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# CEE Fintech Report

GOOINN Sector Reports

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# CHAPTER 1

# OVERVIEW

# Fintech Concept

Fintech activities in Europe turn out to be fewer compared to activities in North America and Asia-Pacific regions. In fact, this is valid for all innovation studies in Europe. Although the innovation studies have an important place for the region, the study the Boston Consulting Group has done for 2021 supports this situation. According to the study, it was stated that the 10 most innovative companies for 2021 were not from Europe. Technological breakthroughs that deeply affect innovation activities such as artificial intelligence, robotics and quantum computing are generally not seen in Europe. R&D expenditures allocated for innovation studies in Europe are significantly behind the United States and China.[5]

However, investments in the Fintech sector in Europe are increasing daily, and the efficiency of the sector is rapidly seen. In addition, while digital payment plans expand, automatic loan models are developing, but remain limited. The competitive environment leads traditional banks to create the services offered by Fintechs in-house or to expand their services by cooperating with or acquiring Fintechs. Another important issue in the region is the increase in cashless transactions day by day. It is observed that especially the transactions made with debit and credit cards increase.[6]

Fintechs which are open to innovation, have succeeded in integrating gains such as efficiency and low transaction costs into the financial world and continue to have a profound impact on the sector. Branchless banking, biometric sensors and e-wallets can be shown as examples of these impacts. Branchless banking has eliminated the need for physical spaces. Thus, banks save great time and transaction costs and increase their accessibility via online environments. On the other hand, Fintechs serving with biometric sensors close security gaps that cause consumer aggrievements. The use of these sensors is seen in ATMs. Consumers can perform their financial transactions at ATMs without a PIN or password requirement. E-wallets, on the other hand, advantage the aim of freeing finance from bank monopoly with the services they offer. By means of these wallets, users can perform various financial transactions from international money transfers to paying bills.[2]

Fintechs offer four different experiences while providing a new product or service to their users. The first of these is that Fintechs offer their solutions to their users in a digital environment. This situation brings convenience and speed to the lives of users and provides practical experience. Second is that Fintechs do not need branches or similar physical structures. Therefore, these institutions provide a price advantage over traditional financial services. Third is that Fintechs offer more diversity in solutions than traditional financial services, regardless of customer location. The fourth is that, by means of their technological opportunities, Fintechs can collect more information about their customers and use this information effectively. Thus, it can offer more personalized products to its customers.[3]

Today, Fintechs continue their activities with various solutions. The most common solutions are as follows;[4]

- Mobile payment technology
- Customer support with chatbots
- Contactless payment system
- Biometric verification solutions with eye recognition, face recognition and fingerprint
- Artificial intelligence supported portfolio management
- Cryptocurrency formations
- Blockchain technologies
- Insurance technologies (Insurtech)

# Fintech in Europe

Fintech activities in Europe turn out to be fewer compared to activities in North America and Asia-Pacific regions. In fact, this is valid for all innovation studies in Europe. Although the innovation studies have an important place for the region, the study the Boston Consulting Group has done for 2021 supports this situation. According to the study, it was stated that the 10 most innovative companies for 2021 were not from Europe. Technological breakthroughs that deeply affect innovation activities such as artificial intelligence, robotics and quantum computing are generally not seen in Europe. R&D expenditures allocated for innovation studies in Europe are significantly behind the United States and China.[5]

However, investments in the Fintech sector in Europe are increasing daily, and the efficiency of the sector is rapidly seen. In addition, while digital payment plans expand, automatic loan models are developing, but remain limited. The competitive environment leads traditional banks to create the services offered by Fintechs in-house or to expand their services by cooperating with or acquiring Fintechs. Another important issue in the region is the increase in cashless transactions day by day. It is observed that especially the transactions made with debit and credit cards increase.[6]

On the other hand, while the development of financial technology supports alternative finance, crowdfunding and peer-to-peer lending (P2P) in Europe, it also contributes to the growth of niche markets such as automated loans, robo-advisors and automated investment management.[7]

There is a great interest in the Fintech sector by consumers in Europe. This sector continues to grow with solutions that will provide new advantages especially for young people who grow up in internet and technology.[8]

In March 2018, the European Commission prepared an action plan for the Fintech sector to promote a more competitive and innovative European financial sector. The general scope of this plan is as follows;[9,10]

- Enabling innovative business models at European Union (EU) level
- Supporting the acquisition of new technologies such as blockchain, artificial intelligence and cloud services in the financial sector
- Ensuring cyber security and the integrity of the financial system
- Increasing competition and cooperation among market players through common standards and solutions
- Building talent and know-how in an EU Fintech Lab

There are many institutions in the region to support the Fintech ecosystem. One of them is the European Fintech Association (EFA). EFA is the first non-profit organization to represent leading Fintech companies of all sizes across the EU. Serving as a resource and forum, EFA aims to provide education and information sharing among companies, policy makers and the public in the ecosystem. It is committed to providing better financial services for all Europeans and promoting a secure digital finance sector.[11]

# Fintech in Central and Eastern Europe

In recent years, the existence of digital infrastructure and talent in Central and Eastern Europe (CEE) has created a healthy environment for the emergence of Fintech startups. Especially in 2019, the investments made in the fintech field in the region reached its peak. According to the CEE Fintech Atlas 2019 report, there are leading digital banking markets in Belarus, Romania, Czech Republic, Slovakia and Slovenia. In the report, it is also stated that fintech startups are supported in order to offer new products and services that will increase market competition.[12]

Countries in Central and Eastern Europe have adopted digital banking more quickly than countries in Western Europe. Customers especially in countries such as the Czech Republic, Hungary and Romania have adapted to digital banking transactions more quickly. A research conducted by MasterCard in 2020 supports this. 50% of respondents from Eastern Europe and 40% of respondents from Western Europe stated that they conduct financial transactions online or through an app.[13]

There are some estimations regarding the fintech sector in Eastern Europe. These are as follows;[14]

- The largest segment of the market is expected to be neobanking in 2022 with a total transaction value of 447,150 million dollars. It is estimated that the average transaction value per user in this segment in the same year will be $ 16,348.
- In 2023, the neobanking segment is expected to show a revenue growth of 45.9%.
- The number of users in the digital payments segment is expected to reach 125.57 million users by 2025.

Being one of the countries that give importance to the Fintech sector in the Eastern European region, in Estonia, there are approximately 200 enterprises operating in the Fintech field and this sector is growing in the country. Fintechs taking an interest in digital payments, enterprise technology sourcing, asset technology and digital capital raising have a strong presence. Areas supporting Fintechs such as Regtechs (Regulation Technology) are also emerging rapidly. One of the strong points of the Fintech ecosystem in the country is the ease of informal communication due to the small size of the country. Usually the key players know each other. This makes it easier for players to connect with each other and with the public sector. Although ease of communication seems to be one of the strong points, many improvements are needed to make the ecosystem attractive. In particular, work needs to be done on the prevention of money laundering and on the requirements for remote participation of customers from other EU countries.[15]

The Fintech industry in Poland is developing dynamically, especially by means of the cooperation of many creative enterprises with the banking sector. The most important initiatives in the sector operate on electronic payments, loans and the development of sales channels, and the most important field of activity is payment methods. Initiatives that mostly use API technology while operating are also interested in data science and big data. Quite few startups work with IoT and blockchain technology. The most important obstacle in the sector is financing. Usually equity capital is used. This situation is not considered sufficient to compete in the market.[16]

According to 2020 data, the total bank assets of Albania with a population of 2.8 million are 12.8 billion euros. The ratio of the population over the age of 15 who has a bank account is between 54% and 60%. The ratio of the population over the age of 15 who has a debit card is between 36% and 39%. The ratio of the population over the age of 15 who pays electricity bills using mobile phones is between 2% and 3%, and 43% to 48% of the population makes or receives digital payments.[17] In addition, the forecasts for Albania are as follows;[18]

- The largest segment of the market is expected to be digital payments in 2022 with a total transaction value of 2 billion 855 million dollars. By the year 2025, the number of users in this segment is expected to be 1.17 million.
- It is estimated that the average transaction value per user in the alternative loan segment in 2022 will be 14 thousand 338 dollars.
- The digital investment segment is expected to show 31.9% revenue growth in 2023.

Total bank assets in Kosovo are 5.4 billion euros. The ratio of the population over the age of 15 who has a bank account is between 66% and 71%. The ratio of the population over the age of 15 who has a debit card is between 46% and 49%. 97% of the population uses the internet. The ratio of the population over the age of 15 who shops online is between 19% and 22%, and 53% to 58% of the population makes digital payments.[19]

In Bosnia and Herzegovina, 74% of the total population uses the internet. The ratio of the population over the age of 15 who shops online is between 20% and 24%, while the ratio of the population over the age of 15 who has an online bank account is between 15% and 18%.[20] In addition, agile methodology is being integrated into the studies for the development of the financial sector in the region. In particular, by adopting this methodology, banks can more easily adapt to changing customer needs and to the challenges they face in the market.[21]


According to the data of 2020, having total bank assets of 63.3 billion euros, the rate of the population over the age of 15 who has a bank card in Bulgaria, is between 78% and 81%.[22] According to the Annual Fintech 2021 report prepared by Fintech Bulgaria, there are 135 Fintech companies. While it is stated in the report that 44% of the employees in Fintech companies are women, it is also stated that 62% of the companies have at least one female member on the board of directors. In addition, the report underlines the fact that 32.2 million euros have been invested in Bulgarian Fintech SMEs in the last two years.[23] Apart from this, some estimations for Bulgaria are as follows;[24]

- The largest segment of the market is expected to be digital payments in 2022, with a total transaction value of $3,091 million. By the year 2025, the number of users in this segment is expected to be 3.92 million.
- The average transaction value per user in the alternative financing segment is estimated to be $52,789 in 2022.
- The digital investment segment is expected to show 27.6% revenue growth in 2023.

In Croatia, 80% of the population uses the internet and the ratio of the population over the age of 15 who has a bank account is between 91% and 94%. With a growing information and communication technologies (ICT) market every year, Croatia is seen as a growing Fintech hub in Southeast Europe. Although financial technologies have reached more segments among Croatian citizens, regulations regarding the way Fintech companies conduct their business have not been fully accomplished. There are no legal regulations regarding fintech, blockchain or artificial intelligence. As there are no exact rules, Fintech companies in Croatia have to work harder to determine which regulations they are dealing with.[25]

The innovative field of financial technology has been popular in the Czech Republic in recent years. Incentives to this field increased in the years 2020 and 2021. Fintech companies in the country predominantly give priority to services through finance, alternative payment solutions, personal finance management applications and open banking applications. There is great potential for the development of fintechs in the country. The following are shown among the reasons for these:[26]

- Qualified ICT experts exist in the country,
- Investment in ICT software and equipment is above the EU average,
- Rapid adaptation to financial innovations in the business environment,
- Significant increase in adoption of financial innovations,
- On average, four out of five households having access to the internet,
- Local attractiveness of the financial sector

Lithuania is one of the largest fintech hubs in the European Union. Fintech-friendly regulations, positive attitude of regulators, innovative infrastructure and talent pool are the determining factors that have led to the formation of more than 230 fintech companies in the country. Payment and transfer services are seen as the dominant field of activity of Fintech enterprises in the country. Lithuania has become an attractive hub for insurtech and regtech companies as well as many startups such as financial software providers, digital banks, online investment, peer-to-peer (P2P) service providers, and authentication service providers.[27]

Latvia is one of the most popular fintech destinations in the world. Latvia-based fintechs are not limited geographically. It has world-embracing companies in the fields of lending, payment and asset management.[28] Its main financial services are seen as peer-to-peer lending, crowdfunding, open banking, digital banking, payment methods, fintech loans and crypto assets.[29]

The rapid development of smartphones worldwide and 5G technology have made the fintech sector in Romania the fastest growing sector. Romania's high-tech knowledge and potential is the reason for preference for investors and entrepreneurs to operate in the sector. Bucharest and Cluj-Napoca are seen as the two main hubs in the country. The companies operating here offer very valuable products in the sector on blockchain, crowdfunding, crypto, payment gateways, banking, insurance and lending.[30]

Fintech is one of the fastest growing sectors in Slovenia. Companies make improvements and process optimizations in various fields of activity such as mobile payments, e-banking, mobile banking, electronic tax system and e-signatures. 75% of companies use at least one digital technology.[31] Especially by means of the developments in blockchain technology, the development of cryptocurrencies is supported.[32]

Slovakia is a privileged market for the fintech ecosystem. The reason for this is that more than one international banking group operates in the local market under separate banking institutions. It is in the ideal market position to test the innovations to be made. Traditional banks frame the local fintech ecosystem. Therefore, innovative startups go through a difficult process while promoting their products or services and trying to persuade consumers.[33]

Fintech startups in Hungary generally see the country as a pilot area and plan to grow via international expansion. The reasons for this are that the market size of the Hungarian market limits its growth potential and that the regulations are inflexible compared to other countries. Therefore, Hungarian enterprises primarily aim to expand in Central and Eastern Europe. The actors they target first are financial service providers according to the business model of the enterprises.[34] Mobile payment solutions, crowdfunding, SME lending, peer-to-peer money transfer, wire transfer, blockchain, insurtech, electronic money, robo advisory and social scoring are seen among the current and planned innovations in the field of Fintech.[35]

The Fintech field is developing rapidly in Serbia. Global Fintech companies have discovered the potential of Serbia and R&D centers of some internationally recognized companies are within the borders of the country. For example, NCR Corporation is one of the global leaders in the development of transaction technologies such as online banking, POS systems and mobile payments, and has established one of its R&D centers in Serbia.[36] The primary goal of fintech startups in the country to enter the Central and Eastern European markets is to accelerate company growth. Therefore, franchising and collaborations with local agencies are seen as a good method in terms of market entry strategy.[37]

There is no specific regulation governing the Fintech field in North Macedonia. Fintech companies comply with the laws and regulations that apply to financial services companies. The most important area of the fintech sector in the country is alternative lending. The ability of alternative loan companies to use technology and provide effective loan services to individuals enables individuals to enter the retail loan market successfully. Generally, fintech companies in the country offer their customers various loan options such as lines of credit, short-term loans, installment loans, merchant cash advances and micro loans.[38]

Montenegro sets great store on technology and digitalization. Therefore, the Central Bank of Montenegro established "CBCG Fintech Hub - Regulatory Innovation Center" in 2021. By establishing this center, the Central Bank supports the development of modern technologies that will improve the safe and efficient functioning of payment transactions.[39] On the other hand, especially the crypto market, has grown rapidly in the last few years in Montenegro. Payments in cryptocurrencies have become a popular payment option in the real estate market, as many tourist properties are paid with cryptocurrencies. The tax system in the country and the fact that crypto businesses are not subject to special regulations, provisions or fees have caused the interest in the crypto market to increase.[40]

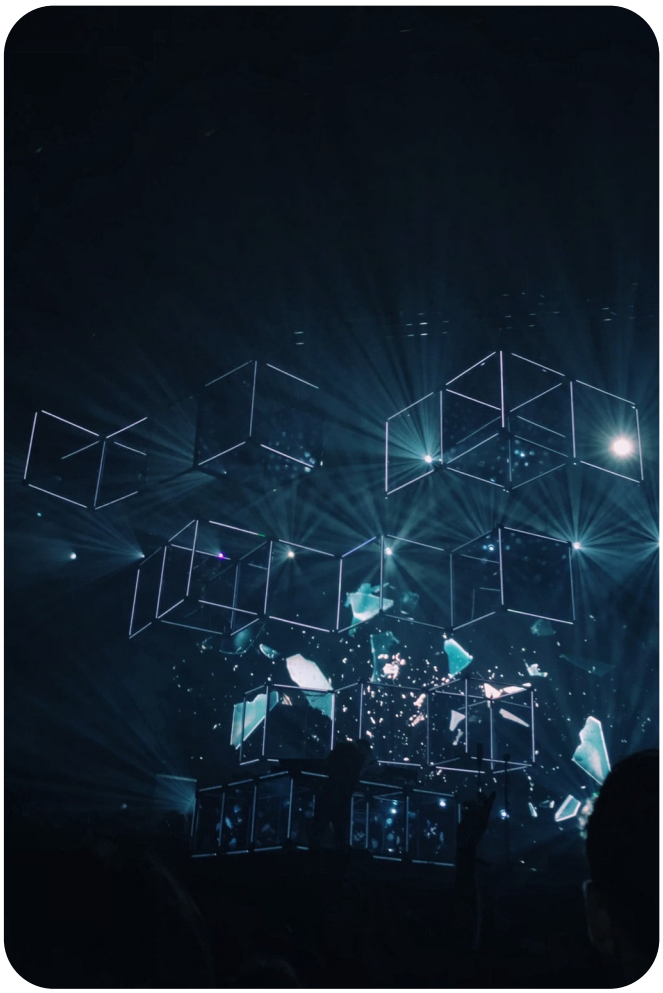
# Leading Technologies in the Fintech Field

Technologies used in the Fintech field are as follows;[41]

Artificial Intelligence and Machine Learning: Fintech companies benefit from artificial intelligence and machine learning technologies, especially in credit scoring, fraud detection, regulatory compliance and asset management applications.

