic could change the landscape of digital financial services. Advances in mobile money, FinTech services, and internet banking can bring big benefits to low-income people and small businesses. However, a more inclusive recovery requires equitable access to digital infrastructure (mobile and internet access, digital ID), improved financial and digital literacy, and avoiding data bias. Regulators need to keep abreast of fast-paced technological changes in FinTech to ensure consumer and data protection, cybersecurity, and interoperability between users and countries. At the same time, it is important to ensure an adequate level of competition in FinTech to maximize the value of digital financial services.

The Importance of Collaboration to Develop FinTech in the Country

The FinTech ecosystem is made up of consumers, financial institutions, industry start-ups, investors, regulators, and educational institutions. And it's extremely important to set up a proper collaboration among all of these organizations. The healthy development of such an ecosystem will lead to mutually beneficial cooperation among stakeholders and ultimately help provide financial services to more consumers at a lower cost, faster and with higher quality. The development is particularly noticeable in emerging markets, where the financial services industry presents both unique opportunities and unique challenges. The huge growth of this sector can largely be driven by the partnership between private investors and the government, which should actively support FinTech companies.

The need for the expansion and elevation of financial literacy: Advice for entrepreneurs

In the modern world, an idea in itself is worth nothing; only its implementation has value. Therefore, before planning, you need to clearly understand the possibility of its implementation. In the near future, the number of young people who will offer new FinTech solutions to the market will only grow. The most important thing is to solve specific problems for specific people, making their lives much easier. Even if some solution is already on the market, but it does not work perfectly or is inconvenient for the customer, you can safely offer a more convenient one that allows you to provide services to the end user seamlessly.

The Best Measures to Protect Sensitive Data and Develop Secure Systems

Due to the increasing complexity and scaling of consumer Internet services, companies will face the challenge of integrating many of the components that make up their composition. Therefore, for such services, the demand for solutions for M2M authentication and authorization will grow. Due to the growing complexity of the ways and channels of user interaction with online services, in 2022 there will be a demand for client authentication solutions that allow the service to provide the most "seamless" user experience with the ability to easily scale the solution. Prevention is the best way to keep data safe. Encryption remains one of the best security measures to help prevent breaches of confidentiality or data integrity. Keeping the data safe should be the number one priority for any company.



3.3 Financial services ecosystem

3.3.1 Entering, competing, and partnering (between FIs and FinTech firms) in the country's financial services marketplace

The new entrants, with the help of disruptive technologies, are radically transforming traditional business models into tech-based business models where the majority of the population has reached into them. The financial institutions in Azerbaijan are competing with FinTech start-ups and are investing huge amounts of money into technology to serve the market segments. Some of the financial institutions in Azerbaijan have initiated partnerships with FinTech firms to avoid competition or to stay updated and relevant in the market. For instance, Bank Respublika has offered open banking services to their customers where they would be able to track personal accounts and transaction history not only through the bank's digital platform but also through non-banking platforms. The bank was able to offer such services by partnering with the FinTech firm GoldenPay.

3.3.2 Changes to existing products and services

The Azerbaijan market is emerging due to its potential growth opportunities for most industries. Azerbaijan's

The new entrants, with the help of disruptive technologies, are radically transforming traditional business models into tech-based business models where the majority of the population has reached into them. The financial institutions in Azerbaijan are competing with FinTech start-ups and are investing huge amounts of money into technology to serve the market segments.

digital financial services can increase financial inclusion. The goal can be achieved by providing more access to finance, extending the underserved population, and providing an intermediary function to gather populations participating in the conventional financial system. Payments are an initial stage to accessing other financial services (i.e., credit, savings, and insurance). Therefore, enhancing access to payment services is essential to achieving a country's universal access to finance. Due to the pandemic, contactless payments have increased tremendously, as per the vendors in Azerbaijan. Technology like this has been present all the time, but the pandemic has boosted the public's utilization of such technologies.

3.4 Incubator and accelerator system

3.4.1 Shifting of business model

For a long time, start-up projects were not perceived as a serious business in Azerbaijan for a long time, despite the interventions made by the government to support these projects. Thus, there were only a few start-ups that gained momentum and turned into sustainable businesses in the country. However, the increased attention on start-ups globally helped Azerbaijan's start-ups flourish in the market with the increased support from the Azerbaijan states for developing innovative ideas and making them part of the national economy.





As mentioned earlier, the lack of venture funds in the country forced the government or state to establish programs to support start-ups. The main sources of funds come from the Azerbaijan Innovation Agency and the Azerbaijan National Academy of Sciences. The Innovation Agency was established to support and develop the infrastructure of the IT sector in Azerbaijan, which led to the support of start-ups such as FinTech, both financially and technically. The Innovation Agency has built an incubation and acceleration center to support the innovative ideas of the younger generation and gradually bring high-quality intellectual products into the Azerbaijani economy. Both the Innovation Agency and the Azerbaijan National Academy of Sciences provide acceleration programs where they

allocate around 70-80 million per year for the budget in which the start-ups battle for accessing the grant. Although the start-ups do not receive the amount they require, states are playing an important role in resolving this issue without hindering the funds to be provided to future start-ups.

3.4.2 FinTech projects

There are other incubations and acceleration programs in Azerbaijan that provide assistance, training, financial support, and other types of services to those with innovative ideas and nurture them into start-ups. Some of these organizations are:

Table 3.2: FinTech projects in Azerbaijan

Name of the organization	Incubation	Acceleration
Baku business factory	✓	
Barama innovation and entrepreneurship center	✓	✓
Business incubation and acceleration center	✓	✓
SUP	✓	✓
INNOLAND	✓	✓
Youth inc-entrepreneurship program	✓	

Source: Data collected by EU4Digital Facility



VENTURER INSIGHT

Farid Musayev

***FinTech Entrepreneur
Venture Capital Investor***

- Venture Capital Ecosystem in Azerbaijan
- Venture Capital and Funding Trends
- Challenges of Raising Fund in Azerbaijan
- VC Investment Decision Process



VENTURER INSIGHT

Venture Capital Ecosystem in Azerbaijan

It is mostly made up of angel investors. We can say there are about 10–15 people who are occasionally investing in different local and international start-ups. Very few have their own investment strategy or thesis. Most of them invest very emotionally. Due to regulations and other legal stuff, it has not been possible to build VC funds in Azerbaijan yet. Currently, 3 initiatives are being discussed on the table led by the government, which will mostly match style funds with the private sector. We don't get so much attention from international VC funds but have some joint programs with 500 Global, Plug and Play, and Founder Institute.

Venture Capital and Funding Trends

There is no one or two vertical that we can say money is being concentrated. Ecommerce, Gaming, Hardware, Fintech, SAAS, Edtech and other domains are the ones that Azerbaijani tech investors are investing. Country itself is mainly famous for oil and gas, chemicals and agriculture industries. But no prominent or vital startup/idea came out of these directions.

Challenges of Raising Fund in Azerbaijan

- Lack of smart money
- Small check sizes (10,000-50,000\$)
- Lack of follow-on investments
- Lack of talent and good start-ups

3 initiatives are being discussed on the table led by the government, which will mostly match style funds with the private sector. We don't get so much attention from international VC funds but have some joint programs with 500 Global, Plug and Play, and Founder Institute.



VC Investment Decision Process

It is really happening very slow and most time very emotionally. Professional due-diligence process is lacking in the market. Sometime you purely depending on investment memo and pitch deck of start-ups. Face to face interviews and pitching sessions happening very rarely.

Some demo days and pitching sessions are organized on local angel investors level. And it took between 30-90 days for investment decisions. Angels are mostly talking to each other for joint decision making.



3.5 Regulatory responses and government interventions

3.5.1 Development of regulatory sandbox

The Republic of Azerbaijan is now implementing a state program for the expansion of digital payments for the years 2018-2020, which has been approved by the President of the Republic of Azerbaijan. The Central Bank of the Republic disbursed funds to transform the payment organizations into active participants in the FinTech market. Due to the COVID-19 situation, a video conference was held on April 9, 2020, between the Central Bank, the Azerbaijan FinTech Association, and other FinTech representatives.

Payment Services and Payment Systems for expanding Apart from discussing the criticality of the Law on the digital payment ecosystem, the government's measures to develop the necessary regulatory testing regimes were also stressed. The regulatory testing system is still in its early stages. Innovative and prospective start-ups are forced to leave due to the lack of a regulatory sandbox and legislation. However,

the regime's current efforts are playing a critical role in developing the FinTech ecosystem in the country.

3.5.2 Laying out the foundation to support innovation through collaboration among ecosystem participants

The decree "On ensuring coordination in the field of innovative development in Azerbaijan" was approved by the President of the Republic of Azerbaijan on January 10, 2019. Through the decree's implementation, the coordinators are appointed for the innovative development of products and services, technology, processes, and solutions based on scientific achievements, knowledge, and digital innovations. Following the decree, the country designed an innovation strategy. Two main agencies are driving the development of cooperation in the innovation ecosystem in the country, namely, the Innovation Agency and the SME Development Agency (SMEDA).

To support small and medium enterprises in the country, SMEDA was established by the Decree of the President in



It enables local businesses to acquire modern technologies and technological solutions, organize their transfer, support innovation-oriented scientific research, and encourage innovative projects, including start-ups, by funding them through venture capital funds, concessional loans, and grants.



late 2017. The body ensures the coordination of services rendered by government bodies and private entities, regulates public services, and provides a range of services to entrepreneurs. Consequently, to assist local enterprises, an innovation agency was established in late 2018. It enables local businesses to acquire modern technologies and technological solutions, organize their transfer, support innovation-oriented scientific research, and encourage innovative projects, including start-ups, by funding them through venture capital funds, concessional loans, and grants.

3.5.3 Government incentives in driving FinTech

The Azerbaijan 2020 Vision highlights various strategies for developing FinTech in the country. The absence of comprehensive and centralized implementation of the program proves to be a hurdle in development. The president of Azerbaijan ratified a decree on numerous measures to offer incentives to entrepreneurs for the development of FinTech. Establishing the Credit Guarantee Fund of Azerbaijan (OJSC) is one such measure taken by the governments. The OJSC provides guarantees and interest-rate subsidies for entrepreneurs.

Moreover, the government has introduced various programs for financial education in the country that can ultimately help grow the FinTech ecosystem. One such program is technical and vocational education and training (TVET). TVET has historically been underfunded and consequently underperformed. The skills mismatch reveals outdated training that cannot meet the needs of the business sector.

3.6 Challenges and barriers in FinTech development in the country

3.6.1 FinTech disruption - where it succeeded and where it still lacks

Financial inclusion has become a very prominent aspect of economic importance in Azerbaijan. Financial inclusion services are primarily provided by banks, non-bank credit organizations, and insurance companies. There has been a recent boom in the development of financial technology in Azerbaijan. Implementing the State Program on Expansion of Digital Payments in the Republic of Azerbaijan for 2018-2020 results in an increased volume of non-cash payments at the country level. The program has transformed the cashless payment environment between citizens, businesses, and government agencies, ultimately reducing cash flows and strengthening the financial resources of the banking sector.

Under the framework of the program, the Central Bank launched the Instant Payment System (IPS) in pilot mode to introduce new payment technologies and increase access to payment services.

IPS (Instant Payment System) was developed by the Central Bank of Azerbaijan as part of the program and commissioned on 1 October 2021 for digital payments within Azerbaijan.

As part of these efforts, for the first time in the country, IPS functionalities make it possible to register customers and



their bank accounts remotely, delete them, retrieve balance information, and maintain operations based on 'Open Banking' principles.

In addition to 19 banks, the State Treasury Agency of the Ministry of Finance of Azerbaijan and 'Azerpost' LLC is currently connected to the IPS platform. Continued efforts will extend the system's coverage and expand the range of digital solutions available to users.

3.6.2 Hurdles of the cooperation between FinTech and traditional FIs

Despite the aim of the Law on Non-Cash Payments that was adopted on December 16, 2016 in Azerbaijan to encourage non-cash payments in the country, several restrictions have hindered its implementation. Taxable transactions for taxpayers engaged in trading or catering activities exceeded 200,000 manats over a calendar year, which should have been approximately 30,000 manats. Activities for other taxpayers exceeded 15,000 thousand manats, which should have been deducted from the cash contribution. SME owners found it challenging to access banking services due to a 1 percent simplified tax on cashback transactions. In Azerbaijan, 63 percent of the population in the private sector receives their wages solely in cash form. According to the FinTech Report issued by the World Bank Group in February 2020, Azerbaijan is at the primary stage of FinTech development. Among the most common challenges to FinTech in Azerbaijan are: underdeveloped ICT infrastructure, particularly in remote areas and rural areas; limited access to finance and investment; absence of stock markets for liquidity occasions; unavailability of enabling legislation; and unclear business conditions for FinTech products and services by non-traditional players (as MNOs, PSPs, FinTechs, etc.).

Azerbaijani banks have invested about 300 million manats in financial technologies, of which they spent 49.8 percent on software purchases in the past five years.

However, Azerbaijan lacks a so-called "regulatory sandbox" mechanism, which significantly limits the possibility of FinTech companies appearing on the market. As a result of the lack of legislation, innovative start-ups are forced to leave the country.

For example, Maliyya, a start-up offering peer-to-peer lending without the participation of financial institutions, was forced to move to the UAE, where it was granted a FinTech license.

Peer-to-Peer (P2P) lending, an increasingly popular form of funding among SMEs worldwide, is not yet available in Azerbaijan. The number of companies working in this field is growing rapidly. Yet, these mechanisms are not role players in SME financing. The business-oriented platform EnterpriseAzerbaijan.com, launched by the CAERC, a state-run entity, enables SMEs and start-ups to fund business ideas through bankable investment projects with the help of crowdfunding.

