Fintech Ecosystem and Landscape in Russia

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Abstract: Fintech is today not only a hot mass media discussion of the future of the financial sector, but also real projects that change banking and financial services. The paper describes features and characteristics of contemporary Russian fintech landscape and ecosystem. The examples of innovative financial services in Russia, including online banking and accounting, new payments and transfers services, platforms for crowdfunding and peer-to-peer lending, blockchain initiatives, etc. are discussed. It is shown that fintech initiatives have not yet led to a radical transformation of the financial sector in Russia because participants of the fintech ecosystem have different points of view on fintech. Russian banks are now developing fintech initiatives within themselves, encouraging technology companies and fintech startups to focus their efforts on innovations that are aimed at improving processes, rather than opening new markets. The Government directs the main efforts to initiatives related to regulation of cryptocurrencies circulation and to introduction of blockchain in regtech and cybersecurity. Customers are interested in new and more convenient functionality in mobile applications, and they are waiting for new value propositions, including fast international money transfers, roboadvising, personal financial management, peer-to-peer lending.

Keywords: Digital banking, fintech, fintech landscape, fintech infrastructure, fintech business models.

INTRODUCTION

Financial Stability Board defines fintech as "technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services" (Financial Stability Board 2017). Basel Committee on Banking Supervision uses the same definition (Basel Committee on Banking Supervision 2017).

Global investments in fintech demonstrate phenomenal growth. Venture Scanner recently presented a report on total investments in fintech startups for the first quarter of 2018 with data on 1588 fintech companies from 65 countries received in total $90.6B investments in 1998-2018 (Venture Scanner 2018a; Figure **1a**).

In addition, a separate Venture Scanner report on investments in blockchain technology contains information about 330 companies that received in total $6.2B for initiatives related to blockchain technology and cryptocurrencies (Venture Scanner 2018b, Figure **1b**).

Investments in Russian fintech in comparison with the global scale are quite small. According to the director of the Center for Financial Technologies of the Skolkovo Foundation P. Novikov, "total investments in Russian fintech companies have been at the level of $50M a year for several years, against a background of several USD billions only in China" (Saltykova 2018).

Since 2014, KPMG is publishing the "Fintech 100" annual reports. The 2017 Fintech 100 report includes 50 companies - the leaders of the fintech industry and the 50 most dynamic emerging fintech start-ups (KPMG 2017). The distribution of companies by country is illustrated by Figure **2**, and the distribution by area of activity – by Figure **3a**. Table **1** includes data on top-10 companies from KPMG 2017 Fintech 100 report (among them 5 are from China, and 3 – from USA).

In 2016, the second part of the rating (the list of 50 fintech "rising stars") included 2can, the Russian company providing a solution for accepting payments from bank cards through smartphones. In 2017, not a single Russian company was included in the rating.

The Map of the Russian Fintech Market (Rusbase 2018) shows approximately the same distribution of companies by area of activity, as in the world (Figure **3b**).

All this testifies that fintech is today not only a hot mass media discussion of the future of the financial sector, but also real projects that actually change banking and financial services.

FINTECH BACKGROUND

The Internet revolution in the early 1990s seriously affected global financial markets. Most importantly, as a result of the Internet emergence, the cost of financial transactions has significantly decreased. Electronic