Big Data and Data Analytics: Data received from customers and the market is important for Fintech companies. By means of analytical methods and algorithms, companies can analyze data. Thus, they can reveal the preferences, spending habits and investment behaviors of their customers.

Robotic Process Automation (RPA): RPA represents the repetitive task process assigned to robots to streamline workflows in financial institutions. Applications include transaction management, statistics and data collection, compliance management, communications and marketing via emails and chatbots.



Blockchain Technology: Blockchain technology is being widely adopted due to its ability to securely store transaction records and sensitive data. This technology minimizes the success of cyber attacks by encrypting every transaction.

Cloud Computing: While cloud computing technology saves financial companies from establishing information technology infrastructure and data centers, it also provides low-cost access to flexible storage and computing services. It also allows the creation of new applications such as open banking and banking as a service.[42]

Internet of Things (IoT): IoT technology increases the speed of financial processes. By means of this technology, smartphones can be connected to financial databases and data can be transferred from one device to another. IoT technology is also seen in contactless payment methods.[43]

Open API: Allowing software programs and applications of different companies to interact with each other, Open APIs provides online banking and an enhanced customer experience. In addition, by opening their APIs, financial institutions can expand their services by allowing other companies to seamlessly access certain business data and functions on their digital payment systems.[44]

Virtual Reality - Augmented Reality Technologies (VR/AR): The application of virtual reality and augmented reality technologies in the fintech industry is revolutionizing. By means of these technologies, businesses can open virtual branches. Especially virtual reality applications stand out. For example, a VR trading application from Swissquote provides information about stocks using eye tracking technology.[45]

Chatbots: For fintechs, chatbots are useful for increasing trust and serving customers more effectively. While these robots perform informative and operational activities for users, they also provide counseling as they act as assistants.[46]

# Trends and Examples from Europe

The prominent trends and examples in the industry are as follows;[47]

**Alternative Credit Scoring**

Many companies and individuals fail at traditional bank loan screenings due to strict and outdated credit scoring criteria. Credit rating Fintech companies take a new approach by considering alternative data points such as social signals and percentage scoring among similar groups. With a smart and self-learning algorithm, qualitative factors are taken into consideration and better lending decisions can be made accordingly.

**Examples**

Aire is a London-based company that offers a credit assessment service by introducing a new credit score to help people access essential financial products.[48] Believing that millions of people worldwide do not have equitable access to financial products, Aire aims to make consumer finance more inclusive.[49]

Fido, an Italy-based alternative credit score service provider, believes that traditional credit ratings are not sufficient for companies. Making credit score calculation simple, unlimited and programmable, Fido uses a JavaScript passage that can collect the digital signal on its customers' website. Thus, it creates a digital footprint in order to measure risk and identify unconventional but reliable customers. Addressing rich and in-depth alternative data points through social channels, Fido helps decision makers about user behavior and habits.[50]

Jeff provides service via its personalized platform based in Latvia that matches[51] borrowers and lenders through alternative data. The company's goal is to help those without a bank account access financial services. Jeff creates an alternative credit score by collecting alternative data from smartphones, social media, behavioral patterns, geolocation and other types of digital footprints.[52]

**Tips and Tricks**

Telecommunications companies (telcos) and infrastructure bill payments are the most common alternative data sources. In addition, it includes travel payments, e-commerce behaviors, government transactions and assets. A comprehensive assessment of the credit risk profile can be provided by analyzing an individual's preferences and habits. With this trend, the situation of obtaining a financial assessment only from financial sources has disappeared. With this perspective, no matter what sector you are in, your customers' behavioral tendencies can become a purchasable value for financial evaluation institutions.

**Alternative Insurance**

By means of the alternative insurance model and new algorithms, premium calculations are made using alternative data points such as social characteristics, lifestyle and medical history. Thus, it is determined whether insurance will be given or not. On the other hand, insurance offers can become attractive with service packages in different areas. In addition, alternative payment options can be offered by providing different terms and conditions.

**Examples**

Alan serves as a digital health insurance platform based in France, providing insurance services with a focus on price-quality ratio. It provides companies especially with the service of managing their employees' insurance through a single point.[53] The company's focus is not just on accidents or routine medical operations. It includes homeopathic or osteopathic treatments as well. It also offers discounts on meditation tools.[54]

Luko is a France-based neo insurance company that provides home insurance and safety technology. Providing a device that focuses on home security and reduces electricity bills, Luko[55] serves with insurance coverage that can be customized according to the different needs of each user.[56] Additionally, there is a tele-service to help solve small household problems.

Paydrive is a new generation car insurance company based in Stockholm.[57] The company provides comprehensive protection with a fair pricing, by pricing insurance based on how many miles the vehicle has been driven.[58]

**Tips and Tricks**

It is no longer surprising to see how even traditional fields such as insurance have evolved with technology. Although, we are in a time where even large insurance companies that are not innovative are imitating initiatives by seeing the danger. Insurers use insurance companies to alleviate their suffering, so insurance is perhaps the industry with the greatest potential for developing solutions to customer problems. Even though you operate in an industry that carries traces of the past in its DNA, you can lick a customer segment’s wounds that you have never dealed with before by analyzing customer needs and expectations correctly.

**Transaction Delivery**

Fintech startups in the field of transaction delivery reveal their potential of paying premiums, investing, buying mutual funds, etc. by collect customer data and provides services with free products such as expense management applications.

**Examples**

Transact Europe (TE) is an electronic money institution based in Bulgaria. It offers full payment options as an alternative to traditional banks by offering purchasing, payment and prepaid services. Processing credit and debit card payments on behalf of merchants, Transact Europe also operates as a payment services provider for the processing of payment transactions. Also performing credit transfers for periodic transfers including orders, TE helps manage the funds as desired by prepayment cards. [59]

Worldline provides services with its France-based platform that provides payments and transaction services. It offers innovative solutions that enable a sustainable economy and ensure reliable transactions. It continues to exist in the ecosystem with its terminals, advanced payment processing solutions, mobility and e-transaction services. [60]

CashDirector is a Poland-based company that automates daily financial tasks and provides easy access to finance by helping SMEs manage their cash flow and payments directly from their online bank accounts.[61] It carries out all these operations with artificial intelligence technology.[62]

**Tips and Tricks**

Every development in the field of financial technologies is developing in a way that will respond to the increasing needs of the market. The period in which repetitive and routine work is done by people disappears regardless of the size of the companies. Therefore, you can identify repetitive and formulatable works of your company and automate them with machine learning.

**Peer to Peer Lending**

In this business model, a business means exchanging debts from one or more people. In this model, investors get better returns from debt markets by lending their money to previously approved and audited borrowers. Fintech companies in this field create platforms to match lenders with borrowers and charge a fee from the borrower's payment.

**Examples**

Mintos is a Latvia-based company that provides a peer-to-peer loan market platform for consumers looking for affordable loans and investors looking for attractive returns. 61 companies from 33 countries offer investment opportunities on the Mintos platform. The fact that the investments on the platform start from 50 euros allows anyone to become an investor. It is quite easy to set up a portfolio to protect investments and obtain stable returns. It is possible to invest quickly with manual and automatic investment options.[63]

Another Latvia-based company, Twino, provides service via a P2P platform that connects borrowers and investors online. Twino gives investors the opportunity to finance loans and earn interest while doing so. Borrowers apply to the platform and these applications are evaluated by taking various obligations into consideration. After the borrowers are identified, the loans are directed to the investment platform. Borrowers are financed by investors after the loans reach the investment platform successfully. As the company believes that passive investments are better than other investments, it has created an "Automatic Investment Tool". The main purpose of this tool is to enable investors to invest their funds in more than one individual loan according to the criteria they set in their profiles.[64]

Estonia-based Swaper provides service via a P2P investment platform that offers investment on loans. To start P2P trading with Swaper, an account must be created first. With manual and automatic options, it is possible to invest by adding at least 10 euros.[65]

**Tips and Tricks**

Financial accessibility is one of the most important issues of the next 10 years. Each of the micro-needs that large financial institutions cannot respond to quickly provides an opportunity for new business areas and initiatives to arise. Today, micro-investors are important in various areas, from funding startups to scaling companies. What matters is the calculability of the monetary value in return for microfinance. This monetary value may be a credit risk, venture stock, or other investment instrument.

**Small Ticket Loans**

Banks and other lenders are usually not willing to make small loans because of the low margins and high costs associated with repaying the debt. Fintech companies in this field quickly create instant loan purchase mechanisms without entering any identity verification form or credit card information. The aforementioned loans are generally insured with 0% interest and everything can be purchased directly by the customer with the option of installments.

**Examples**

Poland-based Creamfinance is a company that provides small amounts of loans through a variety of mobile devices.[66] Providing unsecured consumer loans ranging from 100 Euros per month to 10,000 Euros for 5 years, Creamfinance serves different customer segments in multiple locations.[67] It also provides online consumer loans by addressing credit risk management.

France-based October, also known as Lendix,[68] offers an online marketplace platform for business loans that allows investors to lend directly to small and medium segmented businesses.[69] SMEs have the option to borrow from both corporate lenders and private investors. The competition here allows businesses to get loans with the best rates.[70]

**Tips and Tricks**

Depending on the regulations of the countries, it is not always possible to purchase technological products in installments. The fact that micro needs have more favorable payment terms as a result of the independence of changing needs from income status brings new opportunities for consumers in terms of individual finance management. In this way, this kind of payment methods, which comes with the opportunity to save a certain percentage of their income, can meet the needs of different sizes, from a mobile phone to a car. It is worth noting that how people position their resources other than payment and to support that management is what makes a difference.

**Payment Gateways**

Payment systems are platforms that allow customers to pay for their product or service on the seller's website. Today, there are numerous payment methods such as debit cards and credit cards, and banks charge high fees to process transactions from these methods. Fintech companies offer suitable applications in this area, that online merchants can easily afford and integrate these payment methods into their websites.

**Examples**

Wise,[71] which started to provide services in 2011 with the aim of making international money transfers cheap, fair and easy, today manages the money of millions of people and businesses with multiple foreign currency accounts. It offers its users a different experience by allowing them to manage their money from a single point with the currency account of their choice instead of accounts in different banks. While users can perform their transactions at the desired exchange rate, they can also pay their invoices and subscriptions in the desired currency with automatic payment orders. By means of the Wise account, users can track their expenditures online and be informed through incoming notifications. Users can receive money from anywhere in the world as a local money transfer and integrate their accounts into applications such as PayPal. In addition, users always have the option to pay in the currency of the country in which they purchased the products for online purchases. If this currency is not available in the users' Wise accounts, it is automatically converted from the cheapest value to the desired currency and payment transactions are easily provided for the users.[72]

Curve is a UK-based platform that combines cards and accounts into one smart card and app. Curve categorizes the expenditures in all accounts and provides information to its users about which areas they spend money on. The company provides its customers with a great advantage and makes the cards free for their expenses abroad. It provides the opportunity to change the payment transaction to another card when a payment is made with an incorrect card. When an insufficient balance is encountered while making a payment with the selected card, an automatic backup card gets involved.[73]

Revolut, based in the UK, provides financial services in mobile banking, card payments, money transfers and foreign exchange. Users can make payments and receive money in more than 30 currencies without hidden fees. With QR codes and payment links, users can request money from anyone they want. Individuals can make payments to users with one click using Apple Pay and Google Pay. In addition, users can securely collect money from their family, friends or anyone by creating a shareable URL with their Revolut username without any need for bank information.[74]

**Tips and Tricks**

Based upon three leading samples of financial solutions that develop new generation payment systems, users have preferred payment methods that are transparent, trackable by themselves and provide convenience. Each sample has millions of users and this is just the beginning. If you are looking for innovations that reveal these samples, instead of putting your brand or solution at the center to attract users, you should develop solutions by putting users in the center and connecting their minor and major problems with each other. Having a time-limited card may seem pointless at first glance, but it represents a unique solution for users who want to feel secure while shopping online. Therefore, when developing financial solutions, remember that the way to cross borders is to eliminate the obstacles that individuals experience while making payments.

**Digital Wallets**

Digital wallets are the intermediary between a standard bank account and a payment system. Users can make both online and offline transactions by loading a certain amount of money into the digital wallet. Being one of the most popular digital wallet service providing companies, Google allows its users to store cash on their phones with Google Pay,[75] a combination of Google Wallet and Android Pay. Users can use this money for transactions that accept Google payments both in-store and online. Apart from that, users can load any gift card into their virtual wallet.[76]

**Examples**

mobilPay, the first multifunctional digital wallet in Romania, turns smartphones into a means of payment. By means of the application it provides, payments can be made in internet shopping, bill payments, gas stations, transportation and many similar points. The application is downloaded from Google Play and Apple Store. Then it can be used easily by adding a card into the application.[77]

Skrill is a London-based company that provides online payments to both consumers and businesses by making digital payments simple, secure and fast. With the digital wallet solution, users can choose over 100 local payment methods, make payments quickly with just an email address and password, and access over 40 currencies from a single account. In addition, users can automate their recurring payments.[78] The company was acquired by Paysafe Group. Paysafe Group provides digital wallet solutions with digital wallet integrations offered by Skrill.[79]

London-based Neteller provides service with an e-wallet solution used by consumers and businesses to transact and send money. Neteller,[80} a member of PaySafe Group, provides solutions for its users with multiple currency accounts and more than 100 payment options.[81] PaySafe Group provides digital wallet solutions with digital wallet integrations offered by Neteller.[82]

**Tips and Tricks**

Digital wallets have been at the center of financial business models for many years. In addition to the facilitating effect of digital wallets, it also supports the needs of the new era with contactlessness. However, the point where we need to be inspired by this technology is in a completely different place, since each wallet is unique and belongs to a person now, it allows you to easily be included in different platforms. It is always helpful to keep in mind the approach of using this solution as an entry key to non-financial platforms, where managing our data matches financial behavior.

**Asset Management**

Fintech companies operating in this field allow investors to trade for free in exchange for their data. Investors can buy stocks or mutual funds without paying any commission fees. In addition, investors save on transaction fees even though they pay a slightly higher price on purchases.

**Examples**

Scalable Capital provides service through a digital asset manager platform which has offices in Munich and London. Focusing primarily on risk management, the company offers dynamically optimized portfolios. By means of the technology it uses, it offers the first-class investment service that was previously offered only to large corporate investors, to individuals at a much lower cost.[83]

Belgium-based InvestSuite is a B2B asset technology company that helps financial institutions accelerate their digital asset transformation through AI-based digital investment solutions. By means of the customizable robo-advisor created by the company, savings are turned into profitable investment assets.[84]

additiv is a Zurich-based provider in the field of digitization of banks, asset managers and insurers.[85] Aiming to make investment services available to everyone, everywhere, additiv enables leading brands and financial institutions to benefit from digitalization, and gives people access to personalized financial services when they need it. The company offers a rich customer experience with its Asset Robo Advisor solution.[86] With its hybrid asset manager solution, it allows users to manage their investment and customer relations. Personalized advice and self-service access are provided.[87]

**Tips and Tricks**

Technologies included in asset management platforms have become more accessible today. Values called assets are not directly defined by financial scope. Especially with Web3.0, there is a user expectation that digital assets are integrated with your financial wallets and accounts. You can find the source of ideas that make a difference in this field by considering the platforms where you can manage your digital assets and financial assets together and shape your investment preferences according to the recommendations.

**Digital Banking and Neo-Banking**

In the digital banking business model, individual and commercial bank accounts are offered with a digital infrastructure. Huge cost savings are passed on in manpower and real estate, and customers can benefit discounted rates to a great extent.

Neo Banking is the new generation banking. What distinguishes it from traditional banking is that it is completely digital. Access to neo banks is provided only through mobile and tablet devices. Providing more time flexibility, neo banking also allows all kinds of transactions to be carried out quickly and easily. In this way, dependency on physical bank branches is reduced.

Neo banks provide digital financial services such as checking and savings accounts, payment and transfer services, loans for individuals and businesses, and budgeting assistance.[88] It provides its users with opportunities like opening accounts in different currencies and making payments in foreign currency, and foreign currency transfers are much cheaper than traditional banking. It allows the use of cryptocurrencies. In addition, neo banks try to provide security in their customers' transactions through deposit guarantees and insurance policies.[89]

**Examples**

N26 is a Berlin-based company that offers a 100% digital banking experience through the N26 mobile app or the N26 web app. By means of the service it offers, it allows its users to manage their money anytime and anywhere on a single platform. Users can obtain a virtual "Mastercard" debit card with their free bank accounts and can spend as they wish with their smartphones. Apple Pay and Google Pay contactless payment options are also available. Users can also perform all transactions related to card and mobile payments, automatic payments and transfers from their N26 account, while they can be informed about where their money is going by means of the instant notifications of the application at the same time.[90}

Monzo, also known as Mondo, is a UK-based application based digital bank. It allows its users to perform transactions such as spending tracking, bill splitting and money transfer in a digital environment.[91] Aiming to make banking activities accessible to everyone, Monzo provides its users with a single point to save, spend and manage their money.[92]

Starling Bank is a UK-based digital banking platform that offers personal, joint and business accounts.[93] Starling Bank, which also offers a children's card, operates with third-party in-app financial services to its users.[94]

Fidor Bank is a digital bank based in Germany that tries to restore the trust lost in banking with new and customer-oriented services. Each customer of Fidor Bank has a smart account that supports more than 25 functions. By means of the API it provides, traditional payments, transfers to mobile phones, savings certificates, one-click micro loans, currency exchange, purchase of precious metals, peer to peer money transfers and similar transactions are possible.[95] Another nice service offered by Fidor Bank is the ability to execute cryptocurrency transactions by connecting to Bitcoin.de.[96]

**Tips and Tricks**

By providing a 100% digital experience, digital banking and neo bank samples enable users to meet their needs from mobile devices. The branchlessness approach brought along by these solutions also brings along the opportunity to become a customer of an independent bank. Discovering the basic transactions that users need beyond crowded bank features in neo bank solutions will bring creative business models.