In the ECA region, new technologies can be an invaluable asset for regulators and supervisors concerned about promoting a safe and secure digital environment across the economy. Azerbaijan's Financial Market Supervisory Authority adopted the Rules for Opening, Maintaining, and Closing Bank Accounts in 2019 to outline procedures for opening bank accounts remotely and onboarding customers. The ECA region is also exploring options for establishing e-KYC to facilitate a more efficient process for conducting customer due diligence (CDD) by facilitating information sharing.

3.6.3 Regulatory compliance and security concerns

The Central Bank of Azerbaijan CBAR pays constant attention to the country's banking sector's information security, more specifically, the early detection, mitigation, and prevention of cyber-attacks.

The CBAR continually monitors challenges in information and communication technologies in the international arena, while delivering innovative solutions to the banking sector. While the establishment of modern IT infrastructure in the country and the expansion of digital services made available in the financial and banking sectors are in line with global trends, it is important to ensure data security through data exchange, protect existing information resources from potential threats, increase overall cybersecurity readiness level, and conduct regular awareness-raising activities.

The CBAR initiated and approved the Regulation on Information Security Management in Banks (the Regulation), which states the minimum limit required for information security in financial institutions operating in Azerbaijan, and it is also included in the State Register of Legal Acts of the Republic of Azerbaijan. A new Regulation on information security will enter into force on April 1, 2022, because it will take a while to establish an appropriate information technology infrastructure in financial institutions and develop policies and procedures to ensure their information security.





The CBAR initiated and approved the Regulation on Information Security Management in Banks (the Regulation), which states the minimum limit required for information security in financial institutions operating in Azerbaijan, and it is also included in the State Register of Legal Acts of the Republic of Azerbaijan.

The Central Bank Board decided on December 10, 2014 to repeal the Regulations on the Security of Information Systems in Banks approved by the Board of the Central Bank.

In this Regulation, there are requirements and control mechanisms for establishing and organizing information security management systems in banks according to the ISO/IEC 2700X standards, human resources security, asset management, access control, cryptography, physical and perimeter security, protection of information security during acquisition, implementation, and support of information systems, protection of information security during service relationships with suppliers, and management of information security events.

3.6.4 Capital requirements and access to financing

Black Sea Trade and Development Bank (BSTDB) has granted Turan Bank a new facility in local currency of AZN 10 million to lend to domestic small businesses. With this financing, Turan Bank will be able to increase the availability of funds for small and medium-sized enterprises (SMEs) for their production and investment programs as well as for their working capital needs.

Since funds have been provided in local currency, this will not create exchange rate challenges, especially at this time

of the ongoing pandemic. The new BSTDB local currency loan will facilitate the recovery and development of the SME sector in Azerbaijan, increase job creation and generate budget revenues.

Turan Bank received its second Manat SME loan from the BSTDB after the successful utilization of the first facility provided in 2019, which reached more than 3000 SMEs in the country. BSTDB began cooperating with Turan Bank in 2011 by extending two trade finance credit lines in US dollars before the end of 2019.

Turan Bank OJSC was established in 1992 and is a fully licensed bank engaged in the traditional banking business. In line with its corporate strategy and principles of retail banking, the Bank places great emphasis on cooperation with international financial institutions that support the growth of micro, small and medium-sized businesses.

A network of 15 branches and two offices throughout the country was in place by the end of 2020. Through its micro, small, and medium-sized entrepreneurship support development projects, the Bank intends to contribute to the expansion of non-oil segments like industry, agriculture, construction, commerce, and service.



04

BOSNIA & HERZEGOVINA





BOSNIA & HERZEGOVINA

Capital city: Sarajevo



GDP	GDP per capital	GNI	GDP per capita
\$14.8 bn	\$5,215.3	\$14.5 bn	\$5,210

Figure 4.1: Distribution of employment rate



Employment to population ratio, 15+, total (percent) (modeled ILO estimate)

Unemployment rate (percent of total labor force) (modeled ILO)

Figure 4.2: Consumer prize index rate



Inflation

-1.10%

Figure 4.3: Distribution of population and urbanization percentages



Population

Urbanization

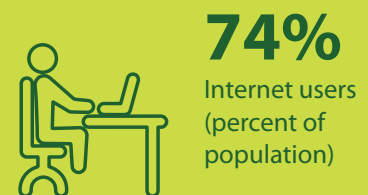
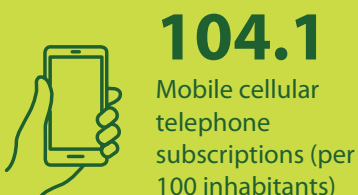
Figure 4.4: Share of trades in goods and services



Import

Export

Technology adoption



4.1 FinTech Ecosystem

4.1.1 FinTech ecosystem, in terms of growth, talent, investment, and market drivers (consumer behavior, technology adoption, COVID-19)

According to a World Bank report in 2020, Bosnia & Herzegovina has a basic Level of FinTech Development. The Digital Readiness score for the country is 12.5 out of 25, meaning the Digital Readiness rating is low. Thus, compared to Turkiye, the Digital Readiness in the country is lower, but Digital Readiness is higher than in Azerbaijan and Albania. In 2019, the ease of doing business index in the country was 90 out of 190, and anything closer to 1 is considered that the country has an environment that is easy to do business in.

Innovation plays a vital role in developing a robust FinTech ecosystem. In Bosnia & Herzegovina, the innovation index has fallen from 31.4 to 29 out of 100 from 2019 to 2020. On a global average, the country is ranked 73rd out of 131 countries. The country experienced the lowest innovation index in 2020 in the last eight years.

In 2019, 240,189 people completed secondary education, and the gross school enrollment ratio is 40 percent in tertiary education. Education helps a country gain the advantage of skillful people to come up with innovative

ideas to meet the customers' needs in the market. Bosnia & Herzegovina have a high quality of IT due to the high number of experts in the area with a low cost of labor. This allows FinTech to grow and expand in the country. However, the country has a brain drain where the low cost and high quality of IT services mostly benefit international firms rather than domestic firms. In the Global Competitiveness Report released by the World Economic Forum, Bosnia & Herzegovina is among the top-ranked countries with the largest brain-drain around the globe. The country scored 1.76 on a scale of 1 to 7. 1 indicates talented people going abroad. Hence, the brain drain may cause the FinTech ecosystem to grow at a slower rate.

The percentage of people living in urban areas is 49 percent, the lowest compared to the other three countries. Internet users in the country represent 74 percent of the population, with 10,382 secure internet servers across the country in 2020. In January 2020, there were 3.45 million mobile connections in Bosnia & Herzegovina, which is 52 thousand more than in January 2019 compared to January 2020. According to the Findex 2017 report, 59 percent of Albanian adults have an account, with an 8 percent gap between men and women who own an account. 5.5 percent of adults have no account due to a lack of necessary documents, and 51.2 percent of adults have no account due to having a lower income. Moreover, six FinTech companies applied for the license from the Banking Agency of the Federation of Bosnia & Herzegovina in 2019.



The following are 10 FinTech start-ups in Bosnia & Herzegovina, with the established date and in which FinTech verticals they operate:

1996	Info Studio	- Credit scoring
2000	Bamcard	- Card processing company
2003	Monri Payments	- Digital payment
2003	ProCredit Bank	- online banking platform
2006	Infobip MENA	- Digital identity
2009	Centralne Operacije	- E-Commerce
2012	Olivebh	- E-Commerce
2015	Naga	- Software and programming
2019	Klika	- Coding and software company
2019	ESP BH doo	- online payment platform
2020	The FinConf 2020 in Bosnia & Herzegovina, the fifth annual FinTech event, was held to identify the future of financial services and the key challenges and opportunities in the market. During the COVID-19 pandemic, with executives from the private sector and regulatory agency representatives.	
2021	Furthermore, the FinConf 2021 was held at the Central Bank of Bosnia & Herzegovina (CBBH) with 500 attendees and 20 exhibitors to promote FinTech innovations and bring together key players in the FinTech ecosystem.	

4.1.2 Overview of the FinTech hubs in the country

HUB387 is a FinTech hub located in the center of Sarajevo, the capital of Bosnia & Herzegovina. HUB387 allows businesses to start new projects in building ICT at the national and regional level in the FinTech ecosystem. In 2014, they introduced the NEST71 Start-up Acceleration Program to help build new start-ups develop and grow in the market.

The Sarajevo Hub consists of young people from different backgrounds, such as entrepreneurs, artists, designers, community leaders, architects, and software engineers, to create a robust environment for the start-ups. The aim is to connect and share the knowledge to create a FasterCapital which is a national online incubator that assists FinTech start-ups in raising capital or finding funding from venture capitals, angel investors, and government funds. They also help start-ups with technical development or business development in exchange for equity. FasterCapital hosted four events, Raise Capital, Grow Your Start-up, Find a Tech Cofounder, and Bring Your Idea to Market. Furthermore, Innovation Center Banja Luka (ICBL) is an incubator founded in 2010 in the country to support start-ups in developing innovative and advanced technologies. They provide consulting services, financing or investment opportunities, ICT services, promotion and networking services, and training services to FinTech start-ups or companies.



The SECO Start-up Fund (SSF) provides loans for start-up projects and finances the first expansion phase of companies in Bosnia & Herzegovina. For loans, the grace period is up to 5 years with a lower interest rate. The main aim of SSF is to help the country's economy grow and create jobs in the country.

4. 1. 3 FinTech verticals in the country that have potential to grow

In 2021, the largest FinTech vertical in the country will be digital payments, with an estimated total transaction value of \$587 million in 2021. By 2025, it is estimated that the number of users is estimated to amount to 1.42 million users in digital payment. In 2021, the average transaction value per user in the FinTech crowdfunding vertical to businesses and customers is projected to amount to \$8,799.

4. 1. 4 Country's FinTech responses to COVID-19 challenges and opportunities/solutions

In March 2020, Bosnia & Herzegovina declared a state of emergency with closed borders and went into lockdown. The pandemic has affected individuals with job losses and companies with significant falls in demand. To overcome the negative impact, the government introduced a

In 2021, the largest FinTech vertical in the country will be digital payments, with an estimated total transaction value of \$587 million in 2021. By 2025, it is estimated that the number of users is estimated to amount to 1.42 million users in digital payment. In 2021, the average transaction value per user in the FinTech crowdfunding vertical to businesses and customers is projected to amount to \$8,799.

*HUB387 - Coworking Space in Sarajevo
NEST71 - Coworking Space in Sarajevo (foursquare.com)

debt Moratorium like many other countries. The banks, including FinTech lenders, have to provide their customers or clients with a three-month loan repayment moratorium.

This might be challenging for some small start-up lenders in the FinTech ecosystem to survive, as they might face some liquidity problems during the pandemic. However, the government also provides credit relief to the companies.

The credit relief might offset the effects of the 3 month debt moratorium on the credit lenders in the form of tax-deferred. Furthermore, Bosnia & Herzegovina, like any other developing market, lacks proper laws and regulations governing FinTech operations, such as e-signature laws and laws governing eID and trust services. For start-ups in the country, Raiffeisen Bank International (RBI) provides an opportunity for FinTech start-ups to participate in the Regional Elevator Lab challenge program in 2020 and 2021.

This would give the winning start-up an opportunity to operate at a domestic, regional, and international level and provide financial assistance. Furthermore, participants in the Regional Elevator Lab challenge program would get a chance to get professional feedback from the experts to take their FinTech innovation to the next level and provide a solution to customer needs.



EXPERT OPINION

Emina Sisic | Bosna Bank International

***Chief Executive Officer
Bosna Bank International***

- The Development of Bosnia & Herzegovina's FinTech
- The New Opportunities due to COVID-19
- Challenges in Implementing FinTech at the Very Need of the Financial Market
- The Effect of FinTech Ecosystem in the Country



EXPERT OPINION

The Development of Bosnia & Herzegovina's FinTech: Satisfying Collaboration among Various Stakeholders?

We are all witnessing a complete digital transformation globally, and it's clear to everyone that FinTechs are creating new opportunities and challenges for the financial sector – from consumers to financial institutions, including regulators. The continued growth of digital banking is showing no signs of slowing down. Practicality, promptness, and security aren't just additional benefits in consumers' minds anymore. They are now a standard requirement of rapidly changing customer-bank relationships, and FinTech companies are now in charge of delivering them. There are rapid advances in digital technology that transform the economic and financial landscapes.

More and more customers are turning toward contactless digital solutions that promptly service their needs. Cash usage is declining rapidly, which leads to increased mobile transactions and digital wallet usage. We are continuously joining forces to create a framework for more significant digital progress in Bosnia. We believe that it's essential to extend solutions to customers by integrating FinTech providers into our ecosystem to provide frictionless access to financial solutions from our internal digital banking application.



Emina Sisic
CEO | Bosna Bank International

We are all witnessing a complete digital transformation globally, and it's clear to everyone that FinTechs are creating new opportunities and challenges for the financial sector – from consumers to financial institutions, including regulators. The continued growth of digital banking is showing no signs of slowing down. Practicality, promptness, and security aren't just additional benefits in consumers' minds anymore.

FinTech Increase Bosnia & Herzegovina: The New Opportunities due to COVID-19

COVID-19, more than any other issue in past years, has been the engine for the leaps and limits made in the financial industry. When the world shut its doors, we were forced to stay at home, which caused a massive increase in the finch industry. Ice has been broken, and more confidence has been gathered. The flow of freshwater into this industry is gathering energy in Bosnia and globally. This industry is continuously growing. Banks and other businesses had to go through a process of significant changes and quickly introduce new solutions to deal with these unexpected circumstances. We have seen some new FinTech companies in the payments sector. However, this can be considered a natural direction of the industry's development and not a consequence of the COVID pandemic. However, most banks internally develop their digital solutions for different purposes.