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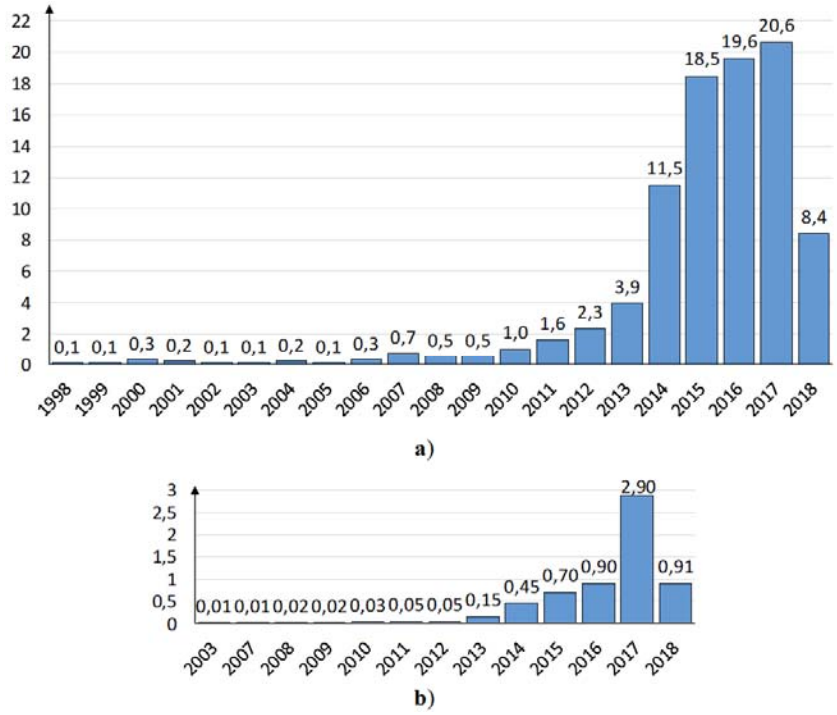

Figure 1: Total global investments in fintech (USD billions, 2018 data as on 2018/04/11): **a**) fintech startups funding (Venture Scanner 2018a); **b**) blockchain startups funding (Venture Scanner 2018b).

Table 1: KPMG 2017 Fintech 100 Top Ten (KPMG 2017)

No	Company	Area	Country
1	Ant Financial	payments	China
2	ZhongAn	insurance	China
3	Qudian (Qufenqi)	lending	China
4	Oscar	insurance	USA
5	Avant	lending	USA
6	Lufax	money markets	China
7	Kreditech	lending	Germany
8	Atom Bank	lending	UK
9	JD Finance	lending	China
10	Kabbage	lending	USA

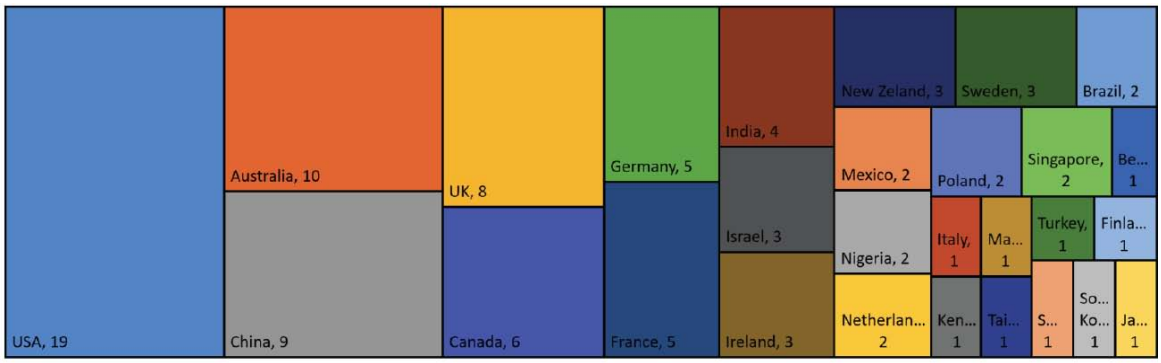

Figure 2: 2017 KMPG Fintech 100 companies by country (KPMG 2017).