### Digital Insurance

Fintech companies have started to transfer traditional insurance services to the digital world. Fintechs, which have started to offer better insurance options, can price their premiums at varying rates depending on the customer, so they can offer cheaper coverage.

**Examples**

Getsafe is an insurance company based in Germany that set out to reinvent the way people insure, providing an all-digital service, creating an easy, flexible and enjoyable insurance experience for everyone.[97] By means of the application it offers, the company replaces paperwork with smart bots and automation, and allows customers to file insurance claims or change insurance coverage in real time with just a few clicks.[98] In addition, customers have the right to cancel their insurance through the application.[99]

Based in Germany, Clark operates with an insurance platform that provides full insurance coverage. By means of the free application it offers, customers can see all the details of their insurance contracts, such as notice periods, contributions or insurance numbers. In addition, customers regularly receive improvement recommendations at the best rates from more than 180 insurers. The company tries to optimize the insurance situation of its customers by offering offers at the best price-performance ratio.[100]

Stockholm-based Hedvig provides a next-generation digital insurance service that approaches the insurance field with a new perspective. Customers can make requests and monitor the status of their requests 24/7 from the application offered by the company.[101] When new customers join the application with the customers' code, the company provides premium discounts to both parties, and makes the business model more attractive accordingly.[102]

UK-based So-Sure provides consumers with insurance services that respond to claims faster and offer refund services. Customers pay for insurance when they need it, and get back a certain amount of money when they don't.[103] Seeking to restore consumer confidence in insurance globally, So-Sure has digitized the entire value chain of insurance and provides a faster and easier claims experience when compared to other insurance companies.[104]

**Tips and Tricks**

Digital insurance solutions, inspired by digital banking solutions, stand out with customizable solutions in line with the behavior and expectations of the individual. Being secure while using it, invisible insurance, insurance as a service come into prominence as supporting trends and technologies in this field. To develop ideas in this area, you should discover what kind of experience your users need to become a customer of your company, not policies.

**Buy Now - Pay Later (BNPL)**

The Buy Now Pay Later (BNPL) model is a type of short-term financing that allows payment in installments at the end of the stipulated period for making a purchase. This payment method is seen as a convenient payment method for consumers and an alternative business model to credit cards. When consumers make a purchase, they register with a company that makes the payment on their behalf. The company that adopts this model is actually making a loan to consumers. Consumers are required to pay the lender within the stipulated period, either in bulk or by free equivalent monthly installments (EMI).[105]

**Examples**

Klarna is a Swedish-based company that pioneered the "Buy now - Pay later" business model. Offering an online store experience, the company offers many payment options with direct payment, payment after delivery and most importantly the "Pay in 4" program. By means of its free application, there are liberal payment options.[106]

Twisto is a Prague-based cash flow management and payment application that allows customers to pay for their online purchases.[107] After registering with the application, customers receive a one-month credit limit and can shop from traditional or online stores up to this limit. The customers can choose payment periods up to 45 days.[108]

London-based Zilch serves its customers with its BNPL application, which accepts Mastercard and allows them to shop anywhere. Customers can track their purchases through a single point and see repayment timelines transparently. On the other hand, the company provides credit by combining the payments of the customers.[109]

**Tips and Tricks**

The spread of e-commerce has brought with it the diversity of payment methods. As location-independent shopping has become accessible with e-commerce, the fact that payment methods have become associated with individual finance management has made the experience end-to-end. The world of products/services differentiated by rental and subscription models has created the need to have installable ownership. You can achieve sustainable customer acquisition by offering installment methods related to the life cycle of your products.

### Open Banking

Open Banking is a reliable service model in which customers' financial data in banks are shared with third-party organizations to provide them with a better banking and financial service with customer approval.[110] The most important feature here is the collection of data from more than one financial institution. Thus, users can analyze their expenses and incomes from a single platform by means of the application programming interface (API), and they have the opportunity to make a better budget. The users can also access more personalized products and services and manage their money better with this platform.[111]

### Examples

Based in Sweden, Tink provides open banking API solutions for banks and financial institutions. It allows institutions to create account consolidation, payment initiation, data enrichment and personal finance management products, and offers application programming interfaces. APIs can be integrated into existing applications and websites.[112]

UK-based Railsbank provides services with a banking platform that produces open banking API solutions and connects financial institutions and banks with a single API.[113] It offers various banking services including receiving, sending money, direct debit, card issuing and credit management via APIs.[114]

TrueLayer is a UK-based platform used to build financial applications that connect to bank data, verify accounts and access transactions.[115] It securely connects to users' bank with "Data API, Verification API and Payments API"[116] products to read financial data, verify identities and perform payment transactions.[117]

Finqware is a Romania-based company that provides open banking services for businesses.[118] It aims to improve the financial processes of companies by reducing operational costs. By means of deep bank connections, companies can gain real-time access to financial data and transactions.[119]

### Tips and Tricks

It is seen that open banking applications, which radically change the relationship of customers with banking services, and even bring people with limited access to financial services together with these services, have created a great change in the sector. Countries where PSD2 is implemented and countries that are gradually preparing for these rules make banking more accessible, transparent and customizable. To develop ideas in this area, you can discover what services and products your customers need to complement the financial benefits they receive from you. The data you need to make sense to solve these needs will open up new opportunities for you in open banking solutions.

**Contactless Payment**

Contactless payment is a secure payment method that consumers use to purchase products or services using a bank card, credit card, smart card or other payment device, by means of radio frequency identification (RFID) and near-field communication (NFC) technology. With this payment method, consumers do not need to hand over a card or touch a payment terminal.[120]

Today, there are three types of contactless payment. These are as follows;[121]

1. Payment with contactless payment cards: When a business with a contactless payment system requests payment from the consumer, the card is brought closer to the contactless payment symbol on the terminal. The information is transferred electronically from the card to the bank using the information on the chip. When the system accepts the information, it signals with a beep, green light or check mark. The payment process ends after approval.

2. Mobile contactless payment: In mobile contactless payments, mobile devices are used instead of cards to complete payment transactions. Mobile wallets are the most frequently used applications for this payment method. Wearable payment devices, on the other hand, provide convenience for people who do not want to carry a phone or wallet. The market for these devices is expected to reach a volume of $82 billion by the year 2026.

3. Payment by code: The business which has a code payment system, provides a QR code for customers to scan using their smartphones. With this method, there is no need to use cash or cards.

Apple Pay, Google Pay, Samsung Pay and Fitbit Pay are among the most well-known examples of contactless payments, while any bank mobile application can also support contactless payment.[122]

**Examples**

Settle is a Norway based company. It enables individuals and companies to make and receive payments using a mobile payment application. By means of this application offered by the company, users are not exposed to long procedures. Instead, payment can be made easily by simply swiping the phone screen. The company, which also provides the opportunity to pay with a QR code, performs contactless payment transactions by means of the mobile wallets added to the application.[123]

Festipay is one of Europe's largest integrated event management solutions providers based in the UK. Its innovations in venue access and cashless contactless payments are used at events in many countries across Europe, including Hungary, Romania, Croatia, France, Italy and Georgia. Festipay used NFC-enabled wristbands for festival visitors in 2017, and by means of these wristbands, ticketing, venue access and cashless payment functions were realized in a single point.[124] The company provides contactless payment transactions with a wide variety of devices such as wristbands, RFID cards, bracelets and watches.[125]

**Tips and Tricks**

Contactless payment methods take the value offered to customers to a next step with the opportunities they offer, especially in the post-pandemic period. Users have come to demand the contactless approach, which also supports the cashless trend, not only for cards, but also with mobile devices and wearable technologies. If we want to update our business models with contactless technologies, we can identify contactless points by analyzing how many times and where people contact end-to-end in a purchasing experience.

**Cashless Payment**

Cashless payment is a payment method without cash. Payments made with debit cards, checks, mobile wallets, QR codes or any online payment method that eliminates the need for cash are cashless payments.

**Examples**

Bluecode is a Germany-based mobile payment solution that combines smartphone contactless payment with digital value-added services, enables payments from merchants and banking apps, and eliminates the need for cash. When the application is opened by the users, a blue barcode is displayed, which is read at the checkout and ensures the payment. Payment is made by reading the code. Coupons and customer cards are also automatically recognized in the app.[126]

MobilePay is a Denmark-based company that offers an app for paying in-stores or shopping online without the need for cash. The company makes money transfer faster by facilitating transactions such as invoices, fixed payments, and on-time payments for its users.[127]

**Tips and Tricks**

Cashless payment is a trend that financial technologies have been shaping for a long time. It is necessary to analyze why this technology is preferred beyond its methods such as QR, link, swipe etc. Users expect payment, the least fun part of their purchasing experience, to become easier day by day. In order to develop solutions in this field, you can think about what we should do to complete their experience faster, at the point of contact with our customers.

# 2022 Expectations in the Fintech Sector

The expectations in the Fintech sector are as follows;[128]

- The digital banking trend predicted for 2021 is a trend that is expected to become widespread in 2022. More digital institutions will provide remote service.
- It is predicted that the Buy Now - Pay Later payment method will make progress in becoming the mainstream.
- Banks will continue to develop open APIs to collaborate with Fintechs.
- The fact that blockchain technology reduces costs in capital markets, provides security in transactions, especially when it comes to identity management, and accelerates asset transfers, payments and investments are among the advantages gained. It is also widely used to combat fraud, manage regulatory and audit issues. Therefore, it is thought that the use of blockchain will increase even more for 2022.
- Blockchain-based fundraising and the use of crypto technologies across industries are predicted to increase.[129]
- It is thought that automation and blockchain technology will be used more in financial operations. Therefore, more contactless transactions will take place.[130]
- The increase in the contactless payment limit raises public concern about fraud. Banks and Fintechs will further consider approaches to enhancing consumer safety to address these concerns.[131]
- It is predicted that neobanking activities will be carried out by more consumers. [132]
- It is predicted that more consumers will prioritize open-banking options. Additionally, more organizations and trusted brands adopting open banking features are expected to adopt this technology more widely.[133]
- Artificial intelligence and machine learning will continue to be one of the important technologies that transform and influence Fintechs. In addition, low-code and no-code module-based solutions will increase its popularity by means of the ability to customize the software without having to develop a tailored solution for customers.[134]
- Mobile wallets will continue to be among the information technology investment priorities.[135]
- Embedded finance applications are expected to be in a strong growth trend. [136]

- Platform as a Service (PaaS) will be an emerging trend for Fintechs and financial institutions. By means of this platform, institutions will be able to adapt to changes in regulation by adopting cloud technology.[137]
- Towards the end of 2022, news about the Metaverse universe dominated the agenda. While there is currently limited information on how metadata servers will work, a new infrastructure based on open ecosystems for digital assets and payments is considered necessary.[138]
- Climate has become more important than ever in the field of fintech, as it is in every sector, and the concept of "Green Fintech" has emerged. The desire of individuals to invest their funds in green, environmentally friendly banks is prominent and the industry needs to respond quickly to this demand.[139]

# What is Web 3.0? What is it Located in the Field of Finance?

Web 3.0 refers to a personalized, blockchain-supported structure that can be used in a decentralized and peer-to-peer manner. Today, people can be contacted via the internet through an intermediary. For example while people stay in touch via applications (app) like WhatsApp, Instagram, Facebook, Twitter etc., by means of Web 3.0, decentralized applications (dapp) are created so that people stay in direct communication without any intermediaries. While currently payments are being made to applications to listen to a song or read a news, by means of this system, the content producer will be able to bring their work directly to the user without an intermediary, and the fee will be paid to the content producer. Intermediary applications will not be able to make a profit from this process.[140] It is seen that the Web 3.0 process has started slowly with NFT, cryptocurrencies, Metaverse.

The impact of Web 3.0 in the finance sector is seen in DeFi (Decentralized Finance) and cryptocurrencies. To mention more about their definition, DeFi is financial structures that are not dependent on a center or authority. This structure emerged in order to create a more democratic financial system and to enable people who do not have access to traditional financial systems to do their financial work. Components of DeFi include protocols, digital assets, dapps and smart contracts built on blockchain. Since cryptocurrencies such as Bitcoin and Ethereum are built on their own networks, they do not have a specific central and decision-making authority. Therefore, these systems are good examples of DeFi.[141]

There are many DeFi projects and coins (cryptocurrencies) created for the networks these projects own that continue to be launched today. DeFi tokens such as Uniswap, Maker, Compound can be shown as samples of these cryptocurrencies.[142] These tokens are not built on independent blockchains or networks. They run on the existing blockchain and are therefore much easier to create. Most of the tokens encountered in the market are built on the Ethereum blockchain.[143]

Since there is a wide variety of blockchain-based projects in Web 3.0, there is also a wide variety of coins. The aforementioned Metaverse project creates an independent, virtual financial system with cryptocurrencies known as coins and NFTs and is part of the Metaverse economy. Systems within the structure of economy called metanomics[144] will bring transactions such as purchasing clothes or accessories for online avatars, virtual shopping experience in virtual malls, purchasing digital land, purchasing digital art, collectibles and assets (NFTs) to consumers' experience.[145] Some examples and coins from various projects are as follows;

Project Theta Network: It is a blockchain powered network designed for streaming video. This network structure was created in order to share video content peer-to-peer, to reach higher quality broadcasts for viewers, and to create infrastructures at low cost. With its native token, THETA, it offers its participants management options within the network. Cryptocurrency exchanges can convert this token into different currencies. [146]

Project Decentraland: It is a virtual reality platform powered by Ethereum blockchain that allows users to create, experience and monetize content and apps. On this platform it is possible to purchase and sell digital houses, cars and land. This virtual reality world is divided into plots called LAND. Users earn money by renting the LANDs they hold, advertising on them, and offering paid experiences. With MANA, the currency of the project, users generate income by creating and selling products in this virtual market.[147]

Enjin Coin: It is a project of Enjin company, which provides an interconnected ecosystem for blockchain-based gaming products.[148] In this system, virtual goods related to games and similar shares can be shared with ENJ coin, which is the currency. Users can come together and chat with each other by creating clans.[149]

The Metaverse projects mentioned as examples and many more are part of an economy system called Metanomics.

Web 3.0 will also make changes in the field of Fintech and take the financial services we know today to a next level. Control of current financial services will shift from centralized institutions such as banks to a different decentralized model, and this is starting to happen. Each process in the value chain in financial services, such as banking, insurance, capital markets, will be carried out differently by different actors.[150] For example, Algorand serves as a scalable, secure and decentralized digital currency and transaction platform.[151] Yieldly, the interconnected DeFi platform designed and developed on Algorand, enables decentralized peer-to-peer lending using digital currency and providing access to financial services to anyone from around the world. Yieldly serves as a smart contract protocol[152] on Algorand, allowing users to exchange ASA assets.[153]

# Overall Conclusion

The world is changing, all systems are being renewed and new business areas, products and services are seen with the effect of technology. The financial sector is also affected by the change and creates a different field. The mentioned change introduces the concept of Fintech and provides a new financial service. Financial products or services produced with Fintech are offered to consumers faster, better and at lower costs.

Fintechs offer their users four different experiences. The first of these is the practical experience that brings convenience and speed to the users' lives. The second is that it provides a price advantage over traditional financial services. The third is that it offers more diverse solutions with the products or services produced, and finally, the fourth is that it provides a customer-specific experience with personalized products.

Fintech activities in Europe are less when compared to North America and Asia-Pacific regions. However, investments in the Fintech field in Europe are increasing day by day, and the efficiency of the sector is rapidly seen. Auto loan models are developing in the region and cashless transactions are increasing day by day. Additionally, niche markets such as alternative finance, crowdfunding and peer-to-peer lending, auto loans, robo-advisors and automated investment management are emerging. The European Commission also prepared an action plan for the Fintech sector in March 2018 to promote a more competitive and innovative European financial sector.

The availability of digital infrastructure and talents in Central and Eastern Europe has paved the way for the emergence of Fintech startups. Especially in 2019, the investments made in the Fintech field in the region reached its peak. According to the forecasts for Eastern Europe, the largest segment of the market is expected to be neo banking in the year 2022. In this segment, a revenue growth of 45.9% is expected in the year 2023. In the digital payments segment, the number of users is expected to reach 125.57 million users by the year 2025.

Fintechs in Estonia have a strong presence in digital payments, enterprise technology sourcing, asset technology and digital capital raising. Areas supporting Fintechs such as Regtechs are also emerging rapidly.

The Fintech industry in Poland is developing thanks to the cooperation of startups with the banking sector. The most important initiatives in the sector operate on electronic payments, loans and the development of sales channels, and the most important field of activity is payment methods.