Strict regulations and restrictions mostly slow down the digitalization process for our bank and every other financial institution. The law on electronic signatures that

regulates the basics of formation and electronic signatures still doesn't apply. I believe that it is necessary to observe digitalization strategically, look for successful practices from the region, and create a palette of solutions. Bosnia and Herzegovina is the only country in the region that is not using an electronic signature, which is the foundation of business process digitalisation and can confirm the protection of the integrity of electronically transmitted data.

The Effect of FinTech Ecosystem in the Country: Additional Roles and Activities

By constantly monitoring all of our processes and engaging in agile teamwork to progress, all to operate more efficiently. Also, it is essential to follow technological trends and be aware of all the rapid changes so we can transform quickly and keep our clients satisfied. Continuously educating employees and always encouraging them to accept change and digital transformation. This should be deeply rooted in business strategy. Creating teams within the bank to monitor the digital transformation process is essential to always being ready for new challenges.



4.2 FinTech venture capital ecosystem

4.2.1 Investment analysis

The venture ecosystem in Bosnia & Herzegovina is growing rapidly, yet it is considered an underdeveloped and underutilized ecosystem in the country. The start-up ecosystem in the country has a lot of opportunities to scale their operations internationally. High-tech industries such as FinTech require huge amounts of capital to run and develop their businesses. It is clear that some western Balkan countries have raised their capital through venture capital firms, such as an e-commerce platform called Gjirafa. Despite such platforms' presence in other Western Balkan countries, they are very rare in Bosnia & Herzegovina. The government works in these regions to provide investments, but the stringent requirements such as collateral and guarantees are too difficult for many entrepreneurs to obtain.

4.2.2 Market performances

SEEBA is one of the few venture capital funds in the country that provides consulting services and financial investments

to start-ups that are in line with a sphere of business and digital strategies.

The fund resources of SEEBA Venture Capital come from the offices in Stockholm, Belgrade, and Sarajevo. The clients funded by SEEBA mostly include both public and private sectors in the country. The South Central Ventures fund, which invested 40 million pounds in technology start-ups across Western Balkan countries, is also present in Bosnia & Herzegovina.

Start-up entrepreneurs find it very difficult to finance their businesses as the investors in the country have a traditional mindset and the concept of start-ups is still new to them. Common types of investors, such as crowdfunding platforms, angel investors, and venture capital investors, do not exist in the country. Due to the lack of such organizations, municipalities have started providing grants to start-ups, which are restricted to local residents only. It is vital to understand that the incubation and other programs in the country are the best ways to find investors as these business centers focus on start-ups.

The fund resources of SEEBA Venture Capital come from the offices in Stockholm, Belgrade, and Sarajevo. The clients funded by SEEBA mostly include both public and private sectors in the country. The South Central Ventures fund, which invested 40 million pounds in technology start-ups across Western Balkan countries, is also present in Bosnia & Herzegovina.



*Gjirafa50 - Dyqani online më i madh për teknologji.
Seeba Group

Table 4.1: FinTech corps in Bosnia & Herzegovina

inTech corps	investors/Owners	Date	Investment update
ProCredit Bank Bosnia	ProCredit Holding AG & Co. KGaA	2012	ProCredit Holding owns 100 percent. This company is also a Joint Stock Company (JSC)
Bamcard	Qenta Technologies	2021	ASA Finance (prior shareholders), sold all shares to Qenta Technologies in October 2021. This company is also a Joint Stock Company
ESP BH d.o.o	Undisclosed	2019	ESP BH d.o.o is a Private Limited Company
Monri Payment	Payten	2019	Monri is acquired by Payten in 2019, buying 80 percent of company's shares

4.3 Country's financial services ecosystem

4.3.1 Entering, competing, and partnering (between FIs and FinTech Firms) in the country's financial services marketplace

The traditional banks stand as the backbone of the Bosnia & Herzegovina economy. Therefore, the FinTech ecosystem in Bosnia & Herzegovina faces huge competition from the existing financial institutions. Despite the strong presence of financial institutions, the FinTech industry in the country has

been developing at a fast pace. Most FinTech companies in the country have a global presence, which gives them the advantage of experience and funds. Some of the FinTech companies in the country provide payment system services to central and south-east Europe through an outsourcing facility.

Open banking has been the largest national development of FinTech companies, which has been a widely demanded product by the banks. Many banks in the country are joining the open banking system's development through their own funding and by partnering with FinTech companies. This would pave the way for future FinTech developments in the coming months and may be indicative of steps towards new implementations across the technological industry.



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4.3.2 Changes to existing products and services

The FinTech economy is focused on revolutionizing traditional banking services by focusing primarily on payment solutions and digitization projects. A significant number of businesses deliver solutions to financial institutions and, as such, banks are the biggest drivers and innovators of the Bosnia & Herzegovina FinTech industry. Mobile banking has become the norm, with most Bosnia & Herzegovina banks now providing clients with the possibility of payments and money transfers via messaging applications. Each bank employs similar solutions to retain or strengthen its position in the market. New entrants comprise new FinTech start-ups and already established IT sector firms that have partially entered the FinTech industry. Forecasts for these new entrants are good, and it is anticipated that not only will many Bosnia & Herzegovina companies accept the vibrant nature of the FinTech industry, but more significantly, those banks and financial institutions will further seek FinTech solutions.

4.4 Incubator and accelerator system

4.4.1 Shifting of business model

The number of young entrepreneurs entering start-up businesses is expanding widely, from university start-up development programs through governmental and non-governmental organizations' initiatives to incubators and accelerators. The first incubators and accelerators in Bosnia & Herzegovina were introduced in 2008, where the public interest has risen only in recent years. The start-up scene across Bosnia & Herzegovina has seen increased geographical scope and is widely spreading in the country's big and small towns.

Due to the COVID-19 pandemic, a few of the incubators, such as FasterCapital, have turned into online incubators where they provide start-ups with the opportunity to raise capital from angel investors and venture capitals in the country. The main incubators and accelerators in Bosnia & Herzegovina are briefly explained hereinafter.



4.4.2 FinTech projects

Table 4.2: FinTech projects in Bosnia & Herzegovina

Incubators & accelerators	Purposes
HUB387	<ul style="list-style-type: none"> • To support the local IT ecosystem in the country. • To connect and collaborate with the IT community. • To develop and pool new ideas and solutions to the industry challenges.
Spark Business Park	<ul style="list-style-type: none"> • To promote new technologies in the country. • Providing education and investment to the entrepreneurs for developing new products and services.
Intera Technology Park	<ul style="list-style-type: none"> • Non-governmental organization focusing on developing the economic processes in the country. • To support technological and innovative projects for improvising local and foreign competition.
ICBLL – Innovation Center Banja Luka	<ul style="list-style-type: none"> • Wider scope and objective than an incubator. • Collaboration of knowledge and technology to help companies in developing successful ideas and thereby creating future-oriented jobs. • Coordinating students, faculty members, entrepreneurs, etc. into a common ground to improve the success of start-ups in the country.
BIT Centar	<ul style="list-style-type: none"> • To develop businesses of young prospective experts and entrepreneurs by providing opportunities and support to them. • Modern technologies, office space, finances, marketing, accounting, and law are the types of services given by the incubator.
QLab	<ul style="list-style-type: none"> • Common workspace and hub for co-workers. • Provides education, mentoring, and networking solutions to the start-up entrepreneurs. • It helps to expand the network among the entrepreneurs and develop new products and services.
Findacija Mozaik	<ul style="list-style-type: none"> • Social business incubator for developing ideas from young leaders by providing adequate resources for socioeconomic development in the country
Foundation Networks	<ul style="list-style-type: none"> • Provide mentoring and educational workshops by working closely with other organizations. • Aims to improve employability level among the younger generation. • It creates a network of start-ups, angel investors, and national incubator and accelerator programs in Bosnia & Herzegovina.



EXPERT OPINION

Merima Mahmutovic | EWPN

***Country Ambassador
European Women Payments Network***

- Exploring FinTech Development in Bosnia and Herzegovina
- Digital Business Transformation: The Role of FinTech
- Being Country's Ambassador to EWPN: The biggest Contributions of FinTech
- The COVID-19 Pandemic: The Impact for Women in The FinTech Industry



EXPERT OPINION

Exploring Fintech Development in Bosnia and Herzegovina

The development of modern technologies in all segments of business, especially in the financial sector, brings great changes. Banks in Bosnia and Herzegovina are facing new challenges, such as the impact of FinTech companies, in addition to new services such as Internet and mobile payments. Unfortunately, in Bosnia and Herzegovina, the development trend of the FinTech market is lagging behind global trends, and one of the main reasons is the lack of legislation. There is still no regulation, i.e., a formal-legal framework for FinTech companies in this market. When it comes to regulations, an additional problem is the lack of e-sign laws, which are still waiting for a certified agency that would allow for database administration of e-sign certificates. Banks in our market are just beginning to recognize the impact and importance of FinTech companies. With the changes on a global level, especially in the post-pandemic era, this phenomenon is gaining more and more importance.

Digital Business Transformation: The Role of FinTech

I recognize the influence of FinTech companies as a great opportunity in the process of digitalization and business transformation, especially in the financial sector. FinTech companies are able to quickly utilize all the benefits of new technologies in their business, and they could be drivers



Merima Mahmutovic
Country Ambassador | EWPN

of market change. FinTech companies are committed to building a user experience and offering services for newer generations, making it easier for them to penetrate the market. In addition, they have the opportunity to hire young talent, who show a much greater interest in working in a dynamic FinTech environment compared to other companies. FinTech companies can be strong partners to banks for disruptive strategies and digital transformation if they have the right regulatory framework and a high level of security.

Banks in our market are just beginning to recognize the impact and importance of FinTech companies. With the changes on a global level, especially in the post-pandemic era, this phenomenon is gaining more and more importance.





Being Country's Ambassador to EWPN: The biggest Contributions of FinTech

Since this year, I've served as a country's ambassador in EWPN, and I'm grateful for the opportunity. As a country's ambassador, I will focus on attracting motivated women to join our community, raising awareness of the importance of and adaptation to fast-growing technologies in the financial sector, and creating strategies to adopt changes in legislation that Bosnia and Herzegovina needs in this industry.

The COVID-19 Pandemic: The Impact for Women in The FinTech Industry

The COVID-19 pandemic, despite significant restrictions on movement, has actually accelerated the development of

new technologies and electronic payments and certainly given new space to the FinTech industry. In my opinion, the impact of pandemic COVID-19 on women in the FinTech industry was not significant. The pandemic has left significantly deeper consequences for very rapid changes in all organizations. I would say that the internal transformation within the organizations themselves was at a much higher level compared to the period before the pandemic. The ability to adapt employees in organizations to new technologies and new ways of working would help with the development and offering of new digital services, because now employees in organizations are more ready for transformation.

The COVID-19 pandemic, despite significant restrictions on movement, has actually accelerated the development of new technologies and electronic payments and certainly given new space to the FinTech industry. In my opinion, the impact of pandemic COVID-19 on women in the FinTech industry was not significant.



4.5 Regulatory responses & government interventions

4.5.1 Development of regulatory sandbox

Bosnia & Herzegovina is decentralized. It is divided into two states: the Federation of Bosnia & Herzegovina (FBH) and the Republic of Srpska (RS). These two states have different legislation and regulations, which also apply to the Brko District (BD) as a special administrative unit. When it comes to such autonomous legislation within each state, the laws differ from one another. The traditional banking sector is the backbone of the Bosnian & Herzegovina economy, and its presence influences the presence of the FinTech ecosystem.

These newcomers are expected to perform well. Many companies are expected to accept the dynamic of the FinTech industry in Bosnia & Herzegovina, but banks and financial institutions will seek FinTech solutions to maintain their market position.

Regarding regulations, the regulatory regime in Bosnia & Herzegovina is flexible and technologically neutral concerning FinTech industry developments. As a decentralized government system, the case may be handled differently depending on how it arises. While the FinTech industries are expanding, regulators' responses to this pre-launch platform are still lacking. Until recently, there was no regulation governing the management of sandboxes in the Federation of Bosnia & Herzegovina (FBH) and the Republic

Regulators have made some efforts to support FinTech innovations. For instance, the Data Protection Agency of Bosnia & Herzegovina has the competence to provide recommendations and opinions regarding the protection of personal data, perform other duties prescribed by law, and monitor the presentation of data from the state.

of Srpska (RS), despite the fact that new entrants in the FinTech industry are consistently increasing.

4.5.2 Laying out the foundation to support innovation through collaboration among ecosystem participants

One of the national developments in the Bosnia & Herzegovina FinTech ecosystem is a new platform with elements of Open Banking. Several key players have established this platform in the country (i.e., large banks, telecommunication companies, and technology providers), which is fully operational. The unlimited use of this platform is expected to attract other banks and financial institutions. Such developments would pave the way for future FinTech developments in the following years, maybe as steps towards new implementations across the technological industry. In terms of Open Banking, the FinTech industry may be subjected to the authorities' regulation and supervision, and the undertakings may be subject to the Competition Council of Bosnia & Herzegovina's approval.

Regulators have made some efforts to support FinTech innovations. For instance, the Data Protection Agency of Bosnia & Herzegovina has the competence to provide recommendations and opinions regarding the protection of personal data, perform other duties prescribed by law, and monitor the presentation of data from the state. Moreover, the consumer protection ombudsman offers state-level protection to consumers, and one of its main goals is to propose and initiate the resolution of consumer disputes using alternative dispute resolution mechanisms.





4.5.3 Government incentives in driving FinTech

Although obstacles exist in FinTech development, the Bosnia & Herzegovina FinTech industry has been developing quickly. The IT industry companies (also operating in FinTech) operate globally rather than locally, supporting commercial banks and financial institutions. Bosnia & Herzegovina companies provide contemporary solutions for payment systems in central and southeast Europe and provide FinTech-related outsourcing solutions to foreign start-ups and mature businesses.

In 2020, the governor of the Central Bank of Bosnia & Herzegovina (CBBH) stated that the CBBH is an institution that will continue to respect the highest professional standards of central banking. They are aware that the economy is changing rapidly, and they try to follow modern trends as well as possible. One of the important ones to highlight is the digitalization of finances and the appearance of so-called FinTech companies.