In Albania, 43% to 48% of the population over the age of 15 makes or receives digital payments. It is predicted that the largest segment of the market in the country will be digital payments in the year 2022.

The proportion of the population over the age of 15 who has a bank account in Kosovo is between 66% and 71%. The ratio of the population over the age of 15 who has a debit card is between 46% and 49%.

In Bosnia and Herzegovina, agile methodology is integrated into studies for the development of the financial sector. With this methodology, banks can adapt to changing customer needs and the challenges they face in the market more easily.

Women play a major role in Fintech companies in Bulgaria, and the majority of companies have at least one female member on their board of directors.

Having a yearly growing information and communication technologies market, Croatia is seen as a growing Fintech hub in Southeast Europe.

Fintech companies in the Czech Republic give priority to services through finance, alternative payment solutions, personal finance management applications and open banking applications.

Fintech-friendly regulations, positive attitude of regulators, innovative infrastructure and talent pool in Lithuania have resulted in the creation of more than 230 fintech companies in the country.

Latvia has companies worldwide in the fields of lending, payment and asset management.

Companies operating in Romania offer very valuable products in the sector on blockchain, crowdfunding, crypto payment gateways, banking, insurance and lending.

Improvements and improvements are made in Slovenia on mobile payments, e-banking, mobile banking, electronic tax system and e-signatures.

Traditional banks are shaping the local fintech ecosystem in Slovakia.

Fintech startups in Hungary often see the country as a pilot area. For this reason, the initiatives primarily aim to expand in Central and Eastern Europe.

There is no specific regulation governing the Fintech sector in North Macedonia, and the most important field of the Fintech sector in the country is alternative lending.

In Serbia, companies have discovered the potential of the country and the Fintech sector is developing rapidly. Some internationally recognized companies have moved their R&D centers to Serbia.

By establishing The CBCG Fintech Hub - Regulatory Innovation Center, Central Bank of Montenegro supports the development of modern technologies that will improve the secure and efficient functioning of payment transactions.

Technologies used in the Fintech industry; are artificial intelligence and machine learning, big data and data analysis, robotic process automation, blockchain technology, cloud computing technology, internet of things (IoT), open API, chatbots, virtual reality - augmented reality technologies.

The prominent trends in the fintech sector are alternative credit scoring, alternative insurance, transaction delivery, peer to peer (P2P) lending, small ticket loans, payment gateways, digital wallets, asset management, digital banking and neo banking, digital insurance, buy now - pay later (BNPL), open banking, contactless payment and cashless payment.

Digital banking is at the forefront among the sector expectations for 2022. It is foreseen that this service will become more widespread for the mentioned year. It is stated that mobile wallets will continue to be at the forefront among the investment priorities of information technologies. It is thought that the Buy Now - Pay Later payment method will make progress in becoming the mainstream. It is stated that open APIs will be developed further. This is because banks want to cooperate with Fintechs. It is predicted that the use of blockchain, technology, automation, artificial intelligence and machine learning will increase gradually. It is thought that banks and Fintechs will further consider approaches to improve consumer safety to address fraud concerns. Embedded finance applications are expected to be in a strong growth trend. With the emergence of the Green Fintech concept, individuals want to invest their funds in green, environmentally friendly banks. Therefore, the industry needs to respond quickly to this demand. It is thought that a new infrastructure based on open ecosystems is required for digital assets and payments, as the universe of the Metaverse begins to be talked about. Platform as a Service (PaaS) is predicted to be an emerging trend for Fintechs and financial institutions.

The impact of Web 3.0 in the financial sector is seen on DeFi (Decentralized Finance) and cryptocurrencies. Today, there are coins (cryptocurrencies) created for many DeFi projects and their networks. Especially, the Metaverse project creates an independent, virtual financial system with coins and NFTs. Examples of projects include Theta Network, Decentraland and Enjin Coin.

# CHAPTER 2

# SURVEY APPLICATION

# Survey Methodology

Citizens living in Eastern European countries were taken into account in the survey study, and a survey of 18 questions was applied to 350 people in total with 95% confidence interval. These people were asked questions about cashless and contactless payment methods. The questions were prepared by using Mastercard's 2020 Contactless Survey and Schweizerische Nationalbank's Survey[154] on Payment Methods 2020 studies.[155]

# Findings

### General Information of Participants

Half of the 350 respondents are women, while the other half are men.

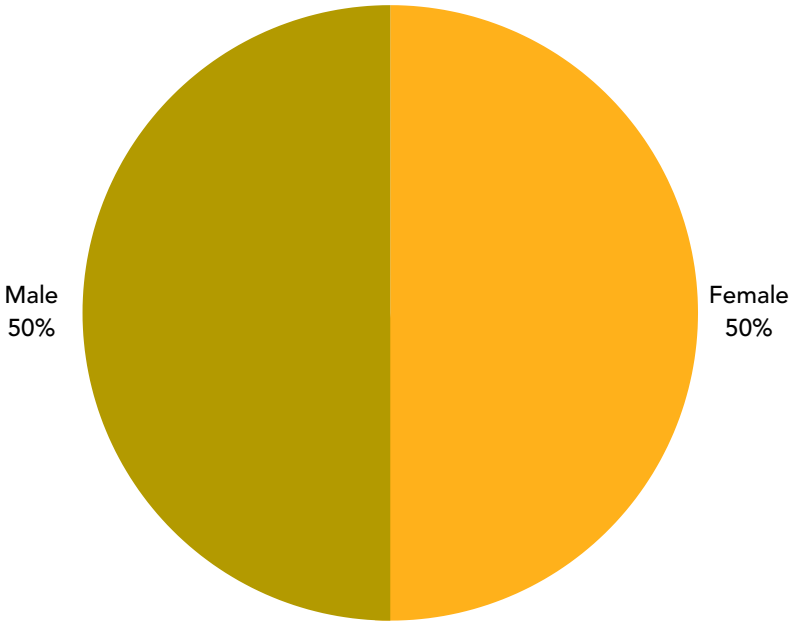



**Chart 1: Distribution of Participants by Gender**

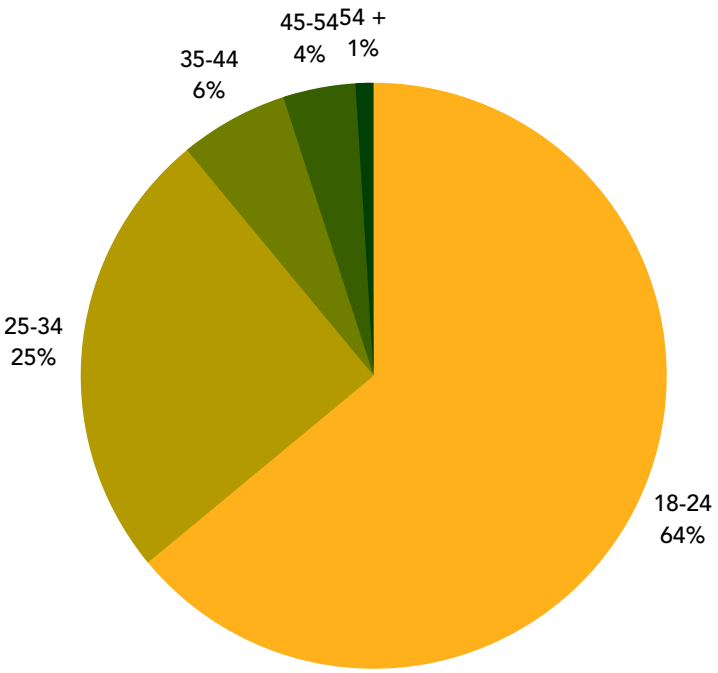



**Chart 2: Distribution of Participants by Age**

The average age of the participants is 25. The youngest is 18 years old and the oldest is 67 years old. The majority of the participants are between the ages of 18-24. Participants aged 25-34 constitute only 25% of the group, while those aged 35-44 constitute 6%; and those aged 45-54 are at the rate of 4%. Participants aged 55 and over have a rate of 1%.

69.8% of the participants live in Poland. Survey participants living in Hungary have a rate of 12.5%. Least participation was provided from Estonia.

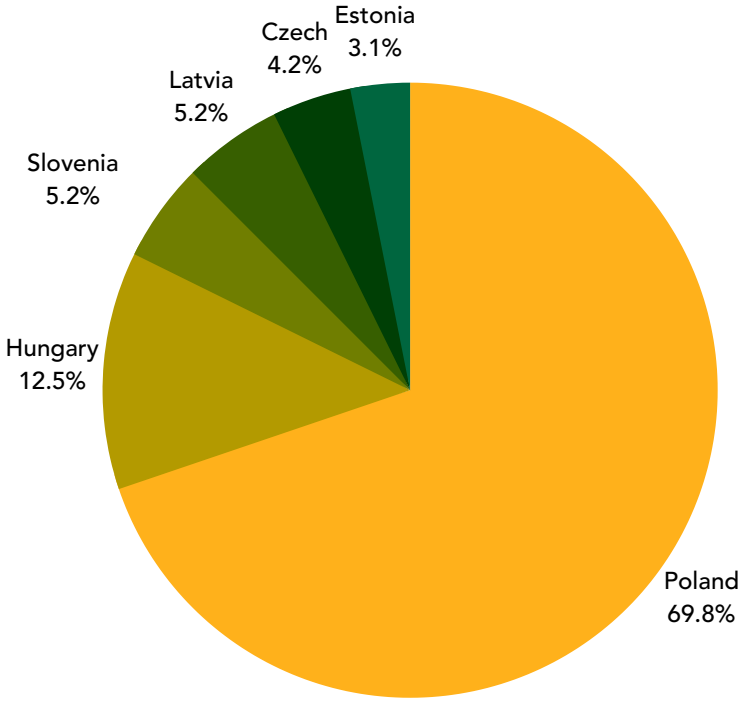



**Chart 3: Distribution of Participants by Country of Residence**

27.3% of the participants work full time. The unemployed and job seekers constitute 23.2%. While the rate of part-time employees is 15.2%, those who will start working next month are only 2 %. The ratio of respondents who do not work in a paid job (work at home, retired or disabled) is only 6.1%. There is a 13.1% participant group that is marked as unknown and other.

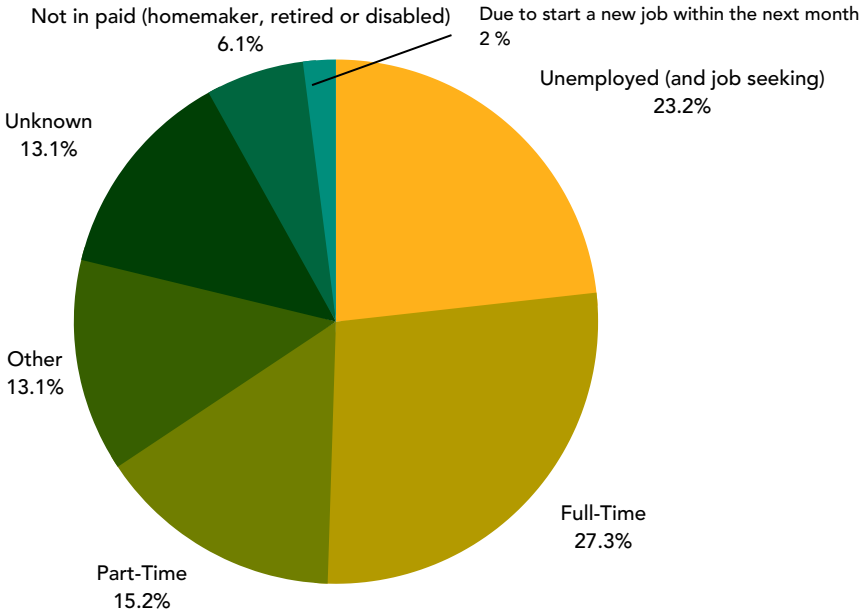



**Chart 4: Distribution of Participants by Employment Status**

## Cashless Payment

The vast majority of the participants have used the cashless payment method at least once in their lives. Only 3.9% have not used the cashless payment method.

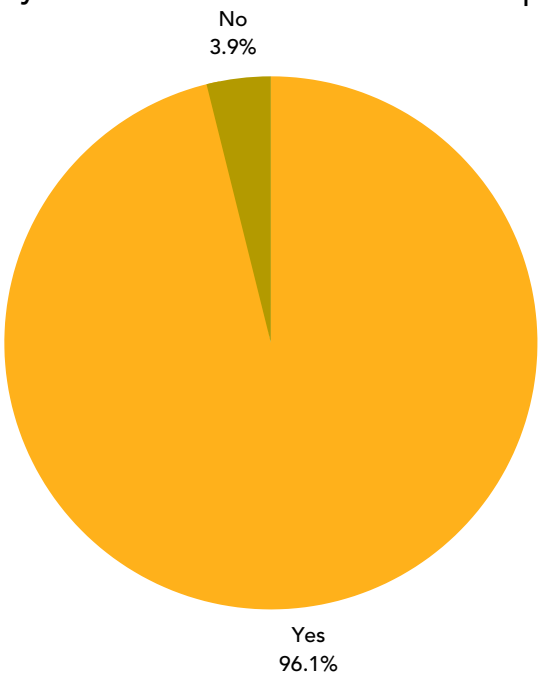



**Chart 5: Cashless Payment Method - Distribution of Participants by Usage**

It is seen that 70.3% of the participants who make transactions with cashless payment physically use credit or debit cards. While 26.7% make cashless transactions with online or mobile payments, 2% perform their transactions with automatic payments and bank transfers. Very few of them make their payments by check.

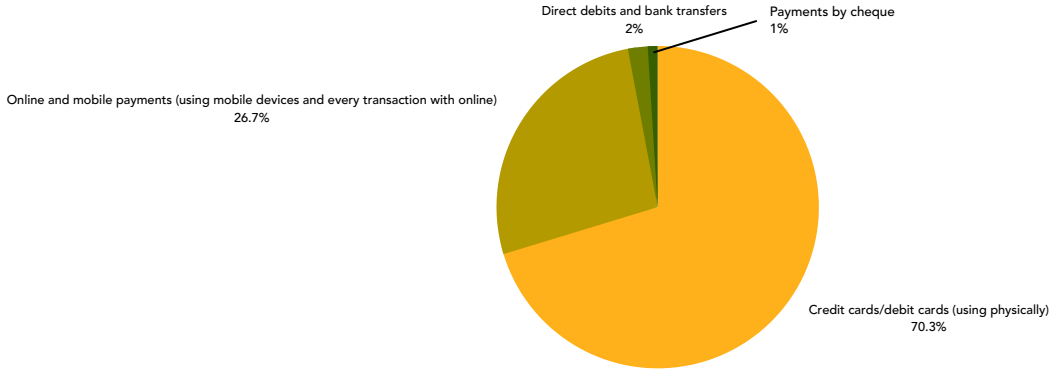



**Chart 6: Cashless Payment Method - Distribution of Participants by Tools Used**

While women physically use credit or debit cards more than men, men make more cashless payments with online or mobile payments. Women use direct debit and bank transfers slightly more than men. It is only men who make the payment by check. Participants from Poland use all these tools more. Participants in Slovenia, on the other hand, make cashless transactions with credit or debit cards more than other tools. Participants making payment by check are only from Poland and Hungary.

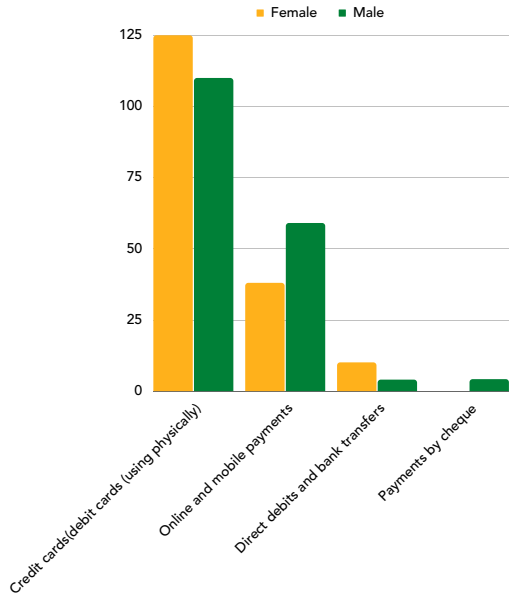



**Chart 7: Cashless Payment Method - Distribution of Tools Used by Participants by Gender**

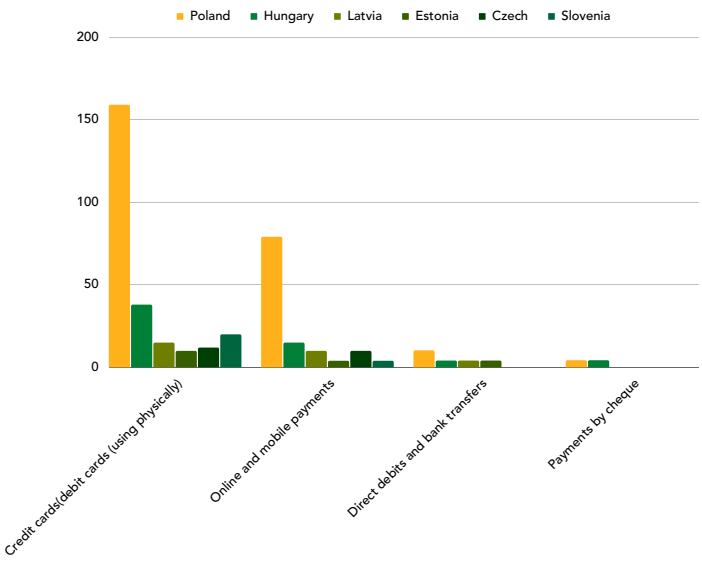



**Chart 8: Cashless Payment Method - Distribution of Tools Used by Participants by Country**

Considering the instruments used in the cashless payment method by age groups, "1" represents the age group of 18-24, "2" represents the age group of 25-34, "3" represents the age group of 35-44, "4" represents the age group of 45-54, and "5" represents the age group of 55 and above. The age group of 18-24 is the one who uses all cashless payment instruments the most.