The Central Bank of Bosnia & Herzegovina (CBBH) supervises the country's monetary policy. However, there are two separate banking regulatory authorities – the

Banking Agency of Bosnia & Herzegovina and the Banking Agency of RS, both competent for general supervision of banking markets in Bosnia & Herzegovina. If an industry participant operates in both FBH and RS, it may have to comply with two separate regulatory regimes, which may differ. Both banking agencies perform activities such as:

The issuance of permits for the operation of banks, microcredit organizations and leasing companies;

The issuance of permits for the operation of banks, microcredit organizations and leasing companies;

The issuance of consent for the appointment of the bank's management staff;

The collections, processing and recording of the provided data under regulations.

The approval of organizational changes in banks, microcredit organizations and leasing companies;

The distribution of permits for internal payment transactions; and



In fighting cyber-crime, the government of Bosnia & Herzegovina has also collaborated with members of West Balkan countries to promote anti-money laundering and counter-terrorism fighting (AML/CTF). AML regulations play a significant role in the permissibility of e-KYC methods. Based on regulators' insights, the permitted identity verification methods for KYC requirements vary across the region. All the jurisdictions in the Western Balkans have AML/CTF frameworks in place. Bosnia & Herzegovina, specifically in Republika Srpska, has implemented some elements of the AML framework, transposed into the Law on Domestic Payment Operations (centralized bank account register). The full implementation implies that e-wallet providers and virtual currency exchange service providers are subject to the AML/CTF regime.

During COVID-19, FinTech players in Bosnia & Herzegovina have been impacted. There has been a significant decrease in demand while many consumers have lost their jobs. Thus, their eligibility to apply for loans is also underrated. To relieve the social and economic burden, the government has proposed several measures, including a moratorium of up to twelve months, a grace period of up to three months, and a loan extension of six months or more. However, the final decision is made after a one-on-one consultation between the lender and borrower. New credit-risk policies also suggest that lending will shift away from red-flag industries such as hospitality and tourism.

4.6 Challenges and barriers in FinTech development in the country

4.6.1 FinTech disruption - where it succeeded and where it still lacks

The FinTech business model for Bosnia & Herzegovina mainly focuses on solving payment concerns (services and analytics) and digitizing products. Businesses provide services to financial institutions, and banks are the prominent accelerators and innovators of BiH's FinTech industry. Mobile banking has become the tradition in BiH, with most banks presently providing clients with the option of making transactions or sending money via messaging applications.

By implementing such or similar solutions, each bank hopes to maintain or increase its market position. One example is the BiH bank's Elevator Lab Challenge in 2017, the fourth round of which took place in 2021. By participating in the challenge, companies can win a prize and participate in a four-month accelerator program in Vienna. The event is open to all start-ups digitizing aspects of their business and finances, especially those focusing on improving customer experience, forecasting and analyzing

During COVID-19, FinTech players in Bosnia & Herzegovina have been impacted. There has been a significant decrease in demand while many consumers have lost their jobs. Thus, their eligibility to apply for loans is also underrated.





various parts of a business, and enhancing the digitization of financial services.

New players in the FinTech space include FinTech start-ups and existing IT companies that have partly stepped into the industry. FinTech is expected to be a dynamic industry that welcomes many BiH companies, but more importantly, banks and financial institutions will follow suit and seek FinTech solutions.

4.6.2 Hurdles of the cooperation between FinTechs and traditional FIs

FinTech in Bosnia & Herzegovina has been developing quickly despite challenges. In the IT industry (which also includes FinTech companies), companies operate globally instead of locally, providing support to commercial banks and financial institutions, among others companies provide modern payment systems to businesses in central and southern Europe, and they also offer FinTech outsourcing to foreign start-ups and mature companies.

The largest development nationally has been the implementation of an open banking platform. In Bosnia & Herzegovina, the platform has been fully operational since

FinTech in Bosnia & Herzegovina has been developing quickly despite challenges. In the IT industry (which also includes FinTech companies), companies operate globally instead of locally, providing support to commercial banks and financial institutions, among others companies provide modern payment systems to businesses in central and southern Europe, and they also offer FinTech outsourcing to foreign start-ups and mature companies.

it was set up by several key participants, including one of the largest banks, a telecommunications operator, and technology companies. The platform is open to other banks and financial institutions, and it is expected that others will join. It may be a sign of steps toward new technological implementations across industries in 2022 and pave the way for future activities in the FinTech field

4.6.3 Regulatory compliance and security concerns

In Bosnia & Herzegovina, regulatory regimes are, to some extent, flexible and neutral when it comes to technological developments in the FinTech sector. It is worth mentioning here that the BiH government is decentralized. Among the constituent countries of Bosnia-Herzegovina (BiH), there are the Federation of Bosnia & Herzegovina (FBH), Republika Srpska (RS), and Brčko District (BD), a special administrative unit. FinTech regulations often differ by state or between these entities, since applicable legislation can be based on state legislation or agreements. The Bosnia & Herzegovina FinTech ecosystem is shaped by the powerful financial industry, with banks acting as the backbone of the economy. As of now, Bosnia & Herzegovina does not have a regulatory sandbox.



Thus, in some instances, the regulation may differ from the rest of the state when a state entity or an administrative unit is involved. Consequently, each of these entities may propose future regulatory developments separately. There are no specific provisions that govern compensation models for FinTech companies, nor regulations that govern the fees they may charge to customers.

However, compensation models must be compliant with the provisions of consumer protection laws (e.g., fair advertising), with provisions in the banking laws governing the use of financial services, and with the provisions of personal data protection laws.

4.6.4 Capital Requirements and Access to Financing

The FBH requires a minimum capital requirement of EUR 500 for LLCs and EUR 25,000 for JSCs. As a result, the RS requires EUR 0.5 to establish an LLC, EUR 10,000 to establish a closed JSC, and EUR 25,000 to establish an open JSC.

Bosnia & Herzegovina's capital adequacy ratio was 19.2 percent in December 2020, up from 18.3 percent in

September 2020. In Bosnia & Herzegovina, the Liquid Assets Ratio is calculated quarterly between December 2000 and December 2020. The data was recorded at an all-time high of 28.4 percent in December 2000 and a low of 14.9 percent in December 2015.

The banking sector's exposure to the government sector increased again in 2019, but it was still moderate, and there were no concentrated areas of exposure. According to the banking sector overall, at the end of 2019, bank exposure to the government sector was KM 2.36 billion, up KM 364.4 million (18.3 percent) from the previous year. The banks increased their exposure to the government sector in 2019, primarily by purchasing securities issued by the entities in question.

They increased their lending to government institutions, and their share of government debt had reached 7.2 percent of all assets. A full 66.6 percent of the regulatory capital of the banking system was allocated to the government sector at the end of 2019. Government exposures are limited to 300 percent of regulatory capital at the federal level under domestic law.

The banking sector's exposure to the government sector increased again in 2019, but it was still moderate, and there were no concentrated areas of exposure. According to the banking sector overall, at the end of 2019, bank exposure to the government sector was KM 2.36 billion, up KM 364.4 million (18.3 percent) from the previous year.



05

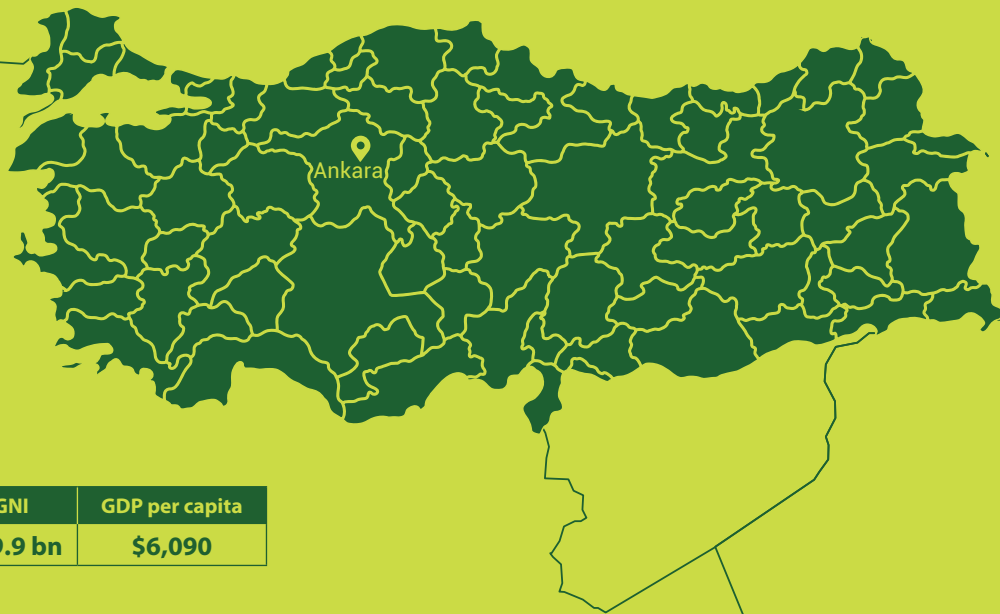
TÜRKIYE





TURKIYE

Capital city: Ankara



GDP	GDP per capital	GNI	GDP per capita
\$19.8 bn	\$6,031.6	\$19.9 bn	\$6,090

Figure 5.1: Distribution of employment rate



Employment to population ratio, 15+, total (percent) (modeled ILO estimate)

Unemployment rate (percent of total labor force) (modeled ILO)

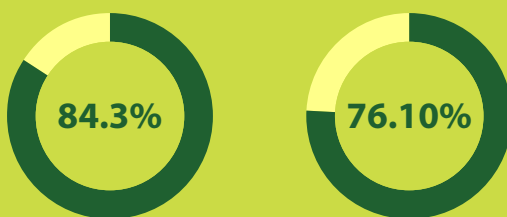
Figure 5.2: Consumer prize index rate



Inflation

0.00%

Figure 5.3: Distribution of population and urbanization percentages



Population

Urbanization

Figure 5.4: Share of trades in goods and services



Import

Export

Technology adoption



97.3

Mobile cellular telephone subscriptions (per 100 inhabitants)



570,108

Secure internet servers



78%

Internet users (percent of population)



5.1 FinTech ecosystem

Turkiye, a transcontinental country that occupies an advantageous geographic position between East and West, has acted as a leader and mediator by building an influential bridge between the Western and Islamic world throughout its history to strategically bring the best of both worlds with a unique mix of geopolitical, economic, and cultural dimensions. Fueled by a dynamic economy, rapid urbanization, and a growing young demographic, Turkiye is fertile ground for FinTech start-ups and entrepreneurial think tanks.



One of the top three emerging economies, Turkiye is currently one of the countries that has recently industrialized. Turkiye is a member of the Group of Twenty (G20), consisting of the 20 most essential economies globally. It has the world's 20th-largest nominal GDP and the 11th-largest GDP by PPP. Heavy investments in building digital infrastructure facilitated commercial activity that provided life-blood to even remote country areas. They interconnected the cities, capturing a large share of newly-

established firms and urban populations apart from the three big cities, i.e., Istanbul, Ankara, and Izmir.

This has brought a major structural transformation throughout the country, with Turkiye emerging as a leader in state-of-the-art technology and homegrown innovation, even in the face of the COVID-19 pandemic, to manage such rapid urbanization. Turkiye's median population is under 30 years old, resulting in a well-educated workforce

In terms of its sphere of influence, Turkiye is a Middle Eastern, Balkans, Caucasian, Central Asian, Caspian, Mediterranean, Gulf, and Black Sea country all at the same time.

Ahmet Davutoglu,
Former Prime Minister of Turkiye

Our target is clear: to be one of the leading countries of the Fourth Industrial Revolution as a developer, not the market, of next-generation technologies.

Mustafa Varank,
Industry and Technology Minister of Turkiye



and a large talent pool of early adopters and tech-savvy people. If 0–9-year-olds are excluded, the overall mobile phone usage rate rises to 93.8 percent, with 70 percent of them using smartphones. Türkiye is the third-largest user of mobile devices for e-commerce, with more than four million individuals using them for banking. Türkiye's drive toward a start-up environment has been in the works for years, but with such a high number of digital natives and technological developments, the country is quickly becoming a hotbed of creativity and a target for investment. With incentives from the Turkish government to get off the ground and get investment from global corporations, FinTech start-ups are in a great position to profit from the Turkish market's expansion. Turkish and international businesses are already taking advantage of this. Businesses in Türkiye are now being backed by international finance firms. Several local angel investors and venture capital firms are already backing new businesses, seeing the country as a model for dozens of other countries seeking to modernize their banking systems.

5.1.1 FinTech ecosystem in terms of growth, talent, investment, and market drivers (consumer behavior, technology adoption, COVID-19)

According to the World Bank report in 2020, Türkiye has an innovative level of FinTech development. The Digital Readiness score for the country is 18 out of 25, and the Digital Readiness rating is moderate. The Digital Readiness Index compares the country's willingness to implement FinTech technologies to that of other middle- and high-income countries.













The advancement in technology has changed the way customers use financial services drastically in recent years in Türkiye and around the globe. The COVID-19 pandemic has also transformed the way that customers engage with managing and using finance. In 2020, the smartphone penetration rate was 61.7 percent, higher than in the previous years.

In the Global FinTech Index 2020, Türkiye is ranked 44th, which is ahead of New Zealand, the Philippines, and Indonesia. The capital of Türkiye, Istanbul, is in the 21st rank in the European region. It indicates that Türkiye has a robust FinTech ecosystem and has a high potential to grow.