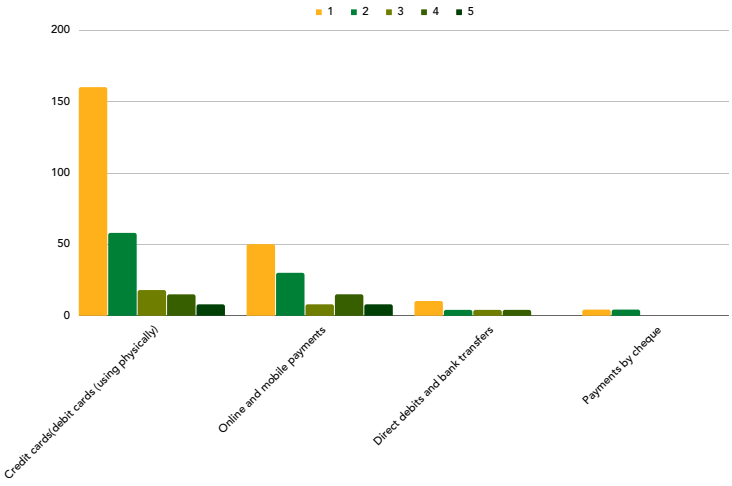



**Chart 9: Cashless Payment Method - Distribution of Tools Used by Participants by Age Groups**

Full-time employees use all cashless payment instruments more.

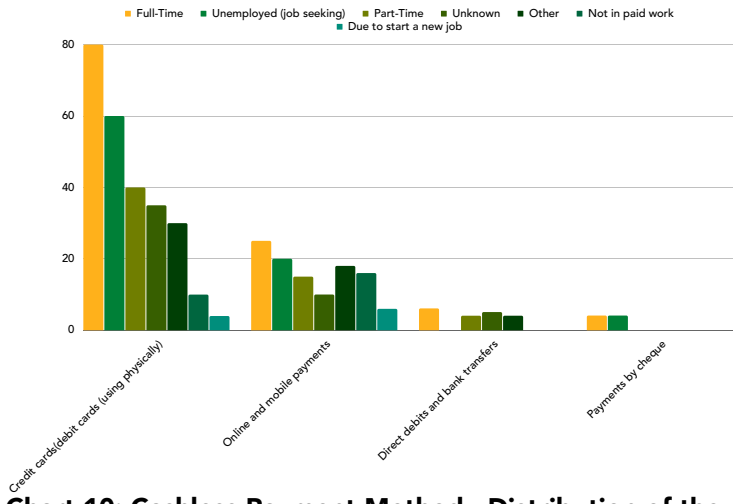



**Chart 10: Cashless Payment Method - Distribution of the Tools Used by the Participants by Employment Status**

44.4% of the participants made their cashless payments at grocery & convenience; 37.4% of them use it in general merchandise/shopping. 8.1% of them use it in restaurants/bars; and 4% make cashless payments at fast food/cafes. Very few people make cashless payments at gas stations. Around 1% of people express that they choose this payment method in other places and state that they use it both in software and everywhere.

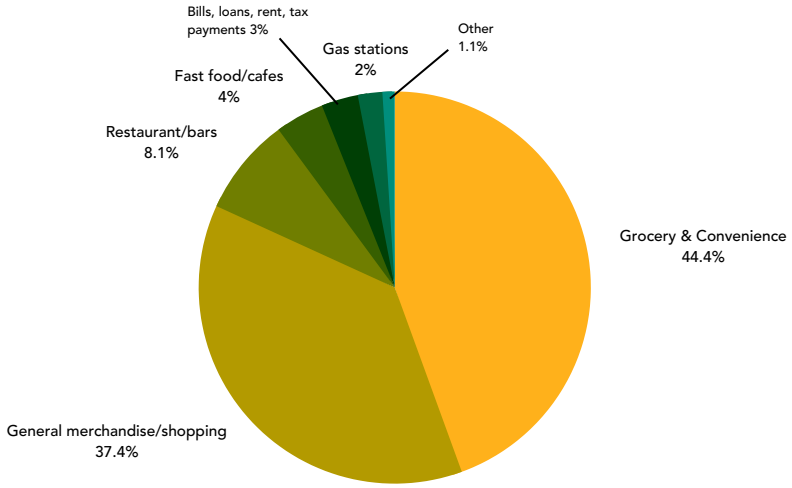



**Chart 11: Cashless Payment Method - Distribution by the Location Where the Participants Use the Method**

Among the participants, women use cashless payment more in grocery & convenience and fast food/cafes, while men use it more in general merchandise/shopping, restaurants/bars and bills/loans/rents/taxes. Only men make cashless payments at gas stations.

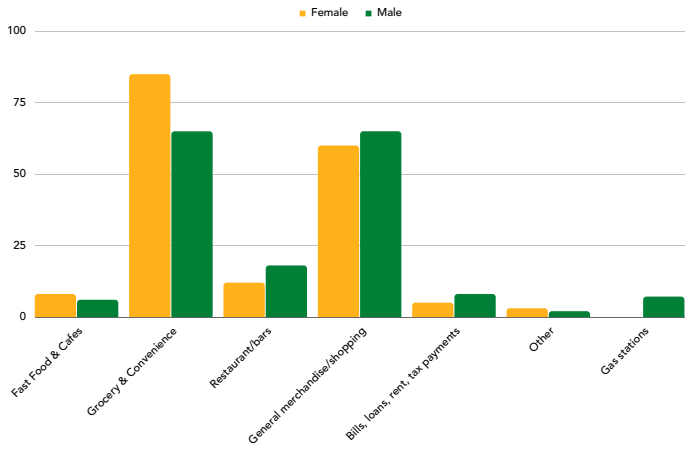



**Chart 12: Cashless Payment Method - Distribution of Locations Where Participants Use the Method by Gender**

Participants make cashless payments in different places, and this situation differs according to the working status of the participants. Unemployed and job-seeking respondents are more likely to make cashless payments at grocery stores/grocery & convenience, while full-time respondents are more likely to be cashless in general merchandise/shopping, restaurants/bars, and bills/loans/rents/tax payments. is processing. It is seen that part-time employees make cashless payments at meals/cafes (fast food/cafes).

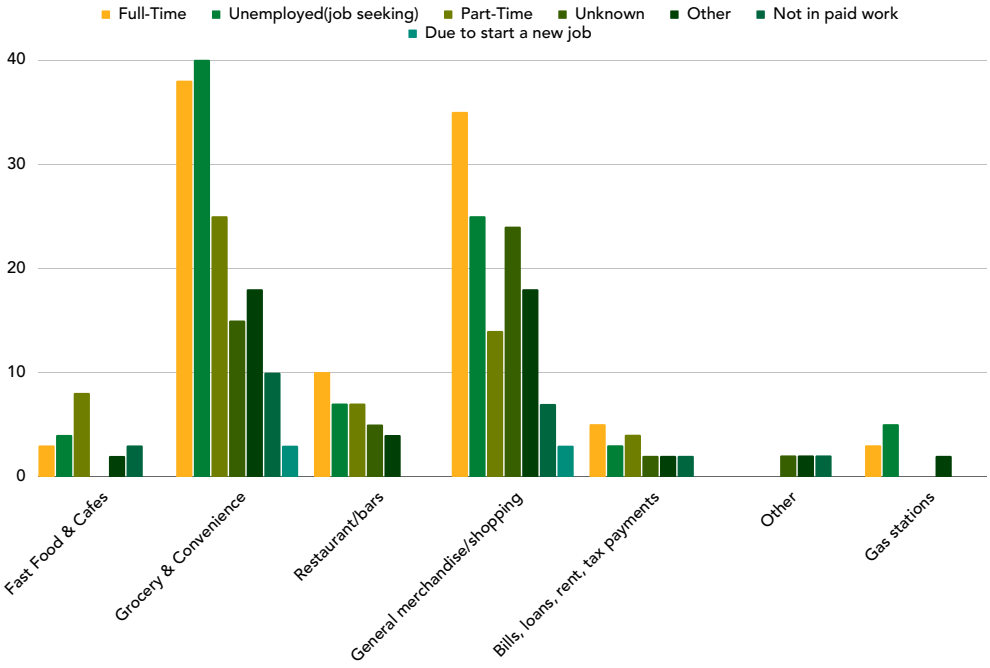



**Chart 13: Cashless Payment Method - Distribution of Locations Where Participants Use the Method by Employment Status**

It was examined how often the participants used the cashless payment method before and during the Covid-19 pandemic. It is seen that this method is used more in daily use by a small margin during the Covid-19 pandemic.

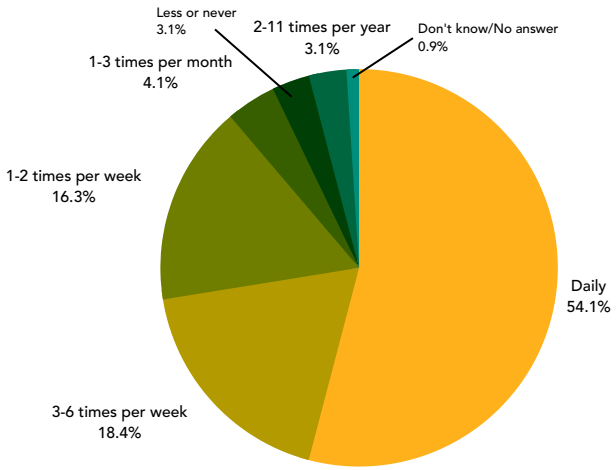



**Chart 14: Cashless Payment Method - Distribution by Frequency of Use of Participants Before the Covid-19 Pandemic**

Before the Covid-19 pandemic, 54.1% of the participants made cashless payments on a daily basis, while 18.4% made this transaction 3 to 6 times a week. While 16.3% of the participants make a cashless payment transaction once or twice a week, 4.1% of the participants make this transaction 1 to 3 times a month. 3.1% of participants do not use this method at all or use it very little. 1% of people do not know how often they use this method.

During the Covid-19 pandemic, the number of participants using a daily cashless payment method has increased and its rate has increased to 56.6% among the entire population. There is no part of the population left who does not know how often they use the method. There has been a decrease in the rate of those who do not use it at all or use it very little.

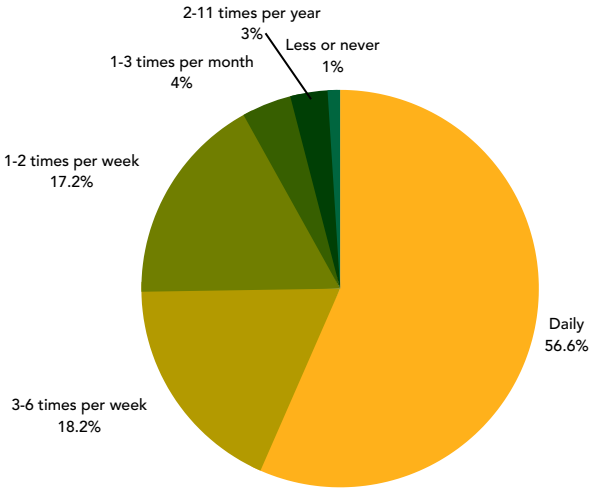



**Chart 15: Cashless Payment Method - Distribution by Frequency of Use of Participants During the Covid-19 Pandemic**

Frequency of use varies according to the gender of the participants. The number of participants making transactions on a daily basis is higher in men than in women before and during the pandemic. Women are seen more frequently in participants who perform this process 1 to 2 times a week and 3 to 6 times a month. While men used to be seen more before the pandemic in participants who made cashless payments between 2 and 11 times a year, this situation was equalized during the pandemic. Among the participants who perform this procedure 1-3 times a week, women used to be more common before the pandemic, while men are at the forefront during the pandemic. When the frequency of use before and during the pandemic is taken into consideration according to age groups, the age group of 18-24 stands out in every frequency, and when the employment status is taken into consideration, it is seen that full-time employees use cashless payment methods more.

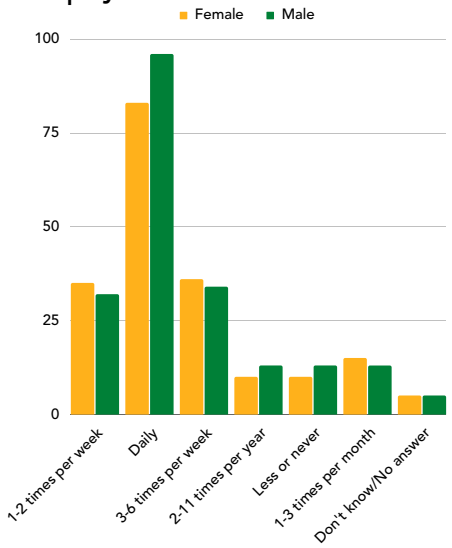



**Chart 16: Cashless Payment Method - Distribution by Participants' Frequency of Use Before the Covid-19 Pandemic by Gender**

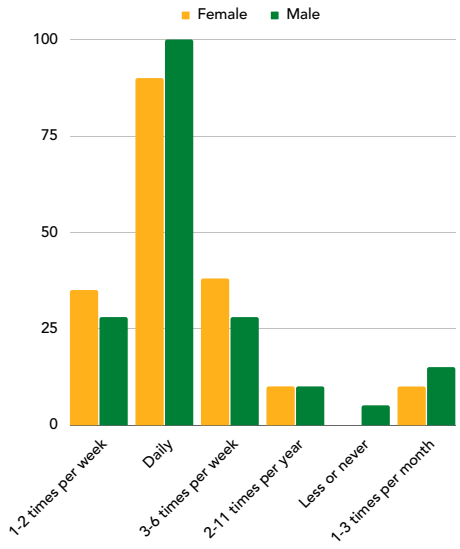



**Chart 17: Cashless Payment Method - Distribution by Participants' Frequency of Use During the Covid-19 Pandemic by Gender**

Convenience is seen among the most important reasons for adopting a cashless payment method. 72.7% of the participants state that they have adopted the cashless payment method because of its convenience. Another important reason is that the cashless payment method allows easy tracking of expenditures. 22.2% state that they adopt this method because of the easy tracking of expenditures. 3% stated that they adopted it to cut discounts or for refund rewards; and 2.1% stated that they adopted the cash payment method due to the shortage of banknotes.

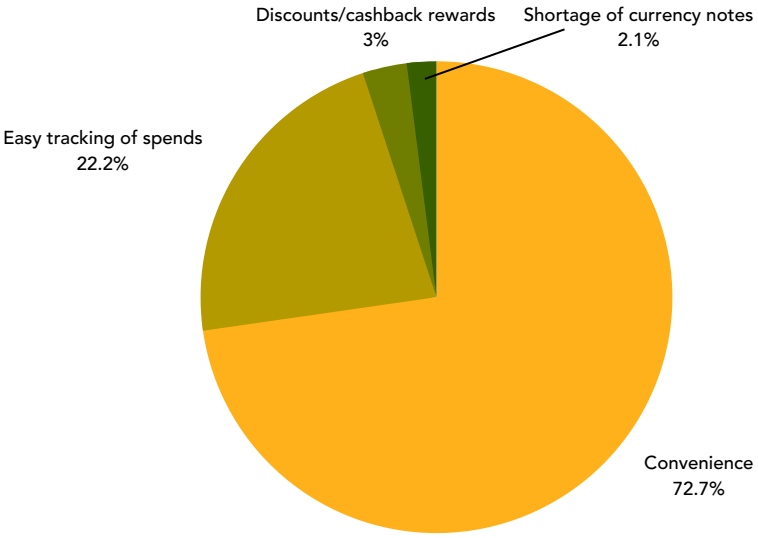



**Chart 18: Cashless Payment Method - Distribution of Participants' Reasons for Adopting the Method**

The distribution of the participants according to the reasons for adopting the cashless payment method differs according to their gender and employment status. Women adopted this method more than men in terms of convenience and shortage of banknotes. It is seen that men adopt this method more in terms of tracking expenditures more easily and discount/reimbursement rewards.

When the employment status is taken into consideration, it is seen that the full-time employee participants mostly adopt the cashless payment method in terms of convenience and shortage of banknotes. It is clear that the participants who are not working or are looking for a job, on the other hand, adopt it more in terms of tracking expenses more easily and discount/reimbursement rewards.

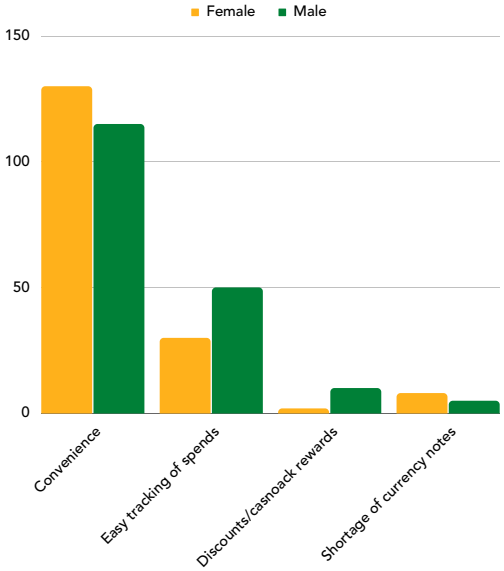



**Chart 19: Cashless Payment Method - Distribution of Participants' Reasons for Adopting the Method by Gender**

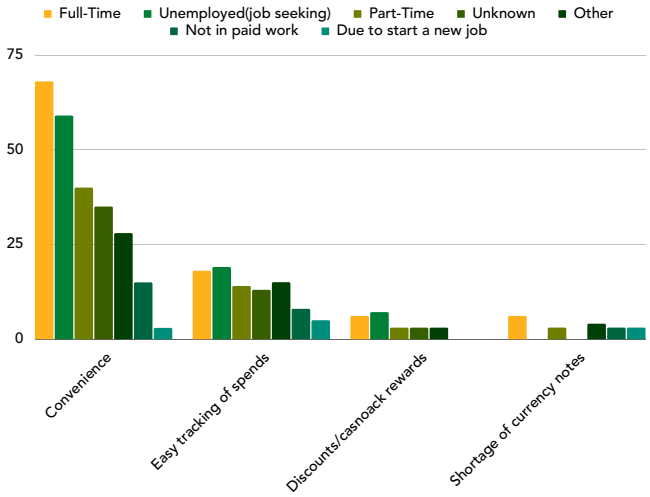



**Chart 20: Cashless Payment Method - Distribution of Participants' Reasons for Adopting the Method by Employment Status**

The most important concern regarding the cashless payment method turns out to be security. Half of the participants are concerned about this method for safety reasons. 21.6% of the participants are concerned about merchant acceptance. On the other hand, 16.5% of the participants have the concern of bad internet connection regarding this method. Participants with very low rates are concerned about costs and lack of technical knowledge. On the other hand, there are the following points of concern as well. These are;

- Lack of control over payments
- Lack of common use of this method everywhere
- No anonymity
- Possibility of sudden failure
- The government's ability to block and potential to monitor accounts

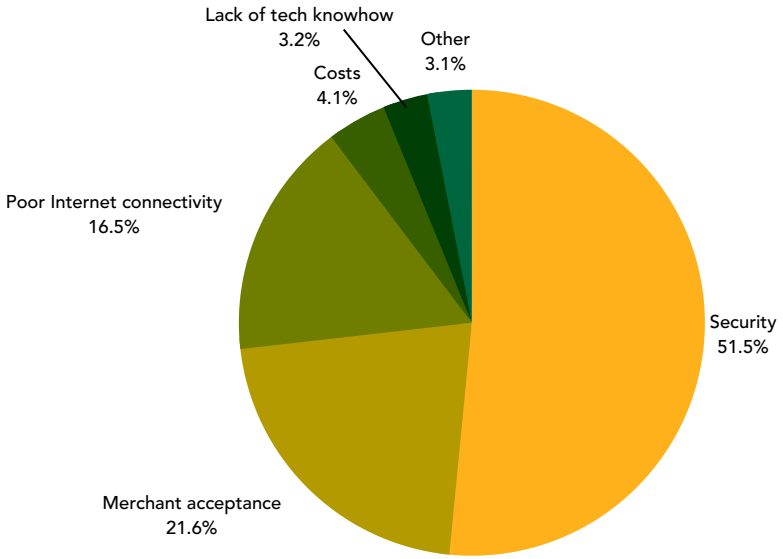



**Chart 21: Cashless Payment Method - Distribution by Participants' Concerns About the Method**

The reasons for the participants' concerns about this payment method differ according to their gender and employment status.

Women are slightly more concerned about safety than men. Men, on the other hand, have more merchant acceptance, bad internet connection and other concerns than women. The concern of cost and lack of technical knowledge is more common in women than in men.

Unemployed or job-seeking participants are more concerned about the lack of security and technical knowledge about this method, while full-time employee participants are more concerned about merchant acceptance and poor internet connection. The number of full-time and part-time employees who are concerned about cost is equal.

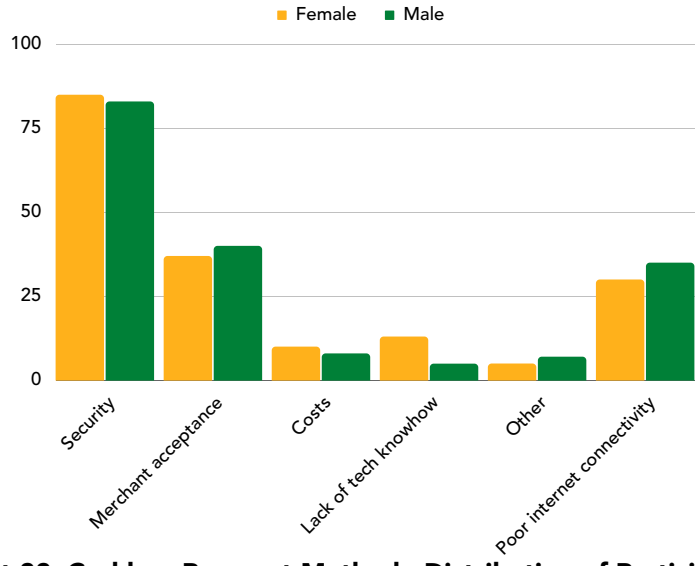



**Chart 22: Cashless Payment Method - Distribution of Participants' Concerns about the Method by Gender**

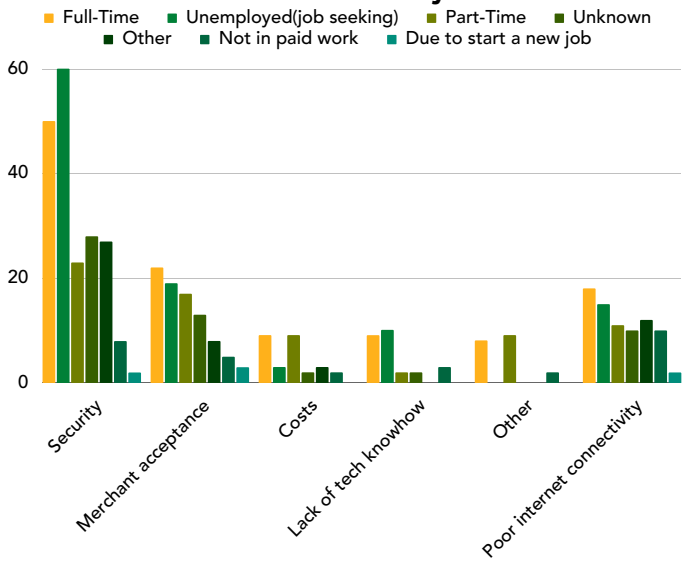



**Chart 23: Cashless Payment Method - Distribution of Participants' Concerns about the Method by Employment Status**

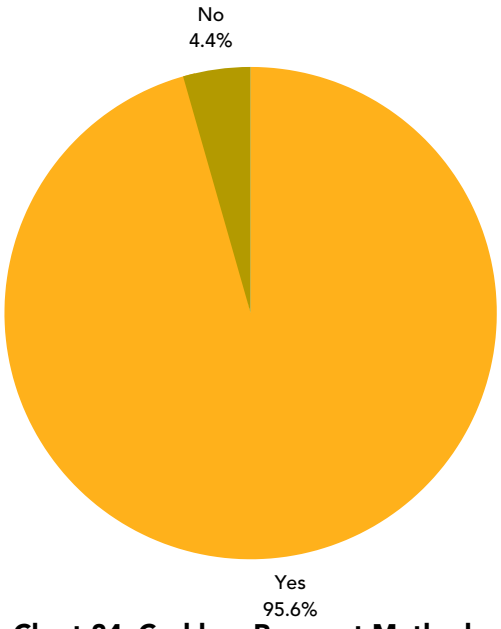



**Chart 24: Cashless Payment Method - Distribution of Participants by Approval of the Method**

The vast majority of participants think that cashless payment is more convenient than cash transactions. Only 4.4% of the participants state that they do not find the cashless payment process appropriate when compared to cash. Among the participants who found it suitable, the number of male participants is higher. Among the participants who do not find it appropriate, it is seen that women are more common.

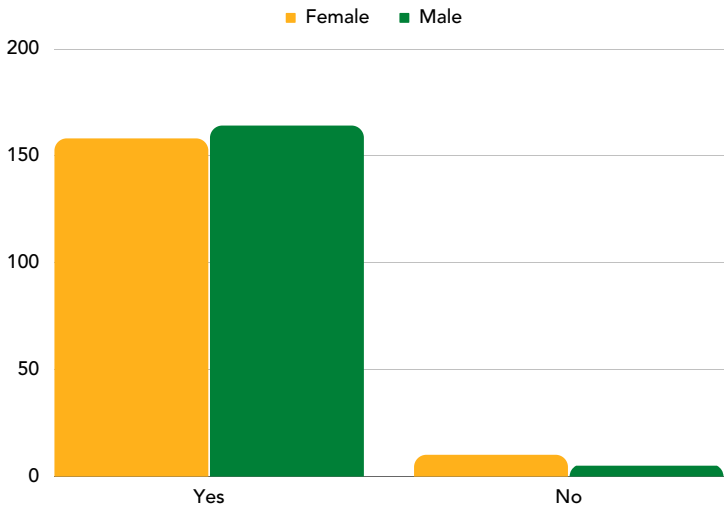



**Chart 25: Cashless Payment Method - Distribution of Participants who Find the Method Appropriate by Gender**

It is seen that the participants who do not use any cashless payment method prefer to pay with cash. Participants state the following among their reasons for not using this method;

- Never heard/not have knowledge of the method
- Not needing the method
- Not trusting the method
- Not knowing how to use the method
- Preference to pay with cash
- The fact that cashless payment method is not eligible for their country of residence

## Contactless Payment

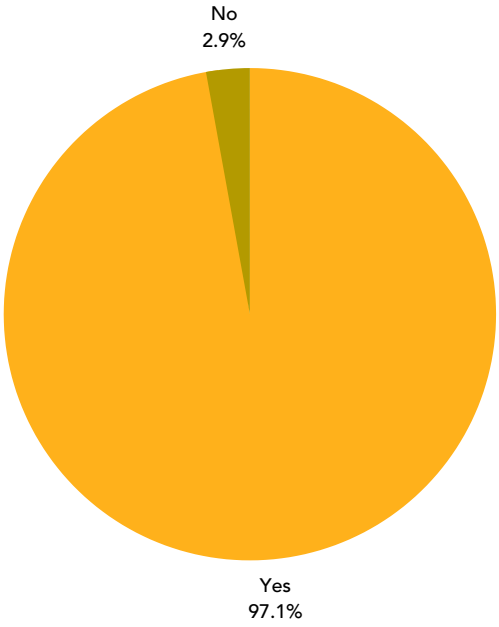



**Chart 26: Contactless Payment Method - Distribution by Participants' Usage**

The vast majority of the participants have used the contactless payment method at least once in their lives. Only 2.9% of the participants have not used the contactless payment method.

It is seen that 61.7% of the participants who make transactions with contactless payment use contactless credit/debit cards/smart cards. While 25.2% of them prefer in-app payment method, 9.3% of them use wearable payment devices. A very few people make the payment with QR code.

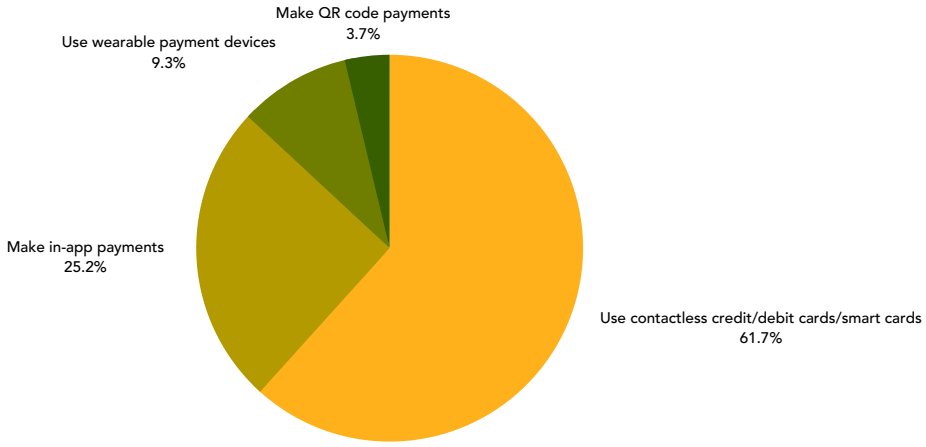



**Chart 27: Contactless Payment Method - Distribution by Participants' Tools**

The number of women is higher among the participants who use credit/debit cards/smart cards while making contactless payment transactions. Among the participants who use wearable payment devices and in-app payment methods, men become prominent. Women who make payments with QR codes are slightly more than men.

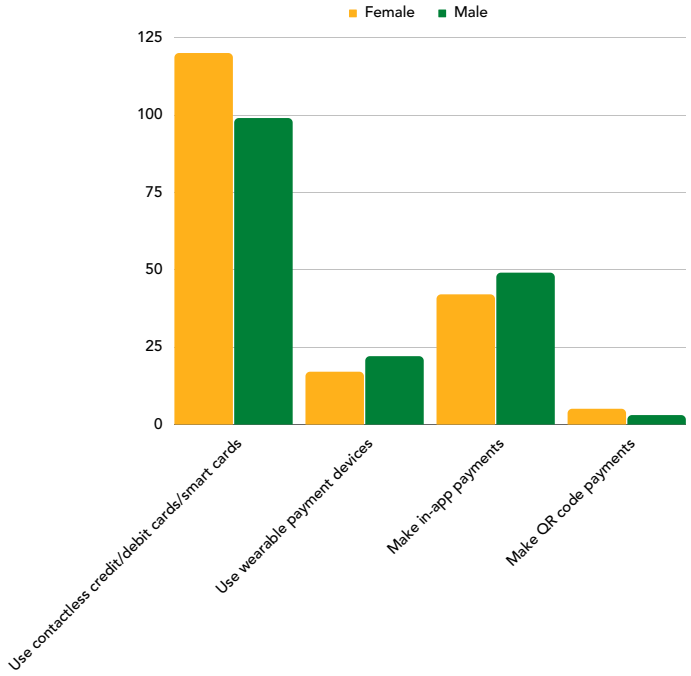



**Chart 28: Contactless Payment Method - Distribution bu Tools Used by Participants - Participants' Gender**

Most of the participants who use credit/debit cards/smart cards and wearable payment devices in contactless payment transactions are full-time employees. Unemployed and job seekers are more in the participants using the in-app payment method. The number of full-time, part-time employees, non-working and job-seeking participants is equal among participants who make contactless payments with QR code.

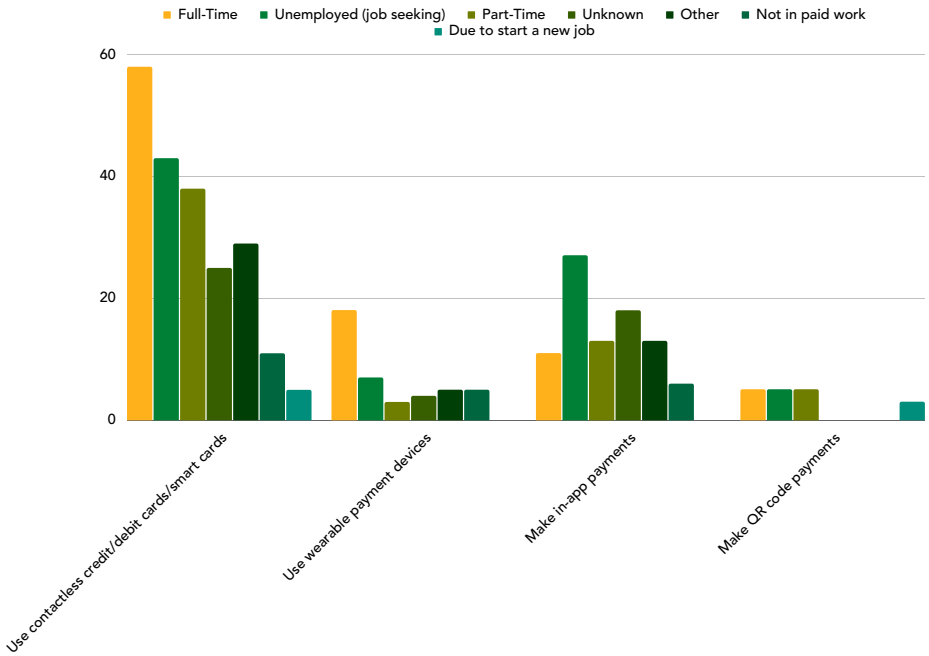



**Chart 29: Contactless Payment Method - Distribution by Tools Used by Participants - Participants' Employment Status**

More than half of the participants make contactless payments in shops/supermarkets/stores. 30.3% of them make contactless payments in online shopping. 3.8% of them make contactless payments at restaurants/bars/cafes; 2.5% of the population use this method also in public transportation. The rate of participants making contactless payments at ATMs/vending machines/gas stations is only 2%. The rate of participants using this method everywhere does not exceed 1%.