The advancement in technology has changed the way customers use financial services drastically in recent years in Türkiye and around the globe. The COVID-19 pandemic has also transformed the way that customers engage with managing and using finance. In 2020, the smartphone penetration rate was 61.7 percent, higher than in the previous years. As the pandemic hit the country, FinTech companies were ready to make the most of the situation and bring innovative solutions to fulfill customer needs. In 2020, 76.1 percent of the population lived in urban areas, and 78 percent of the population used the internet. The high percentage of internet users means that it is likely that young people and adults will use digital financial services, thus increasing demand. This would be a great opportunity for FinTech start-ups and companies to operate in the Turkish economy during the pandemic. To grow the FinTech ecosystem, it is vital that youngsters and adults have a good financial literacy rate. From 2013 to 2019, Türkiye held the Global Money Week, which is targeted at children, young people, and adults to encourage them to be more friendly with managing the adults to encourage them to be more friendly with managing their money and making investments. In 2021, Türkiye Global Money Week was held with 15 organizations such as Habitat Association, Aflatoun International, Financial Literacy, University Social Clubs, and Inclusion Association participating in the event. The main goal of this event was to raise awareness about the importance of digital financial literacy in the face of the COVID-19 pandemic by maintaining social distance.

The start-ups help to build the FinTech ecosystem even stronger by coming up with new ideas and innovative solutions to meet customer needs. The following are some FinTech start-ups from the country.

	(2010) Prepaid cards for games		(2006) Provider of fleet management systems
	(2013) Invoice management and collection solution provider		(2016) lending platform
	(2011) online payment platform		(2016) lending platform
	(2016) Online platform for invoice financing		(2017) analytics solutions provider
	(2008) Online platform to discover & book multiple travel services		(2017) mobile payments platform

During the years of 2018 and 2019, many foreign venture capital companies, such as Beenos, Aucfan, Sequoia, International Finance Corporation, and Social Capital, have invested in Turkish start-ups. When the country was faced with the COVID-19 pandemic, Software as a Service (SaaS), FinTech, Healthcare, and the Marketplace were the main verticals that received the largest number of investment start-up deals in 2020. This indicates that the country can grow and catch up with the other leading FinTech countries like the UK, US, and Singapore.

According to the Turkish Start-up Investments Review 2020, in Türkiye, FinTech start-ups had a total of 20 investment deals, which is \$60.38 million. It is a great stepping stone for the FinTech ecosystem to further expand its FinTech activities during a global pandemic. PayGuru, a FinTech start-up, was acquired by Tpay Mobile, a UAE investor, for \$40 million in 2020. This investment was one of the largest investment deals that took place in 2020. The start-up is an online payment provider founded in 2015 in Türkiye. Figopara was also a FinTech start-up that was invested in by



The start-up is an online platform for invoice financing founded in 2016. In 2021, investors from series A funding invested \$30 million in FinTech start-up Colendi in Turkiye. Colendi is the Turkish start-up that received the highest A-series funding. DenizBank, a private lending company in Turkiye, invested 1 million in Miadas, a new generation investment application that offers account insurance in Turkiye and the US. These investments have been the major FinTech investment in the Turkish economy in recent years.



Lima Ventures, Finberg, and Kerim Sengir for \$4.6 million at the early venture capital stage in December 2020.

The start-up is an online platform for invoice financing founded in 2016. In 2021, investors from series A funding invested \$30 million in FinTech start-up Colendi in Turkiye. Colendi is the Turkish start-up that received the highest A-series funding. DenizBank, a private lending company in Turkiye, invested 1 million in Miadas, a new generation investment application that offers account insurance in Turkiye and the US. These investments have been the major FinTech investment in the Turkish economy in recent years.

5.1.2 Overview of the FinTech hubs in the country

FinTech evolution (key insights on the FinTech ventures founded)

According to a FinTech Istanbul (2019) report, there are five organizations in Turkiye's FinTech Ecosystem that are classified as "hubs" and others. Blockchain Turkiye, FinTech Istanbul, and KOOPHub were mentioned in the Hubs and Content subcategory, while Start-ups watch was included in

the insights and database subcategory and DED-full name here was mentioned in the NGOs subcategory.

FinTech Istanbul is a hub in the capital of Turkiye that promotes and supports FinTech in the country to develop a strong platform for those companies and start-ups. It was established in 2016 to connect and grow all the Turkish Financial Technologies Entrepreneurship. Currently, with the new start-ups, the FinTech ecosystem has diversified into credit scoring, digital wallets, and account management, other than focusing more on payment solutions. FinTech Istanbul is the hub representative for the Global FinTech Hubs Federation (GFHF), a global network of independent and inclusive FinTech hubs, both emerging and established. By considering the presence of independent FinTech ecosystem facilitators, the network allows member cities to be designated as FinTech centers.

Turkiye has a robust banking sector with a skilled workforce and digitization, providing an opportunity for talented individuals to explore new FinTech ideas. Istanbul is dedicated to establishing new enterprises due to its strategic location, which is only four hours by plane from key global markets such as London and Dubai. It also aligns with the government's goal of transforming the city into a regional financial center.



5.1.3 FinTech verticals in the country that have potential to grow

The FinTech ecosystem in Turkiye is rapidly growing and already has 13 different integrals. These include banking, payments, financing, corporate finance, insurance, crowdfunding, asset management, investment, big data, blockchain, hubs, and crypto coins.

The digital payment verticals are expected to grow faster than the other FinTech verticals, which estimated a total transaction value of \$66,000 million with 44 million users in 2022.

5.1.4 Country's FinTech responses to COVID-19 challenges and opportunities/solutions

During the COVID-19 pandemic, Turkiye improved digital banking regulations to protect consumer rights and monitor digital banking activities, thereby avoiding risk and fraud. The central bank of Turkiye (CBRT) initiated regulation on bank information systems and electronic banking services

During the COVID-19 pandemic, Turkiye improved digital banking regulations to protect consumer rights and monitor digital banking activities, thereby avoiding risk and fraud. The central bank of Turkiye (CBRT) initiated regulation on bank information systems and electronic banking services capable of providing digital financial services in March 2020. The regulation is similar to the Second Payment

capable of providing digital financial services in March 2020. The regulation is similar to the Second Payment

The regulation is similar to the Second Payment Services Directive (PSD2) regulation of the European Union (EU). Nevertheless, this regulation would primarily benefit traditional banks, and open banking service providers like FinTech might not fully benefit from the regulation. To overcome this issue, Turkiye can pass the EU PSD2 to provide FinTech companies with the chance to operate in the economy.

On April 26, 2020, Turkiye went into a nationwide lockdown as the COVID-19 pandemic hit the country. During the period, the business activities and the movements of people came to a halt due to restrictions in place. Thus, it provided a great opportunity for FinTech companies to provide financial services during the pandemic. Developing countries like Turkiye have seen an increase in digital payments by both FinTech banks and traditional banks. In Turkiye, there was a new strategy towards an instant FinTech shift in digital transformation. As a result, now is an excellent time for Turkish FinTech firms to develop and expand their operations.



EXECUTIVE INSIGHT

Ismail Vural | TKBB

Deputy Secretary General

- Evolution of FinTech through Covid-19 pandemic
- Strategies of FinTech and Financial Institution to deal with competition
- Traditional Financial Institutions joining hands with Fintech
- Regulation of FinTech
- An ideal FinTech ecosystem
- Initiatives taken to propel FinTech's growth by the government of Turkiye

EXECUTIVE INSIGHT

Evolution of FinTech through Covid-19 pandemic

In the era of COVID-19, lifestyles, habits, and business practices in all sectors changed. The challenges were exposed, and organizations had to experience the digital transformation process regardless of their previous positioning.

Companies had to adapt quickly according to emerging needs of their customers, suppliers, and employers. FinTech companies that develop and produce digital innovative solutions with their agile structures meet those needs and help to pass these crisis times with little damage.

Strategies of FinTech and Financial Institution to deal with competition

Ever-shifting digital world after pandemic, FinTech and traditional financial institutions are strongly working together rather than competing with each other. Partnership is necessary to reach out to new customers and create new business opportunities. Financial institutions may not be leaders in innovating new products quickly but FinTech companies need customer base and trust. Both entities are aware of such a situation, and they decided to put the competition aside to ensure effective growth.

Companies had to adapt quickly according to emerging needs of their customers, suppliers, and employers. FinTech companies that develop and produce digital innovative solutions with their agile structures meet those needs and help to pass these crisis times with little damage.



Ismail Vural
Deputy Secretary General | TKBB

However, banks may face regulatory obstacles to make integrations with FinTech. Recently, related regulatory bodies (Central Bank of the Republic of Türkiye and Banking Regulation and Supervision Agency etc.) are making new regulations to solve these obstacles. Two entities expect to improve their cooperation.

Traditional Financial Institutions joining hands with FinTech

There are a couple of joint operations going on with banks and FinTech in Türkiye. In 2020, the domestic payment platform Payguru was acquired by the mobile payment company TPAY Mobile, while Figopara, Tarfin, Mobilexpress and Apsiyon received investments of more than a million dollars. Further, it is possible that banks may make acquisitions and establish new entities to reach their goals thanks to the FinTech agile environment and more soft regulated dynamics. We predict that mergers and acquisitions in the FinTech ecosystem may increase further in the coming years.



Regulation of FinTech

There are licenses about digital banking that the Central Bank of the Republic of Turkiye and Banking Regulation and Supervision Agency (BRSA) are working on and expected to be worked on. API, Payment trigger and account integration license (multi banking) are on topic.

An ideal FinTech ecosystem

Creating a secure, regulated, and standardized environment will contribute to healthy partnerships between banks and FinTech. This ecosystem also helps to catch the financial markets maturity level and realizing financial transformation via rapid moves in the field of technology. However, regulations should be minimum to give space for FinTech innovation and growth. Furthermore, authorized institutions should support and follow up R&D activities financially via long term business plans for sufficient return of investment.

Initiatives taken to propel FinTech's growth by the government of Turkiye

In recent years, government authorities work on legislation and regulation for the Fintech sector. The Turkish Ministry

of Treasury and Finance published an economic reforms document in March 2021. In this document, it is stated that a FinTech Strategy Document will be prepared to increase the development of the sector. It is also stated that payment FinTech companies can reach and make an integration of the CBRT's payment system.

Moreover, there is a strategic national target to make a FinTech center in the Istanbul Finance Center. This will be a great chance to grow rapidly, meet the expectations of comparing international practices and encourage investment in technology related R&D facilities.

However, for the FinTech companies, access to capital is still difficult. Some banks have their own R&D center. Unfortunately, the effect of FinTech companies and their services in the real economy is still limited because their number of customers are not at the satisfied level. Thanks to financial authorities having taken the initiative to enhance the FinTech ecosystem with new decisions and legal regulations and a big potential and desire in the market as a developing country, we believe that the economic effect of fintech for the whole financial sector will be visible not in the long run but not at a first glance.



Creating a secure, regulated, and standardized environment will contribute to healthy partnerships between banks and FinTech. This ecosystem also helps to catch the financial markets maturity level and realizing financial transformation via rapid moves in the field of technology. However, regulations should be minimum to give space for FinTech innovation and growth. Furthermore, authorized institutions should support and follow up R&D activities financially via long term business plans for sufficient return of investment.



5.2 FinTech venture capital ecosystem

5.2.1 Investment analysis

The FinTech companies in Turkiye are mostly financed either through equity financing, such as venture capital, corporate venture capital, business angels, or debt financing. In 2020, investment activity in Turkiye's entrepreneurial ecosystem reached unimaginable heights, with total investment reaching US \$143.5 million, a 35 percent increase over the previous year. There are more than 520 start-ups in Turkiye, with 155 of them raising capital through venture capital and angel investors, where FinTech start-ups were among the key fund raisers.



Business Angels

Special provisions on Individual Participation Capital



Venture Capital and Private Equity

- Article 48 and 49 of Law 6362 on the capital markets
- Statement about principles of VC and Private Equity Investment Companies (III-48.3)



Crowdfunding

From Law 6362 through to Law 7061 on the Amendments on Certain Tax Law and Other Regulations



2012-2016

- The FinTech investment increased from US\$4.6 million to US\$29 million which shows 175 percent growth in a small period.
- A total of \$53.2 million has been invested in FinTech start-ups by venture capital and angel investors.
- Turkish state aid has a vital role in aiding the growth of start-ups in the country by assisting them with the ideology and investment strategy using the state's Scientific and Technological Research Council of Turkiye (TUBITAK) and the T.C. Small and Medium Enterprises Development and Support Administration (KOSGEB).

2018-2019

- FinTech start-ups in Turkiye raised an approximate of US\$12 million through different sources.
- One of the main issues faced by Turkish start-ups is the lack of investors and banks play an important role to fill such a void.
- Banks, in cooperation with FinTech start-ups, have invested huge amounts to bring active support from FinTech start-ups.
- Corporations invest in start-ups by establishing VC funds known as Corporate Venture Capital or CVC.
- Few banks such as Akbank, Is Bank, and Fibabanka have already invested in FinTech start-ups using their own corporation funds or the CVC model.

2020-2021









- FinTech start-ups in Turkiye have seen tremendous increment in Foreign direct investment, acquisitions, and foreign VC investments.
- The increment in investment into various start-ups in Turkiye in which FinTech start-ups are the second most invested industry after the gaming industry.
- FinTech firms in foreign countries have been acquiring 100 percent stakes in Turkish FinTech start-ups to expand their market territory.

5.2.2 Market performances

Turkish ventures have been heavily investing in FinTech and other tech start-ups. Turkish ventures such as Boğaziçi, Aktif Ventures and Insha Ventures have made investments in the early seed stage to bring start-ups to Türkiye.

Boğaziçi Ventures:

The aim is to provide disruptive funds to talented tech start-ups. In addition to investment funds, Boğaziçi also provides professional support to start-ups.