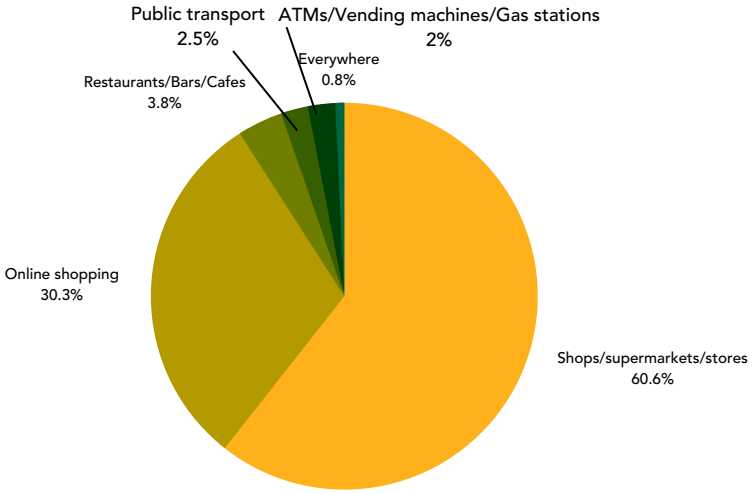



**Chart 30: Contactless Payment Method - Distribution by Participants' Location of Using the Method**

The number of male and female participants making contactless payments in shops/supermarkets/stores is close. Only male participants are seen using the contactless payment method at ATMs/vending machines/gas stations. The number of female participants who use this method in public transportation and in restaurants/bars/cafes is higher. In online shopping, on the other hand, male participants who make contactless payments are more.

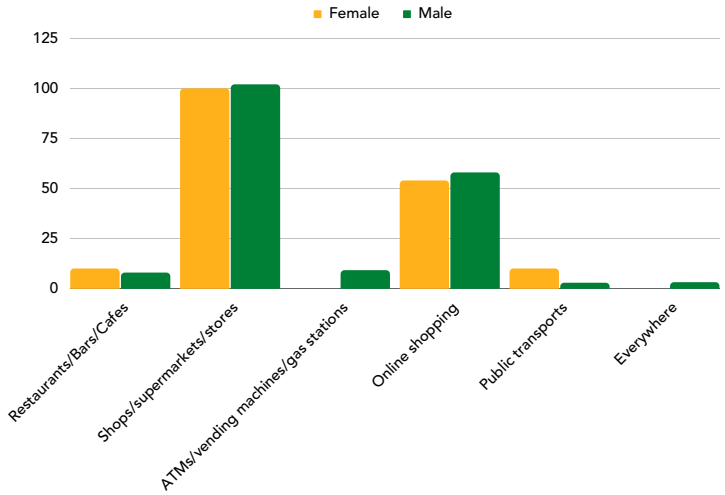



**Chart 31: Contactless Payment Method - Distribution by Participants' Location of Using the Method - Participants' Gender**

Most of the participants who make contactless payments in shops/supermarkets/stores are full-time employees. Most of the participants who use this payment method in online shopping and public transportation are unemployed individuals and job seekers. Participants who make contactless payment transactions at ATMs/vending machines/gas stations are full-time, part-time employees, unemployed individuals and job seekers.

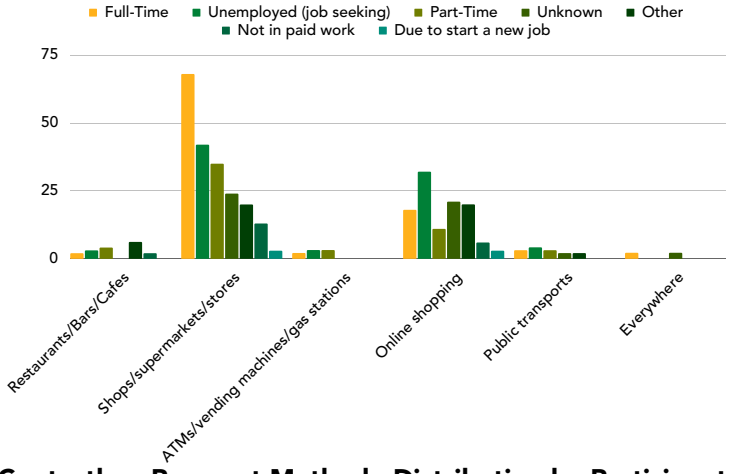



**Chart 32: Contactless Payment Method - Distribution by Participants' Location of Using the Method - Participants' Employment Status**

It was examined how often the participants used the contactless payment method. The rate of participants who use contactless payment method on a daily basis is 33.7%. The rate of participants who use this method 1 to 2 times a week is 20.8%. While 18.8% of them make contactless payment transactions 3 to 6 times a week, 17.8% of them perform contactless payment transactions 1 to 3 times a month. The rate of participants who use this method 2 to 11 times a year is 5.9%. The rate of participants who use this method very often or not at all does not exceed 1%. The rate of users who do not know how often they use the method or do not want to answer is around 2%.

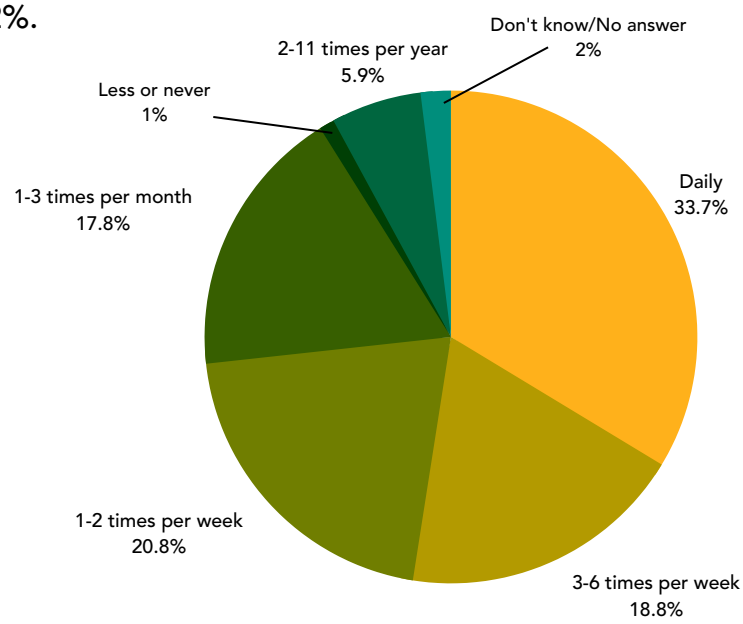



**Chart 33: Contactless Payment Method - Distribution by Participants' Frequency of Use**

Frequency of use varies according to gender. The number of men is higher among the participants who make contactless payments daily and between 2 and 11 times a year. Women seem to make more contactless payments than men 1 to 2 times a week, 3 to 6 times a week, and 1 to 3 times a month.

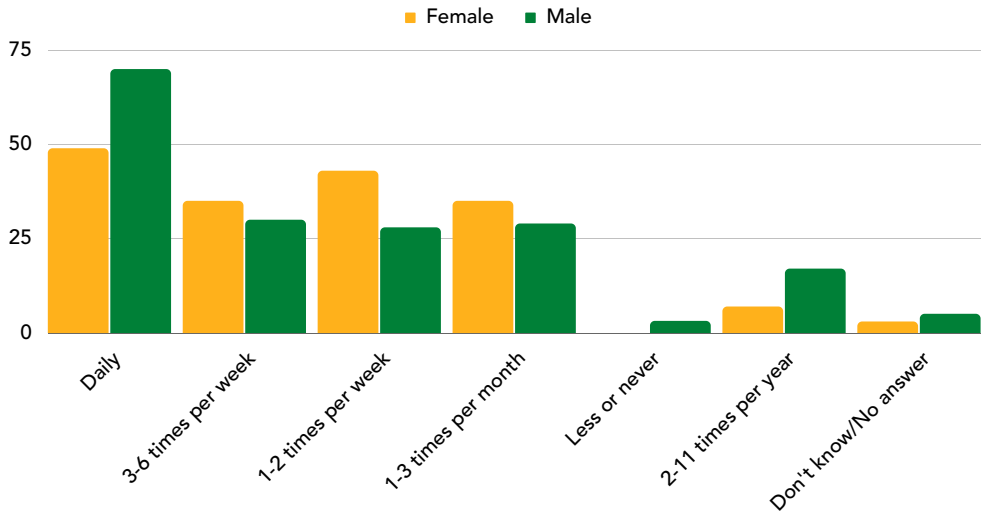



**Chart 34: Contactless Payment Method - Distribution of Frequency of Use of Participants by Gender**

The frequency of use of contactless payment also varies according to the employment status of the participants. The vast majority of participants who make contactless payment transactions daily and 1 to 2 times a week are full-time employees. While the second largest segment that makes daily transactions consists of part-time employees, the second largest segment that makes transactions 1 to 2 times a week is the unemployed individuals and job seekers. Most of the participants who use contactless payment method 3 to 6 times a week, 1 to 3 times a month and 2 to 11 times a year are unemployed individuals and job seekers.

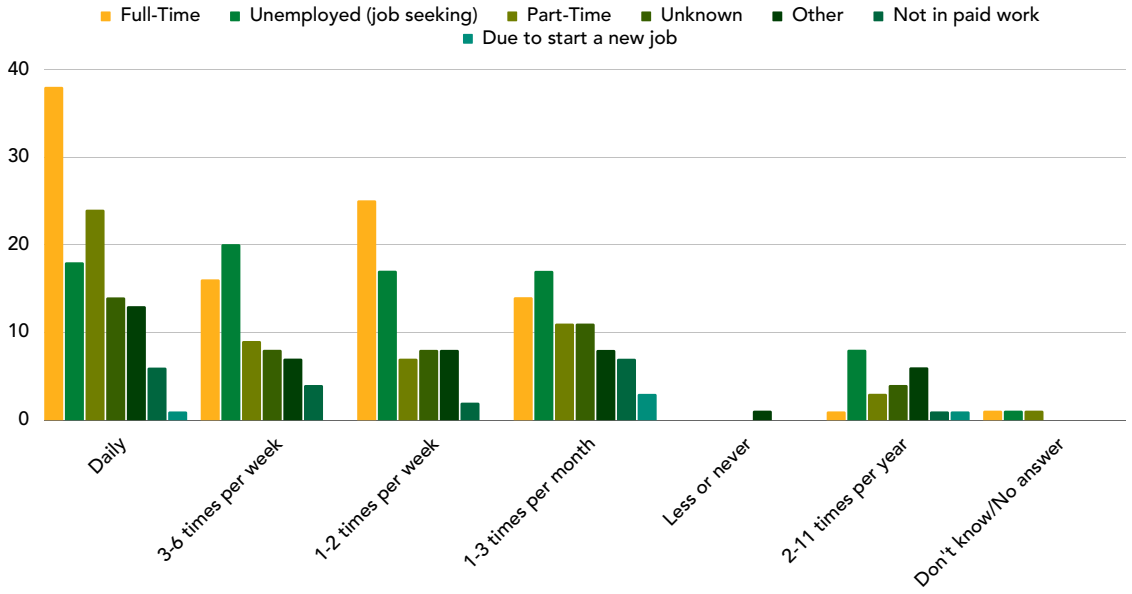



**Chart 35: Contactless Payment Method - Distributions by Participants' Frequency of Use - Participants' Employment Status**

The rate of participants who accept the contactless payment method as a proper payment method is 62.3%. 24.5% of the participants state that the contactless payment method is more reliable than cash payment. Although 10.4% of them are worried about the reliability of the contactless payment process, yet they say that they still use this method. 2.8% of the participants do not find the contactless payment method reliable, stating that it is not a proper payment method.

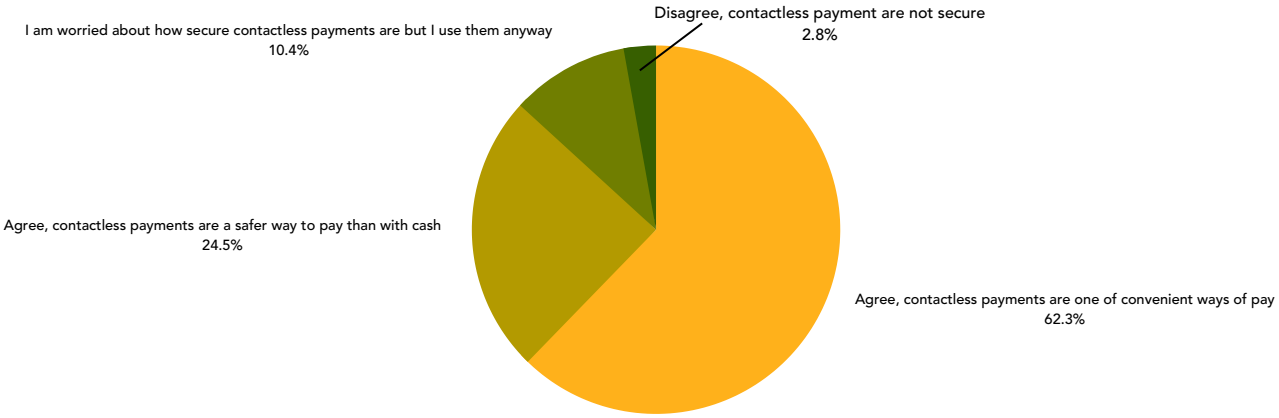



**Chart 36: Contactless Payment Method - Distribution by Participants' Approval of the Method**

It is seen that the participants who do not use contactless payment methods prefer to pay in cash or physically with a credit/debit card. Participants state the following among their reasons for not using this method;

- Unavailability of the method
- Lack of chance to use the method
- Cash payment option
- Cash payment habit
- Not needing the method or not feeling the use this method is compulsory
- Lack of information about the method
- Not finding the method reliable
- Lack of necessary technology to use the method

**Survey Results**

**Participant Profile:**

175 male and 175 female citizens living in Eastern European countries participated in the survey. 52% of the participants are students. The average age of all participants is 25 and the majority of them are between the ages of 18-24. There was a large participation from Poland. The least participation is from Estonia. 27.3% of the participants are full-time employees. The unemployed individuals and job seekers constitute the 23.2% of the participants. The rate of part-time employees is 15.2%, while the rate of participants who do not work in a paid job is 6.1%.

**Results on Cashless Payment Method:**

Approximately 97% of the participants have used the cashless payment method at least once in their lives. These participants mostly physically use credit or debit cards in cashless payment transactions, and it is seen that women use this tool more. In second place there is online or mobile payment and it is clear that men use this tool more than women. In third place there are direct payments and bank transfers, and women use this tool more than men in their cashless transactions. It is only men who make the payments by check. Participants from Poland use all these tools more. Participants in Slovenia, on the other hand, make cashless transactions with credit or debit cards more than other tools. When considered according to age groups, the age group of 18-24 uses all cashless payment instruments the most. When taking their employment status into consideration, full-time employees use all cashless payment instruments more.

Participants use cashless payments in grocery/convenience more than in other places. In the second place, it is seen that they use this method in stores and shopping. It is preferred in restaurants/bars in the third place and in fast food/cafes in the fourth place. In grocery stores/markets and fast food/cafes women make cashless payment transactions more. On the other hand, men use it in general merchandise/shopping, in restaurants/bars, and in bills/loans/rents/tax payments more. While unemployed individuals and job-seeking participants are more likely to make cashless payments at grocery & convenience, full-time participants are more likely to go with cashless payments for general merchandise/shopping, restaurants/bars, and bills/loans/rents/tax.

It was examined how often the participants used the cashless payment method before and during the Covid-19 pandemic. It is seen that this method is used more in daily use by a small margin during the Covid-19 pandemic. Frequency of usage varies according to the gender of the participants. The number of participants making transactions on a daily basis is higher in men than in women before and during the pandemic. Women are at the forefront of the participants who perform this process 1 to 2 times a week and 3 to 6 times a month. When the frequency of usage before and during the pandemic is considered according to age groups, while the age group of 18-24 comes to the fore in every frequency; taking the employment status into consideration, it is seen that full-time employees use cashless payment methods more.

Participants cited convenience more as one of the most important reasons for adopting a cashless payment method. In the second place, it is stated that this method is adopted because of the easy tracking of expenditures. Few of the participants state that they have adopted cashless payment methods more due to discounts/cash back rewards and shortage of banknotes. Women prefer this method in terms of convenience and shortage of banknotes when compared to men; on the other hand, it is seen that men adopt it more easily in terms of tracking expenditures more easily and discount/reimbursement rewards. According to their employment status, it is seen that the full-time employee participants adopt it more in terms of convenience and shortage of banknotes, while the unemployed or job-seeker participants adopt it more in order to follow their expenditures and discount/reimbursement rewards.

The most important concern regarding the cashless payment method turns out to be security. Half of the participants are concerned about this method because of safety reasons. The number of male and female participants who had safety concerns was close to each other. Men have more merchant acceptance, bad internet connection, and other concerns. Worry about cost and lack of technical knowledge is more common in women. Unemployed individuals or job seekers are more concerned about the lack of safety and technical knowledge about this method. Full-time employee participants are more concerned about merchant acceptance and poor internet connection.

Approximately 96% of the participants think that cashless payment is more convenient than cash transactions. Only 4.4% of them state that they do not find the cashless payment process proper when compared to cash transactions. Among the participants who found it suitable, the number of male participants is higher. Among the participants who do not find it appropriate, it is seen that women are more common.

Participants who do not use any cashless payment method prefer to make payments with cash. Among the reasons for not using this method, the reasons being that the method is not heard/known at all, the method is not needed and trusted, not knowing how the method is used, the preference of paying with cash, and the cashless payment method is not suitable for the users in the country they live in.

**Results about Contactless Payment Method:**

96.1% of the participants used the contactless payment method at least once in their lives. The vast majority of these participants use contactless credit/debit cards/smart cards and women are at the forefront among the majority. While 25.2% of them make contactless payments, they prefer in-app payment methods, 9.3% of them use wearable payment devices and men are at the forefront in both payment tools. Only 3.7% of them make contactless payment with QR code. For this method, it is seen that there are more women with a slight difference. Most of the participants who use credit/debit cards/smart cards and wearable payment devices in contactless payment transactions are full-time employees. Unemployed and job seeker participants who use in-app payment methods are more.

The vast majority of the participants use the contactless payment method in groceries/conveniences/shops/supermarkets/stores. The second largest segment of the participants make contactless payments in online shopping. The rate of users making contactless payments at ATMs/vending machines/gas stations is only 2%. The rate of participants using this method everywhere does not exceed 1%. There are only male participants who use the contactless payment method at ATMs/vending machines/gas stations. The number of female participants who use it in public transportation and in restaurants/bars/cafes is higher. Most of the participants who make contactless payments in shops/supermarkets/stores are full-time employees. Most of the participants who use this payment method in online shopping and public transportation are unemployed individuals and job seekers.

The number of participants who make contactless payment transactions on a daily basis is more and the rate of these participants is 33.7%. The rate of participants who use this method 1 to 2 times a week is 20.8%. The rate of participants who use this method very rare or not at all does not exceed 1%. When taking gender into consideration, the number of men is higher among the participants who make contactless payments daily and between 2 and 11 times a year. Women seem to make more contactless payments than men 1 to 2 times a week, 3 to 6 times a week, and 1 to 3 times a month. Considering the employment status, most of the participants who make contactless payment transactions daily and 1 to 2 times a week are full-time employees. The majority of the participants who use contactless payment method 3 to 6 times a week, 1 to 3 times a month, and 2 to 11 times a year are unemployed individuals and job seekers.

The majority of participants accept the contactless payment method as a proper method. About 10% use this method, despite being worried about the reliability of the contactless payment process. 2.8% of people do not count contactless payment method as a proper payment method.

Participants who do not use contactless payment methods prefer to pay in cash or physically with a credit/debit card. The reasons why the participants did not use the method were the lack of the opportunity, the necessary technology and knowledge, the lack of chance to use the method, the preference and habit of paying with cash, the need for the method or not feeling the obligation to use this method, and the method not being reliable.

# CHAPTER 3

# CASE STUDIES

# Case Studies from Europe

## Case 1: BNP Paribas Group - IFS.alpha: Intrapreneurship Program[156]

As an international banking institution, BNP Paribas Group supports entrepreneurs, SMEs, large companies, institutions and individual customers with financing, investment, savings and protection solutions. The Group operates in 65 countries with its three key areas of business, namely "Investment and Protection Services", "Corporate and Corporate Banking" and "Commercial, Personal Banking and Services Division" with approximately 190,000 employees, approximately 148,000 of which are in Europe. [157]

**What was the problem?**

BNP Paribas Group wanted to benefit as much as possible from the expertise and imagination of the employees, to benefit from the services and technological activities of the startups, and to reveal the historical strengths of the group.

**What was done?**

The group has created a large-scale program called IFS.alpha, which incorporates intrapreneurship, technology and social responsibility. The company helps program participants develop new financial and non-financial services and helps clients adapt to company changes. In the first round of the program, which started in July 2017, more than 80 project proposals were presented, highlighting digital technology and covering topics ranging from artificial intelligence to the sharing economy.

**What was the solution?**

82 project proposals from 23 countries were submitted.
1300 votes were casted to determine the top 50 projects.
12 projects made it to the finals.
7 ideas won in the finals.
7 winning projects were included in the 6-month accelerator program.

**You can find the details of the case here**

## Case 2: ING Group - Finding New Opportunities for Better Customer Service[158]

**What was the problem?**

ING Group wanted to seize opportunities within the scope of the European Commission's banking legislation PSD2, which opened the financial services market to third-party providers, and to better serve its customers by taking advantage of EU laws. The reason for this is that with the legislation made, banks no longer have a monopoly on their customers' bank account information and transaction data. For this reason, it wanted to create new initiatives to create secure technologies that would protect customer data on the one hand and make their customers' lives easier on the other.

**What was done?**

ING, together with the Board of Innovation, carried out an innovation acceleration program that lasted 3 months within the ING Lab. At the beginning of the accelerator, 2 teams of 3 persons identified six opportunity areas and conducted the necessary research in these areas. The acceleration resulted in two new services.

**What was the solution?**

The first solution was invisible ticketing. This app allows people to make payment for public transport without having to do anything. While the customer is traveling with any public transport, the mobile phone of the customer detects the trip, calculates the fee automatically and withdraws the fee from the bank account at the end of the trip. This service eliminates the need to make payment for a ticket or transportation card with cash or card.

The second solution is instant mortgages. The offered service approves mortgage applications within two days. By means of this service, ING collects and analyzes transaction data digitally and can make a quicker decision on loan repayment. It makes lasting transactions and paperwork easier.

**You can find the details of the case here**

## Case 3: AXA S.A - Redesigning the Retirement Journey[159]

AXA S.A. is a French international investment, pension and insurance group. It operates with property-casualty insurance, individual and group life insurance and asset management services. Property accident insurance includes personal property and liability insurance. Individual and group life insurance covers both savings and retirement products as well as other health and personal protection products. Asset management, on the other hand, includes the investment and management of assets for third parties, both for retail and corporate clients.[160]

**What was the problem?**

A competitive market is dominant on pension products. It is very difficult to make a difference in this market. One of the best approaches here is to provide better experiences for customers on their journey to evaluate and purchase retirement products. AXA wanted to redesign the retirement journey for its clients, potential independents, key partners and brokers, and develop talent in designing client journeys.

**What was done?**

The Board of Innovation held separate 4 sessions each with both groups to better understand the current retirement journey of independents and brokers. Thus, different personas and customer journeys were revealed. A new retirement journey was designed by better understanding the emotional experience of the pension journey.

During the journey, 2 new opportunity areas were determined for both groups. The first area is to uncover how independent people can better understand their pensions on their own. The second area is the simplification and digitalization of the process of contracting with brokers. At the idea stage, both groups were invited and joint sessions were held in which various concepts were produced. Ideas from co-creation sessions were then transferred into ideation sessions with the team.

**What was the solution?**

- Co-creation sessions were held with independent persons. These sessions enabled the AXA team to create a simple tool to help them explore their purchasing decisions. This tool is focused on simplicity to make it easier for people to understand the products. The prototype of the tool was tested with several customers and positive feedbacks were received.
- Co-creation sessions were held with brokers. Sessions enabled the creation of a tool that helps new customers get involved. This tool made the process more transparent, enabling stakeholders to communicate with each other better.

**Details of the case can be found here**

## Case 4: BBVA - Promoting Open Innovation and Intrapreneurship[161]

BBVA is a customer-focused global financial services group founded in 1857. The group is a strong leader in the Spanish market. Operating as Mexico's largest financial institution, BBVA has leading franchises in South America. The aim of the group, which is also the leading shareholder of Garanti BBVA in Turkey, is to offer the best solutions to meet the real needs of customers and help them make the best financial decisions through an easy and convenient experience.[162]

**What was the problem?**

Attaching importance to open innovation, BBVA wanted to launch new initiatives from within its own structure, to enable its employees to develop innovative solutions in their own departments, to develop a culture of innovation and to support promising startups. Another desire of BBVA, which is looking for new formulas for traditional financial solutions, is to contribute to the ecosystem by creating a positive impact.

**What was done?**

BBVA has encouraged the use of agile methodology in the bank, which encourages collaboration in multidisciplinary work teams by drawing attention to the talents within the organization. It provided design-oriented thinking trainings. It created an idea fair by providing time and tools for its employees to develop their ideas. It organized regular hackathons to promote intrapreneurship.

**What was the solution?**

- Intrapreneurship projects have been realized through the creation of startups such as Upturn and Covault within the business models and strategy unit within the entity of BBVA.
- A pioneering program called Ninja has been designed so that every employee can gain technological knowledge and skills.[163]
- In the hackathons, employees solve technological problems together with some of the bank's strategic partners such as Amazon Web Services, Google and Red Hat.

**Details of the case can be found here**

## Case 5: ABN AMRO Bank - Innovation Program[164]

ABN AMRO Bank is a Netherlands-based bank with more than 300 years of history. Providing comprehensive financial services and advice to corporate banking customers as well as retail and private banking customers, ABN AMRO Bank places emphasis on sustainability and social entrepreneurship.[165]

**What was the problem?**

When ABN AMRO Bank aimed to develop new business models and services, it realized that it did not have reliable tools or processes. For this reason, the necessity of establishing a special approach has emerged.

**What was done?**

An innovation program called DARE was developed. This program offers guidance during innovation processes and supports innovation teams and initiatives focusing on platforms, sustainability and digital assets. By means of the program, there is no need to re-discover innovation processes.

**What was the solution?**

- The process of the DARE program is designed as 4 main stages and intermediate stages. The 4 main stages are: "Proving the Problem", "Proving the Relevance of the Solution to the Problem", "Proving that People Are Ready to Pay for the Solution" and "Proving its Scalability". Intermediate stages include evaluations to see if the initiatives are mature enough and whether they will move to the next stage. The purpose of these evaluations is to work data-oriented, to terminate venture activities when it is understood that it is not suitable for the strategy, and to eliminate uncertainties. For this reason, the impact measurement team makes an evaluation for each intermediate stage.
- Lean Startup, Design-Oriented Thinking and Agile methodologies are implemented in the program.
- Being implemented for 18 months, DARE supports employees across the bank to develop innovative products and services.[166]

**Details of the case can be found here**

# Case Studies from GOOINN

## Case 6: Akbank - Dissemination of Innovation Culture

Akbank is one of the biggest banks in Turkey, providing services in corporate and investment banking, commercial banking, SME banking, personal banking, private and international banking, payment systems and treasury transactions. In addition to its standard banking activities, the Bank also carries out insurance agency activities through its branches.[167]

Akbank signed an agreement with the European Bank for Reconstruction and Development (EBRD) in 2020 to provide a one-year maturity amounting to 75 million dollars in order to minimize the impact of the Covid-19 pandemic. It provides this financing for business capital loans to its corporate and micro segment customers. In addition, giving importance to women entrepreneurs, Akbank supports the financial activities of enterprises by providing special export support loans.[168]

**What was the problem?**

Akbank realized that it is not possible to carry out innovation studies from a single point. The company wanted to spread the innovation culture to all units, realizing that the contribution of employees is important so that all efforts related to innovation activities can progress with a sustainable and increasing momentum throughout the bank.

**What was done?**

GOOINN, together with Akbank LAB, Akbank's innovation center, designed a new entrepreneurship and innovation program by organizing the existing in-house entrepreneurship program that the company started in 2016. With this renewed and more comprehensive program, an ideal environment has been created for the emergence of innovative products and services. After the applications to the program and the team process, workshops were organized with 5 teams on problem and customer discovery, target customer experience, customer interviews on the field, business model, MVP, presentation techniques. (A higher resolution MVP study was conducted to test the problem-solving compatibility in the field in a more qualified way.)

**What was the solution?**

- There were 5 teams that participated in the intrapreneurship process.
- More than 300 field and insight interviews were conducted.
- Digital access was provided to approximately 100,000 people.

## Case 7: Kredi Kayıt Bürosu (KKB) - Intrapreneurship and Innovation Program

Kredi Kayıt Bürosu is the institution that carries out the activities of the Banks Association of Turkey (TBB) Risk Center for banks, consumer finance companies, leasing, factoring and insurance companies, which was established in partnership with nine leading banks. It has nearly 200 members.[169]

### What was the problem?

It is aimed to design new products that will create value in the field of finance by experiencing the Designer Thinking and Lean Startup methods of the company employees and to raise awareness throughout the institution.

### What was done?

GOOINN has designed an intrapreneurship and innovation program that includes Design Thinking and Lean Startup methods. After the applications and the team selection process, 15-week workshops were held with four teams. Throughout the process, the methods of problem discovery, target audience identification with a persona point of view, learning field verification techniques, field interviews, data interpreting, idea development, business model design, preparing and presenting investor presentation in detail, and supporting them with mentorship throughout the process were applied.

### What was the solution?

- There were 4 teams that participated in the intrapreneurship process.
- More than 100 field and insight interviews were conducted.
- Digital access was provided to approximately 15,000 people.

## Case 8: Aksigorta - Launching New Business Ideas

Aksigorta is the insurance company under the partnership of Belgian insurer Ageas and Sabancı Holding. With its customer-oriented and innovative vision, Aksigorta serves its individual and business customers with 10 regional directorates, 664 employees, nearly 3000 independent agencies, 782 Akbank branches, 89 brokers and nearly 5750 contracted institutions.[170]

**What was the problem?**

Aksigorta has determined that it is important to be sustainable in the services it offers and that its innovative perspective makes a big difference in the activities that are done and will be done. For this reason, the company wanted to increase awareness of innovation, improve existing business processes, and uncover cross-selling opportunities and new business opportunities.

**What was done?**

GOOINN has designed a new 14-week entrepreneurship and innovation program. After the applications and the team selection process, five teams were determined. Throughout the process, workshops and presentations were held on problem and customer discovery, target customer experience, customer interviews in the field, business model, MVP testing, presentation techniques.

**What was the solution?**

- New focus areas have been identified and particular emphasis has been placed on sustainability activities. By organizing the determination of insurance premiums with a focus on sustainability, a new business model was created.
- A special insurance business model has been developed that focuses on diabetes patients, which includes additional services, and designs insurance policies together with patients.
- A new insurance model has been created for insurance purchases made with e-commerce.
- A new model has been developed, in which insurance policies are created according to the needs, and that provides assistance from experienced people whose expertise has been approved.
- A new model has been created that gives points to customers in each new policy and policy activities and enables them to use the insurance product they want with the points they have earned.

## Case 9: ING Turkey - Launching New Business Ideas

ING Group is a Netherlands-based multinational banking company. It provides services in areas such as insurance, commercial banking, investment banking and portfolio management. It has branches in 40 countries around the world and has more than 53 thousand employees.

**What was the problem?**

The company wanted to redesign new or existing services/products according to user needs, shorten the time to market for verified solutions, integrate ING's unique PACE methodology into its corporate culture, and establish a sustainable innovation structure that can turn its own wheels by training internal coaches.

**What was done?**

Within the scope of the ING PACE methodology, GOOINN has planned one-to-one workshops with special processes, tools and contents designed to add functionality to each of the Design Thinking, Lean Startup and Scrum methods. Multidisciplinary teams carried out metric-based structured workshops and field studies based on dedicated, learning-by-doing, in weekly detailed planned time periods. The solution sets developed in response to the needs verified in the field were put into repetitive trial and testing processes, ensuring that each part of the business model was validated on real customers.

In addition, GOOINN provided end-to-end department/channel specific solution validation experience that enabled to receive the necessary internal investment for the real product/service and business models to be included in the company project calendar by presenting the process outputs to the senior management, and provided 10 in-house innovations lasting 1.5 years in total, consisting of 3 in-house accelerator rounds in order to adopt the innovation competence in every unit of the institution.

It aimed for the development of the embassy competencies of the members who take part in the teams in each cycle with the role of team leadership in the following periods, and thus the dissemination of sustainable method ownership that extends to the capillaries within the institution.

**What was the solution?**

A total of 15 teams participated in 3 intrapreneur innovation tours.
10 products/services that went live, such as INGo, Digital SME, My Infinite Loan were developed.
More than 3,000 field and insight interviews were conducted.
Digital access was provided to approximately 75,000 people.
More than 100 innovation volunteers have emerged at ING, who ensure that innovation processes progress in a learning, developing, living and sustainable structure.

# Lists

**List of Abbreviations**

AR  Augmented Reality

ICT Information and Communication Technology

BNPL Buy Now Pay Later

DeFi Decentralized Finance Platform

EFA European Fintech Association

EMI Equated Monthly Installments

EU European Union

IoT Internet of Things

KKB Kredi Kayıt Bürosu

NFC Near-Field Communication

NFT Non-Fungible Token

RFID Radio Frequency Identification

RPA Robotic Process Automation

PaaS Platform as a Service

SME Small and Medium Segmented Enterprises

TBB The Banks Association of Turkey

TE Transaction Europe

VC Venture Capital

VR Virtual Reality

**List of Charts**

**List of Charts**

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