 Target Stage: Early Stage	 Target Final Closing: 400m TL	 IRR: 32 percent in USD
 Investment Period: 7 years	 Performance Fee: 20 percent	 Fee: 2.5 percent
 Industries: Game, FinTech, Digital Health, Retailtech	 Partners: Agah Uğur, Kazim Akalin, Bora Cetinoğlu, Barış Özistek, Kenan Colpan, Oğuzhan Öztürk, Burak Balık, Onur Topaç	



Turkish ventures have been heavily investing in FinTech and other tech start-ups. Turkish ventures such as Boğaziçi, Aktif Ventures and Insha Ventures have made investments in the early seed stage to bring start-ups to Türkiye.



Aktif Bank is the largest privately held investment bank in Türkiye. They continue to operate as Türkiye's largest financial technology ecosystem, redefining investment banking through innovative business models and technology investments.

With its products available through physical and digital channels, Aktif Bank serves as both a business partner and a competitor to financial technology companies in Türkiye

and around the world. With a customer focus in its genetic codes, the Bank, in collaboration with its subsidiaries and business partners, serves more than 10 million customers in more than ten business lines, ranging from credit to insurance, transportation to card services, payment systems to the world of entertainment, and in all aspects of life.

Aktif Bank is currently supporting and affiliating with FinTech services as follows

01

N Kolay: Launched alongside N Kolay Bono, a digital investment product aimed at individual customers of all income levels. It also includes features such as the FX platform, which allows for bill payment and foreign exchange trading. Aktif Bank wants to make it easy for its customers to manage their money, spend, and pay with N Kolay.

02

AnkaraKart mobile application: an application that can meet all of Aktif Bank's urban transportation needs. It continues to make its users' lives easier. Every month, the Bank provides smart transportation and smart city card solutions to millions of people in seven cities, including Ankara.

03

Sigortayeri: Türkiye's forward-thinking insurance broker. It maintained its profitability in 2020 and achieved a growth of more than one hundred percent compared to the previous year.

04

PASSO mobile application: It provides easy access to all events, not just matches, ranging from concerts to theaters. The Aktif Bank is constantly improving the Passo application and expanding the benefits it offers at stadiums with features such as 24/7 money transfer via QR, shopping, and instant loans.

05

Workindo: a career platform for the construction industry created in collaboration with Mitsubishi and Çalık Enerji. Workindo aims to be a digital platform that offers end-to-end solutions for the construction industry and brings together all industry stakeholders, having attracted over 20,000 members in a short period of time

06

SECOM is one of the world's leading integrated security providers, utilizing cutting-edge Japanese technology. With a turnkey project model, Aktif Bank provides end-to-end private security technology services to corporate companies as well as individual users

07

UPT is Türkiye's first authorized payment institution. It handles money transfers in multiple currencies, including name, account, and card transfers, both at home and abroad. It serves its customers through the industry's most extensive distribution network, reaching over 8,000 points through its representatives and dealers, particularly UPT branches and PTT points.



08

EchoPOS: Since its inception in August 2016, it has installed over 10,000 pieces of hardware and software in 81 provinces by the end of 2020. EchoPOS has become an error-free infrastructure for more than 2 million transactions per day by collaborating with Turkiye's leading retail chains.

09

PAVO: a subsidiary of Aktif Bank, expands its service range in new generation payment systems and continues to offer solutions suitable for the requirements of the age with its experience and knowledge. With its strong R&D infrastructure, solution-oriented sales- marketing strategies, qualified production, operation, and service, PAVO aims to maintain the highest level of customer satisfaction. PAVO continues to provide value-added applications and software integration services while increasing its market share to 20 percent with over 240,000 licensed Cash Register POS devices spread throughout Turkiye. The Operator is improving its activities in the sector with new structures by adding Private Integrator and Android device solutions, new generation different payment collection methods, and value-added services.

10

E-Kent: provides services in the fields of smart city solution production and integration, and its transportation solutions infrastructure handles 1 billion smart transportation transactions per year. While E-Kent transforms technology in the cities it serves, it also creates value-added business models for governments. E-Kent provides smart public transportation solutions to approximately 8 million citizens in the cities it serves, including Ankara, and manages the transportation operation.

11

Inovaban: offers "Growth Strategies and Process Management" services to businesses seeking a competitive advantage through R&D and innovation. It is the only company in its field that offers integrated solutions to its customers in the basic service items of fully utilizing R & D support and incentives, risk management in financial and legal fields, and intellectual and industrial property rights consultancy. Technology Development Zones, R&D and Design Centers, Incubation Centers, Technology Transfer Offices, Mutual Funds, Investor Networks, and companies within them are among its primary customers. In 2020, Inovaban expanded its business by contacting a large number of companies of various sizes that are classified by TUIK as producing in high and medium-high technology.

12

Aktif Portfolio Management: established in 2016 as an Aktif Bank subsidiary in the field of portfolio management, in accordance with CMB regulations. Aktif Portfolio, with its knowledge and sector expertise, provides return alternatives to its investors through mutual funds it has established and managed in accordance with different risk/return expectations. It brings together the high profits of the real sector with venture capital and real estate funds, as well as long-term solutions for system customers with the pension funds it manages, in addition to investment funds. Aktif Portfolio, with its 60 thousand domestic and foreign corporate and individual investors and a portfolio size of more than 2 billion TL, expands its fund family by correctly evaluating needs and continues to grow without slowing down



EXPERT INSIGHT

Yakup Sezer | Aktif Ventures

***Chief Executive Officer
Aktif Ventures***

- Turkiye's FinTech Development: Towards Pandemic and Digital Expansions
- AktifBank: Their goals and roles on FinTech Development
- API Regulation: The Effect on FinTech Development
- AktifBank on Preparing Future Service Banking



EXPERT INSIGHT

Turkiye's FinTech Development: Towards Pandemic and Digital Expansions

2020 and 2021 were the years that reminded us of the power of unity and solidarity, as well as being difficult and troublesome years due to the pandemic. While our lifestyles and habits changed completely, digital transformation accelerated and business models in all sectors changed completely, and I think that this change process will be long-term

In this process, companies have turned to digital solutions to meet the new needs of their employees, customers, and suppliers. FinTechs that develop and produce digital solutions have become very important. With the innovative solutions they have developed with their agile structures, FinTechs have started to play a key role in today's world. In this context, we have witnessed many important developments in the FinTech ecosystem, both in the world and in Türkiye.

This development has created new customer segments that expect to receive easily accessible, fun, fast, and user-friendly financial services from anywhere. We can say that the FinTech ecosystem, which brings together finance

The new regulations and the use of APIs that come with open banking will also bring a transformation in the financial sector. The newly defined structures with the regulations strengthen the link between FinTech start-ups and financial institutions, enabling banks to become platforms, develop new cooperation strategies and create their own ecosystems.



Yakup Sezer
CEO | Aktif Ventures Türkiye

and technology and responds quickly to the needs of consumers and institutions, is growing and will continue to grow. Open banking will come to the fore in the upcoming period. It will be very popular in Türkiye.

The new regulations and the use of APIs that come with open banking will also bring a transformation in the financial sector. The newly defined structures with the regulations strengthen the link between FinTech start-ups and financial institutions, enabling banks to become platforms, develop new cooperation strategies and create their own ecosystems. The second is multi-banking. This is another blessing brought by open banking. Multi-banking will offer a multi-banking structure that allows you to view a single bank account from many different places on Open Banking. Not at the moment, but we already see that this is very important for the coming days. Third, digital banking. Digital banks will open and they will make quite a splash in the market. Fourth, payment systems and everything that will come vertically.



AktifBank: Their goals and roles on FinTech Development

2AktifBank is an investment bank that has strategically focused on establishing financial technology ecosystems since the first day of its establishment and has broken new ground. We are now preparing to open a wide range of services such as digital banking services, payment and e- money institutions, ticketing and automation solutions, insurance brokerage, and event services to the outside world. I'd like to share with you the exciting news that Aktif Ventures, our FinTech start- up founder company, is on its way to becoming a global "FinTech enabler."

In order to achieve this goal, we have built our enterprise strategy on four different business models.

To create brand new innovative FinTechs where we set up and manage end-to-end idea, implementation, and implementation processes from start to finish.

By lowering or easing financial entities' transaction - oriented costs while providing access to verifiable information, respectively.

Collaborating with FinTechs that we believe can grow together and that produce innovative solutions.

Finally, to grow together by investing in FinTechs that have reached investable maturity.

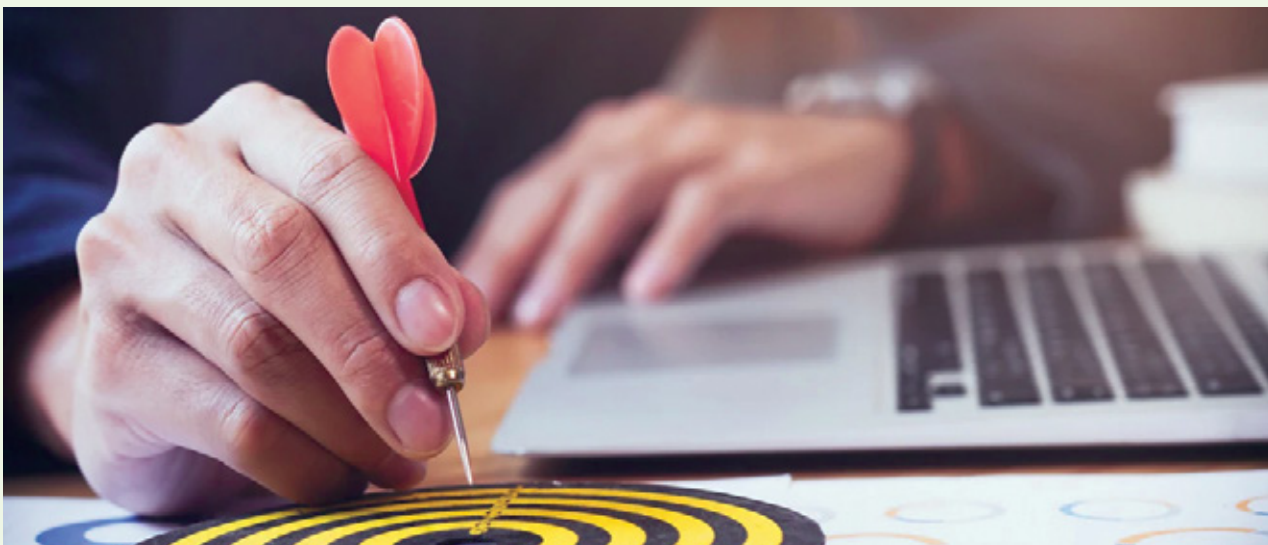
The first venture to be established by our Venture Builder company for this purpose, based entirely on service banking infrastructure, is Our Service Banking FinTech.

As Aktif Ventures, we get many different licenses and APIs we need from our bank and affiliates, and we bring them together into a single business concept and create an API marketplace. On the other hand, we are establishing a corporate venture capital fund under the umbrella of Aktif Ventures, where we support technological and innovative venture ideas. In line with our future growth strategies, innovative card and bank account management services, digital loan solutions, retail and commercial account integrators, new generation insurance solutions, robo investment technologies, and digital and physical technologies specific to financial technologies, both in Turkiye and in Europe, We will support innovative companies and funds that provide services in payments, financial marketing technologies, and cryptography

Thus, while opening all our APIs to start-ups under service model banking, we will also support the technology, infrastructure, license, growth, and investment processes that start-ups need.

In the upcoming period, in the field of digital banking, we will also start to announce our new FinTech initiatives in retail and micro/SME-focused digital banking.

There are many niche services that are not yet offered in our country and globally in terms of payment technologies, commercial digital banking services, and regulatory solutions.



However, we can say that in 2022, we will focus primarily on growing our Service Banking Fintech and completing the development of our other two initiatives. We are getting ready to manage a wide portfolio in the very near future.

API Regulation: The Effect on FinTech Development

New regulations and the use of APIs that come with open banking also bring about a transformation in the finance sector. Newly defined structures with regulations strengthen the bond between FinTech start-ups and financial institutions, enabling banks to become platforms and new collaborations. It develops strategies and causes it to create its own ecosystems.

As it is known, one of the important problems of the country's economies is the inability of financial services to reach all segments of society adequately. With the entry into force of the digital banks and service banking draft that the BRSA has recently brought to view, a huge step will have been taken in the expansion of financial services with the customer base that will be focused on by the initiatives that will enter this field. We believe this step is also revolutionary in tackling the informal economy and promoting financial innovation.

On the other hand, I believe that this step will turn the eyes of many investors around the world to Türkiye and constitute the first steps of an attractive digital platform ecosystem.

We believe that the draft will trigger important developments, especially in the field of service banking, and will open the door to a whole new world for the FinTech ecosystem in Türkiye. Thanks to this model, interface developers can directly connect with service

banks' systems through APIs and open banking platforms, and they can perform banking transactions on behalf of their customers through these services. If I need to explain a little more, FinTech start-ups and financial institutions will create their own ecosystems with different licenses and APIs. Thus, FinTechs will also begin to provide banking services.

AktifBank on Preparing Future Service Banking

Regulations provide opportunities for banks to become platforms by strengthening the bond between new FinTech start-ups and financial institutions and allowing them to create their own ecosystems by developing new cooperation strategies. With this arrangement, any FinTech start-up will be able to offer new products and services to the market by using the infrastructure of service banks.

At this point, I would like to proudly say that we, as Aktif Ventures, are ready to provide service model banking services to FinTechs. Under a single roof, we aim to provide FinTech start-ups with all the services they will need in the field of service model banking.

By taking advantage of the blessings that service banking will offer us, we will provide the basic banking, investment, payments, insurance, and licensing infrastructure needed by FinTech start-ups with our own services and APIs on a single platform, thus enabling FinTechs benefiting from our services to establish their own ecosystems with different licenses and APIs.

Our aim is to lead any FinTech start-up to offer new products and services to the market by using the infrastructure owned by service banks, thus both expanding the ecosystem and enabling much better business models to emerge.

By taking advantage of the blessings that service banking will offer us, we will provide the basic banking, investment, payments, insurance, and licensing infrastructure needed by FinTech start-ups with our own services and APIs on a single platform, thus enabling FinTechs benefiting from our services to establish their own ecosystems with different licenses and APIs.



Turkiye's first FinTech venture development company where their mission is to provide disruptive sustainable innovations in the FinTech sector. There are different types of FinTech products funded and developed by Insha ventures:

- | | | | |
|------------------|---|------------------|---|
| <p>01</p> | <p>Insha provides a digital account prioritizing moral values. With innovative products integrated into its app, Insha is segmented to every customer concerning the transparency of their deposits.</p> | <p>05</p> | <p>Semosis is the first debt securities trading platform combining all transactions (payment, creation, management, and transfer) in Turkiye.</p> |
| <p>02</p> | <p>Alneo is Turkiye's first platform using artificial intelligence. Besides fast and easy payment, Alneo member enterprises have the benefit of free payment using QR, OCR, SMS and Link without any physical POS devices.</p> | <p>06</p> | <p>Kozmos is a multichannel collection platform. It provides services such as community management, property management, finance & accounting, and payment.</p> |
| <p>03</p> | <p>Nakit Basit is a platform for withdrawing cash from numerous retail shops.</p> | <p>07</p> | <p>PosBasit provides the best online payment experience with innovative, secure, and fast service.</p> |
| <p>04</p> | <p>FLYP aims to gather the open banking and licensing infrastructure needed by FinTech on a single door, and it offers building and growth services.</p> | <p>08</p> | <p>Albaraka API is an API platform assisting licensed FinTech service firms (i.e. e-money and payment service). The platform uses open banking to gather 63 banking APIs under a total of 8 titles on a single platform.</p> |

Turkiye's first FinTech venture development company where their mission is to provide disruptive sustainable innovations in the FinTech sector. There are different types of FinTech products funded and developed by Insha ventures:



The table hereinafter demonstrates the investment from other ventures in the seed stage to the final stage from 2020 to 2021 in Turkish FinTech start-ups.

Table 5.1: Ventures' investment from 2020-2021 in FinTech start-ups

Company	Investor	Announcement date	Investor's origin	Stake percent	Transaction value (USD)	Investment Stage
1 PayGuru	Tpay Mobile	June-20	UAE	100	40,000,000	Acquisition
2 Figopara	Lima Ventures	Dec-20	Turkiye	Undisclosed	4,600,000	Early VC Stage
3 Figopara	Revo Capital	May-20	Turkiye, USA	Undisclosed	1,000,000	Seed Stage
4 Akaunting	Torkam Holding	Dec-20	Turkiye, Kuwait	10	510,000	Seed Stage
5 Akillifon	Lima Ventures	Dec-20	Turkiye	Undisclosed	81,012	Seed Stage
6 Apsiyon	Earlybird Digital East	Mar-20	Germany	16.40	5,000,000	
7 Bakiyem	Alesta Yatırım	Sep-20	Turkiye	Undisclosed	Undisclosed	Seed Stage
8 Birfatura	Alesta Yatırım	Jul-20	Turkiye	10	85,000	Seed Stage
9 KolayBi	OnBeyond Ventures, Varol Civil (Private Investor)	Jul-20	Qatar, Turkiye	Undisclosed	Undisclosed	Seed Stage
10 Lidio	Collective Spark, Private Investors	Jul-20	Turkiye	Undisclosed	Undisclosed	Later VC Stage
11 MenaPay	CoinShares	Jul-20	UK	Undisclosed	Undisclosed	Seed Stage
12 Mobil express	Collective Spark, Private Investors	Jul-20	Turkiye	Undisclosed	2000	Early VC Stage
13 Moka	Türkiye İç Bankası	Jul-20	Turkiye	100	3,800,000	Acquisition
14 Paratic (Polynom Teknoloji)	Alesta Yatırım, Keirestu Forum	Nov-20	Turkiye	Undisclosed	Undisclosed	Seed Stage
15 PayCore	Mediterra	Oct-20	Turkiye	75.90	Undisclosed	Acquisition
16 PCI Checklist	Maxis, Ömer Erkmen (Private Investor)	Jan-20	Turkiye	Undisclosed	202,000	Seed Stage
17 Sigorta Cini	BUBA Ventures	Dec-20	Turkiye	Undisclosed	Undisclosed	Acquisition
18 Tarlin	Syngenta Ventures, Quona Capital, Wamda Capital, Collective Spark, Elevator Ventures	Dec-20	Austria, UAE, Switzerland, Turkiye, USA	Undisclosed	Undisclosed	Early VC Stage
19 Albaraka	Albaraka FinTech Fund	Jun-20	Turkiye	Undisclosed	102,000	Seed Stage
20 DgPays	Goldman Sachs, European Bank for Reconstruction and Development	Mar-21	USA, UK	Undisclosed	Undisclosed	Early VC Stage



VENTURER INSIGHT

Hassan Bayansair | Insha Ventures

Deputy CEO

- FinTech's position in today's Financial Market
- Investors impression on FinTech start-ups
- Participation of local and global investors in FinTech start-ups
- Ventures' hand in uplifting FinTech

VENTURER INSIGHT

FinTech's position in today's Financial Market

As the financial sector changes and evolves with new technologies, it becomes more important to go beyond the trends. At this point, FinTech companies are situated at a very key point. The rapid development of technology in many areas in the past few years has also caused changes in entrepreneurial models. The place of FinTech in the entrepreneurship ecosystem continues to grow. FinTech is a bridge that enables people to solve their financial transactions more easily.

Customers realized that as technology advanced, they could obtain financial solutions more quickly and easily. Traditional banks have also realized this situation. The model we pioneered in Türkiye proves this. Today, we see that this vision is also in the planning of many banks. Rather than competition, the reality of the industry will be financial.

Investors impression on FinTech start-ups

We have seen that brands that do not stay within certain limits and exhibit this correctly have achieved the values they deserve. Brands that make it accepted that they have a broad vision will achieve similar successes in the future. Initiatives that bring together the advantages with the end user in the most successful way will be the most important investment players in 2022, as they were in 2021. FinTech-supported projects in the field of investment are more likely to make a good impression.



Hasan Sami Bayansar
Deputy CEO | InshaVentures

We have seen that brands that do not stay within certain limits and exhibit this correctly have achieved the values they deserve. Brands that make it accepted that they have a broad vision will achieve similar successes in the future. Initiatives that bring together the advantages with the end user in the most successful way will be the most important investment players in 2022, as they were in 2021.



Participation of local and global investors in FinTech start-ups

This has become a necessity in countries, especially Türkiye, with a fluctuating acceleration in their economies because of the pandemic. In line with our principle of comprehensiveness, we shape our financial technology products with flexibility so they can be used anywhere and in any field. It is very important for Türkiye's entrepreneurship ecosystem to offer attractive solutions, especially to foreign sources. Both we and the other players in this structure continue to take steps in this direction. But all this perspective does not mean that local investors are unimportant. Getting the balance right is very important.

Ventures' hand in uplifting FinTech

Especially with the technological developments experienced during the pandemic period, the transformation of the financial sector was inevitable. FinTech paved the way for an advanced banking system by combining the finance sector and technology. FinTech products, which are facilitating the lives of consumers and reducing the operational burden for financial institutions, have also started to attract the attention of investors. In parallel with the acceleration

of digitalization, increasing demand for digital payment solutions and contactless banking, rapid adoption of e-commerce platforms, and more preference for digital customer service channels, encouraged institutions that want to accelerate their transformation efforts and create new values for their consumers to grow their FinTech investments and partnerships. Companies and institutions providing financial services are aware of the importance of digitalization. We believe that the mobility in investments related to FinTech start-ups will continue to increase.

FinTech paved the way for an advanced banking system by combining the finance sector and technology. FinTech products, which are facilitating the lives of consumers and reducing the operational burden for financial institutions, have also started to attract the attention of investors.



5.3 Financial services ecosystem

5.3.1 Entering, competing, and partnering (between FIs and FinTech firms) in the country's financial services marketplace

Financial institutions are critical components of a country's FinTech ecosystem. Cooperation will result in a win-win situation for financial institutions and FinTech players. However, the entry of FinTech was marked as a competition by the financial institutions in the beginning stages. FinTech companies were trying to enter the market with their customer-oriented creative techniques, while banks refused to give up their shares. The relationship between financial institutions and FinTech start-ups can be dated back to 2013.

In the initial stage of FinTech entry into the Turkish economy, big financial institutions had the advantages of superiority, funds, and technological advancements. FinTech firms' introduction into the market, however, caused a revolution in the industry since they entered industries that financial institutions were hesitant to enter or were unwilling to enter with fast, creative processes and user experience. In the Turkish sector, there has been a lot

of collaboration between financial institutions and FinTech companies.

5.3.2 Changes to existing products and services

Major Turkish banks recognized the potential competition posed by FinTech start-ups and collaborated with FinTech players. For example, a few FinTech firms have been developing dependable and secure online and mobile banking systems, as well as branchless banking services, for major banks in Türkiye in order to improve their mobile services and increase customer satisfaction by making technology more accessible. Other banks in Türkiye, on the other hand, sponsored the organization of FinTech hackathons to improve innovative solutions for customers to conduct banking activities quickly.

The main goal of such hackathons was to encourage related stakeholders to collaborate on developing innovative and user-friendly internet banking, digital banking, mobile payments, and FinTech solutions under the supervision of banking experts, students, and customers to develop creative and user-friendly internet banking, digital banking, mobile payments, and FinTech solutions under the mentorship of banking experts.

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5.4 Incubator and accelerator ecosystem

5.4.1 Shifting of business model

Incubator and accelerator programs are developed to provide more fundamental technical and financial support to start-ups regardless of their industry. Accelerators can be categorized as the financial support given to already established and implemented ideas for their market growth. Incubators can be seen as technical and financial support to people with innovative start-up ideas, where even training is given to the personnel. In other words, accelerators are those who connect start-ups with investors and influencers. While incubators are those who offer seed funding to the new players in start-ups where expertise and other types of services are provided.

Incubator and accelerator ecosystems have been very popular in the USA and European countries. Turkiye, on the other hand, is still at the beginner stage compared to those countries. The growth of incubators and accelerators is still increasing in Turkiye, where most of the funds are backed by the state government. It can be easily said that incubators and accelerators have played a thriving role in most of the

successful start-ups in Turkiye, where they helped the start-ups change their brilliant ideas into reality.

Shifting of business model

The Turkish incubator system is not as advanced as the incubator programs in the US and Europe. The technology development law was enacted in 2001, and the definition of incubators was added later in 2011.

After the implementation of a law for incubators in Turkiye, four types of incubators were established throughout the country.

The First Accelerator Program in Turkiye

The first accelerator program in Turkiye was established by Sabanci University under the name Inovent. It was started as a program to boost competition among entrepreneurs, but later it was transformed into an accelerator program.

Since then, many accelerator programs have been introduced by investors due to the increased pace of digital entrepreneurship. The table hereinafter demonstrates some of the accelerators and the general structure of their programs.



5.4.2 FinTech projects

Table 5.2: FinTech projects in Turkiye

Types of incubators in Turkiye	Definition	Examples
Business-Based incubators	Vibrant process to develop business enterprises.	Workup, Albaraka Garaj, Fincuba, Lonca Entrepreneurship Center, etc.
University-Based Incubators	University-sponsored incubation system to help the start-ups and entrepreneurs. 47 out 193 universities in Turkiye have an incubation system.	TEKMER are incubation centers established in many university campuses by KOSGEB. SUCOOL, Inovent, etc.
University-Private Based Incubators	Collaborative incubation system between universities and companies where technological information is put into practice.	Kworks, ITU Seed, etc.
Municipality-Based Incubators	Public-based incubators supported by the municipalities that focus on science and technological start-ups.	Zemin Istanbul and Uskudar Idea Art Center are the two municipality-based incubators in Istanbul.

Table 5.3: Accelerator programs in Turkiye

Accelerator program	Start-ups	Program timeline (Months)	Investment amount (USD)	Source of money	Equity stake (percent)
ITU Seed	90 to 100	6-9	Avg of 27000	Govt Grants and Angel Investors	3
Pilot	10	3	20000	Turk Telecom	-
SuCool	10	6	Varies to the Project	Govt Grants and Angel Investors	3
Kworks	20 to 25	3 + 6 to 9	Varies to the Project	Govt Grants and Angel Investors	3
Starter's Hub	10 to 15	3 to 6	20000	Gedik Investment, Net Marble Turkiye, etc.	6 to 8
IOT-Telco Labs	6	3	14000 to 40000	Istanbul Start-up Angels Investor Network	2 to 10
Etohum	40	3	Varies to the Project	Etohum London, local and foreign investors	-



5.5 Regulatory responses & government interventions

5.5.1 Development of regulatory sandbox

The Turkish Data Protection Board announced Türkiye’s 2023 industry and technology strategy in September 2019. As per the Vision 2023, the country is set to develop its technological capabilities. The plan released highlights the intention of the government to build infrastructures such as ‘National Blockchain Infrastructure’ among cloud computing, Internet of Things (IoT), and open- source initiatives in terms of implementing block- chain and enhancing innovation in the public sector. One of the ideas is to build regulatory sandboxes to grow the projects. The planned testing environment will be accessible to the public in order to ensure enterprise regulatory compliance. Establishing a finance hub, Istanbul Finance Centre (Istanbul Finans Merkezi), that will host FinTech start-ups, conventional finance institutions, and regulators is still in progress. The government predicted completion by 2022, facilitating the growth of Türkiye’s FinTech ecosystem.

5.5.2 Laying out the foundation to support innovation through collaboration among ecosystem participants

The Law on Industrial Property No. 6769 provides for the listing and protection of the following categories of intellectual property, which could be used for FinTech innovations in Türkiye.

Patents or utility models:

A patent provides protection for innovations based on characteristics such as technical complexity and industrial applicability. Similarly, utility models provide less protection for simpler inventions that are sufficiently complex to be registered as patents.

Industrial designs provide protection to inventions that exhibit characteristics such as uniqueness in terms of shape, size, color, style, configuration, material, or any other specification or feature.

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5.5.3 Government incentives in driving FinTech

Relevant ministries and authorities, such as BRSA, are collaborating to build suitable regulations for the development of FinTech in Türkiye. Both service providers and customers will be protected by the regulatory authorities. The Turkish government will offer the following incentives for the development of the country's FinTech space, according to the Eleventh Development Plan of the President's Strategy and Budget Department:

By ensuring an efficient and competitive financial landscape.

By patronizing the development of alternative currencies and payment systems

By lowering or easing financial entities' transaction - oriented costs while providing access to verifiable information, respectively.

By providing financial education in schools, as well as in universities.

After the establishment of the Istanbul Finance and Technology Base, the country's FinTech ecosystem will be secure. The formation of the technology board will be critical in promoting and developing FinTech in the country





REGULATORY INSIGHT

REGULATORY INSIGHT

As an entity committed to the expansion and elevation of financial services in Türkiye in various ways, what is the major role for the central bank in developing the FinTech ecosystem in the country?

After the amendment of the Payment Systems Law, the Central Bank of the Republic of Türkiye (CBRT) has become the sole authority in the payments domain, including non-bank PSPs (Dec 2019). FinTechs are seen as a potential means of increasing financial inclusion and financial access within the scope of the “less-cash society” objective.

With digital technology becoming increasingly important for financial institutions today, how is the use of FinTech in payments-related activities regulated?

The secondary legislation in the payments domain has also been recently revised (1st December 2021), including detailed provisions for digital financial services such as payment initiation and account information services, digital customer on-boarding, strong customer authentication etc.

Do FinTech entities encounter any additional regulatory barriers in entering partnerships or other arrangements with traditional financial services providers? And how do you perceive the development of such forms of collaboration?

New secondary legislation supports partnerships or other arrangements such as technical service provisions and agent relationships.

What type of infrastructure-related activities of FinTech entities are regulated? And what areas do you potentially see in need of regulation?

Services such as cloud, digital customer on-boarding, and technical support service provision are regulated. There



is potential space for FinTech-as-a-service and digital-banking-as-a-service in need of regulation.

Through your experience and commitment to the promotion of the stability of the financial system and risks identification, what are the key regulatory compliance issues faced by FinTech entities?

Key regulatory compliance issues are:

- IT risks, including cyber risks.
- AML/CTF compliance risks and SCA requirements.
- Infrastructure-related operational risks (service desk, etc.)

Although the size and the penetration of the FinTech sector in Türkiye have not yet reached a systemic importance level, the potential for systemic importance and procyclicality that could emerge from a number of sources, including greater concentration in some market segments, should be closely monitored.

Another area that needs to be closely monitored in relation to FinTech activities in general are legal issues, such as the enforceability of property rights, bankruptcy, contracts, and data disclosure agreements in digital space, and how to navigate different legal frameworks across jurisdictions, particularly in the case of cross-border FinTech activities.



5.6 Challenges and barriers in FinTech development in the country

5.6.1 FinTech disruption

FinTech has changed how financial services are structured, delivered and consumed in Turkiye. A Turkish delivery start-up named Getir made headlines in 2020

when it gained \$38 million in investment, out of which \$28 came from leading investors in Silicon Valley. The incident gained major attention as the strong potential of Turkish FinTech was being recognized by global investors. The Global FinTech Hub Report classified Turkiye as the 25th emerging FinTech hub. According to FinTech Watch, the number of FinTech firms has been augmenting gradually since 2017. In the meantime, many disruptors have not successfully established themselves as dominant players yet.

Where it has succeeded	
Roadmap	User Experience
There is no doubt that FinTech has established itself as a technology which defines the direction, shape and pace of innovation across almost every sub sector of financial services in Turkiye. FinTech in Turkiye has succeeded as both stand-alone businesses and essential parts of financial value chains.	FinTech has set new and higher bars for user experience by reshaping customer expectations.

Where it is lacking	
Infrastructure	Consumer Protection
Turkiye's infrastructure is still in its early stages, but with current advancements, it has the potential to emerge as the regional ICT center with its booming economy. For Vision 2023, the government plans to increase ICT sector expenditure to 8 percent of GDP.	FinTech in Turkiye faces financial consumer protection risks coming from new products and business models.



5.6.2 Hurdles of the cooperation between FinTechs and Traditional FI's

FinTechs and traditional FI's have a volatile relationship as FinTechs are developing to exert competitive pressure instead of providing a competitive edge to incumbents. Competitive pressure is expected to linger and further augment as a result of progressive regulation, growing technology, cooperation agreements, evolving consumer preferences, and mergers. These mergers can be:

1. Business models of FinTech companies that are different or similar
2. FinTechs and big techs

One example of such a merger is the remarkable merger between Turkish local FinTech company lyzico and the international payment service provider PayU. However, various hurdles stand in the way of cooperation.





REGULATORY AND COMPLIANCE CONSIDERATIONS

The factor of regulatory compliance is of great importance as it can delay the process of cooperation or in case of cyber breach it can be a deal breaker.

- Know-Your-Customer (KYC)/Anti-Money Laundering (AML) regulations are included in Law 5549 on the "Prevention of Laundering Proceeds of Crime."
- Banking regulations include Banking Law 5411 and the Regulation on Support Services Procured by Banks.



PROCESS BARRIERS ARE OFTEN A KEY HURDLE

Each department of FI's works independent of each other thus decides to develop its own solution in-house or to partner with FinTechs on their own. Due to which obstacles such as a lack of coordination, internal awareness and communication within financial institutions arises.

When it comes to the general approach of Turkiye's FinTech regulators, they consider localisation mostly. The nationalization of the Turkish economy is critical to state bodies due to financial and national security issues. To obtain a license, most financial institutions need localized systems and data as well as a local presence. In this case, if the FinTech company in Turkiye wishes to offer a license, they need to have a local operation.



LACK OF EXPERIENCE CHALLENGES THE START-UP CREDIBILITY

Traditional FI's and investors prefer more certainty on their investment. With the lack of credibility the start-ups have collaboration among them becomes unsubstantiated. It is suggested that COVID-19 may reinforce this predisposition.

There is a harmonization of FinTech regulations with the EU (as an example, under Payment Law, the equivalent of the First PSDs is in place but has not yet been aligned with the Second PSDs). As a result, payment activities are subject to different regulatory regimes, as follows:

5.6.3 Regulatory compliance and security concerns

The Central Bank of the Turkish Republic is the main regulatory body to oversee the functions of the payment ecosystem. Certain duties are also performed by distinguished offices for specific services, such as:

- Payment-related services (for example, money remittance, invoice payments, payment initiation services, and account information services);
- The issuance of electronic currency;
- The handling of payments and securities settlements;
- Credit card and banking card issuance; and
- Payment device installation (for example, point of sale terminals).

- The Revenue Administration which rules several parts of the payment device ecosystem.
- The Financial Crimes Investigation Board which supervises KYC/AML requirements for financial institutions.

There are various regulatory requirements for FinTech institutions based on the types of services they provide (i.e., card settlement and cardless payments; e-wallet; e-money). Legislation relevant to FinTech institutions falls into various categories, including:

FinTech players in Turkiye are mainly divided into three categories:

The laws governing payments include: Law 6493 on Payment and Securities Settlement Systems, Payment Services, and Electronic Money Institutions (the "Payment Law");

- Start-ups
- Ventures established by banking institutions or holding companies
- Establishing local subsidiaries for global FinTech companies.

- Credit and banking card regulations are outlined in Law 5464 on Bank Cards and Credit Cards (the "Credit Card Law").

On October 3rd, 2019, legislation on equity-based crowd-funding went into effect, allowing technology or manufacturing start-ups to raise capital in exchange for equity via crowdfunding platforms. At the national level, these platforms are regulated by the Capital Markets Board of Turkiye (CMB). Crowdfunding platforms, for example, must obtain CMB approval before operating, and the CMB oversees their structure, governance, and procedures.

FinTech firms do not face any regulatory barriers to creating partnerships with traditional financial service



providers. The authorities are generally welcoming of new entrants as long as their services obey the law and the rules and have the ability to use their power when necessary. Thus, start-ups, crowdfunded projects, and FinTech companies may collaborate with conventional service providers like banks and other financial institutions.

However, start-ups entering the FinTech market should consider the following factors:

- **Payment-related services (for example, money remittance, invoice payments, payment initiation services, and account information services);**
- **The issuance of electronic currency;**
- **The handling of payments and securities settlements;**
- **Credit card and banking card issuance; and**
- **Payment device installation (for example, point of sale terminals).**

Many Turkish banks have institutionalized their efforts to support FinTech start-ups through angel investments and incubator programs.

Several million dollars have been invested in Turkish retail and gaming ventures in recent years. Today, investors turn their attention to financial technology companies (FinTech). As a result, regulators have given these start-ups more chances. Colendi, an Istanbul-based FinTech start-up, raised \$30 million (TL 258.29 million) in Series A funding. This investment made Colendi receive the largest Series

A funding round to date. The company also moved its headquarters to the U.K., becoming a global company.

Several local banks with internet banking services have developed websites where entrepreneurs and programmers can use the Application Programming Interface (API). This allows start-ups to use the bank's existing technology to build FinTech infrastructure, making them a more integral part of its ecosystem while promoting its financial infrastructure as a collaborative and open platform. FinTech firms have also recently begun opening their APIs to third parties (developers and users).

FinTech entities in the country face few regulatory compliance challenges. Law No. 6502 on Protection of the Consumer provides the general framework for safeguarding consumers' economic benefits and aims to raise awareness among consumers. As per the secondary legislation issued by the Banking Regulation and Supervision Agency Türkiye (BRSA), financial institutions extending loans or issuing credit or debit cards are mandated to report any fees and expenses payable to the consumer. The customers must be fully aware of their obligations and rights under the contract. The financial services entity must keep all the records relating to the referred communications. Payment entities and e-money entities must comply with regulations of their customers, record keeping, and information security while being subject to general provisions. Such entities are subject to executing a framework contract with their customers having information.



The entities are required to keep all relevant records in Turkiye while preventing unauthorized access. Noncompliance with the provision may result in criminal charges. Remote identification in Turkiye became entirely digital with the amendment to Banking Law No. 5411 on June 26, 2020. Banking regulations went into effect in 2021, allowing communication between banks and their customers to be carried out using communication tools and regulated by contracts using methods that allow verification of the customer's identity. Turkiye enacted Law No. 6698 in 2016 to protect personal data. The legal framework protects natural persons when it comes to the processing of personal data and the free movement of such data.

Furthermore, if the company has operations in the EU that deal with EU residents, the General Data Protection Regulation (GDPR) will be a concern in terms of data processing and protection because it imposes more requirements. GDPR is a European Union regulation on data protection and privacy for citizens of the European Union and the European Economic Area that took effect in 2016. It also applies to the transfer of personal data outside of the EU and EEA. The primary law governing personal data protection in Turkiye is Law 6698 on Personal Data Protection. This Law essentially implements the data protection concepts found in the now-repealed EU Data Protection Directive (95/46/EC). However, no provisions in the Law specifically address FinTech companies or financial information; thus, they will apply to all law firms. Furthermore, the Personal Data Protection Board is Turkiye's primary regulatory body in charge of data protection. As a result, the board has the authority to enforce the Law on the Protection of Personal Data and impose sanctions when violations occur.

Foreign FinTech providers that process information from Turkish users are also subject to the Law on Protecting Personal Data in Turkiye, regardless of whether they have a physical or legal presence there. For example, they must be registered as a data controller with the Personal Data Protection Board. Furthermore, they must notify the board of directors of any potential data breaches involving Turkish citizens that the foreign FinTech company handles.

There is no specific cyber-security regime in Turkiye, but firms offering financial services must comply with certain IT-related obligations. The Communiqué on Management and Auditing of Information Systems of Payment and Electronic Money Institutions of July 27, 2014, is most relevant for FinTech companies. The communiqué outlines

specific security-related technical and administrative requirements (e.g., requirements related to localizing data and systems; obligations related to ensuring the cybersecurity maturity of merchants; and requirements for independent IT audits) for payment and e-money institutions commissioned in Turkiye.

Turkiye has a comprehensive Anti-money laundering law (AML) and a Counter-terrorism finance law, particularly Law 5549 on the Prevention of Laundering Proceeds of Crime (the AML Law). Money laundering and terrorist financing are prohibited under the AML Law (including banks). The following measures are taken:

- **Performing Know-your-customer Procedures;**
- **Reporting Suspicious Transactions To The Authority;**
- **Setting Up A Compliance Program; And**
- **Designating A Compliance Officer.**

Financial Crimes Investigation Board (FCIB) is the main regulatory body in this field, established under the Treasury and Finance Ministry.

5.6.4 Capital requirements and access to financing

Capital requirements and access to financing are other barriers to the growth of FinTech in Turkiye. Start-ups face issues such as investors/governmental support and public funds. TUBITAK and EU funds are prominent sources of support for FinTech.

On the other hand, FinTech companies in Turkiye are more inclined towards angel investors, venture capital, and bank incentives. As per start-up watch, the issue of capital requirements has kept getting better since 2018. The booming cases of COVID-19 caused ripples in the economy. However, the global venture market started the year with an all-time quarterly high.

In the first quarter of 2021, Turkiye's FinTech ecosystem maintained its stellar motion as the amount of investment surpassed all the previous investments by more than tripling the sum raised in 2020 with 60 deals, totaling \$508.5M. Moreover, Turkiye was ranked 10th in Europe and 2nd in MENA in deal size, with Istanbul being ranked 7th among European cities.



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