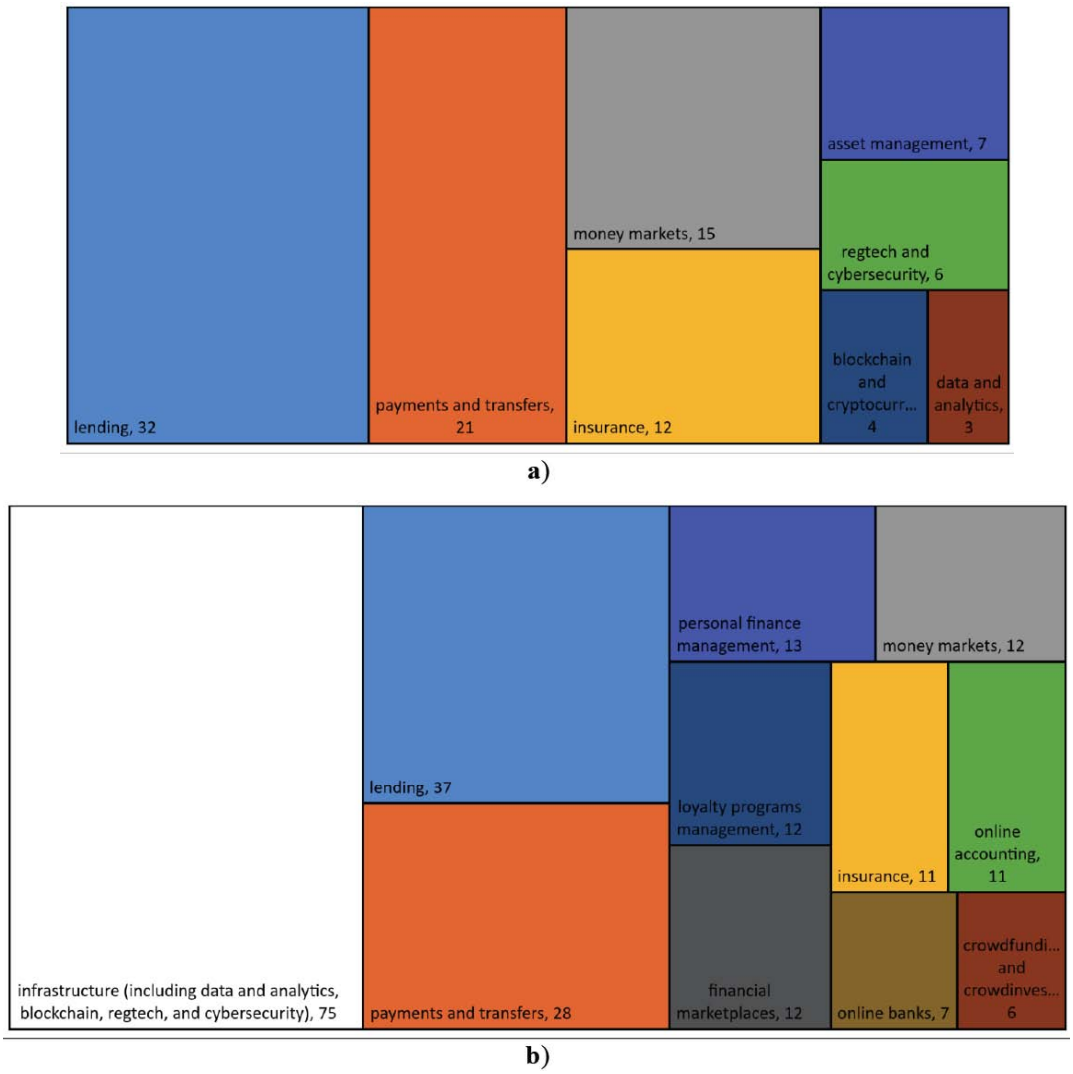

Figure 3: Fintech companies by area of activity: **a**) 2017 KMPG Fintech 100 (KPMG 2017); **b**) The Map of the Russian Fintech Market (Rusbase 2018).

financial services embedded in all types of financial services (including banking, insurance, securities trading) have allowed individuals and legal entities not only to receive information about financial products and services, but also to settle transactions on accounts without physical contact with financial organizations. In the 1990's, a lot of new business models emerged in the field of digital finance, including Internet banking and mobile banking, affordable online brokerage services, mobile payments. Many of these changes have led to a reduction in the number of bank branches and offices.

Banking was changed greatly by the Internet technologies. Since virtually every banking business process is substantially based on data processing, the speed of these processes has significantly increased by the introduction of information technologies with the reduction of operating expenses and the improvement of both internal interactions between banking units and interactions with existing and potential customers (Sathye 1999; Nielsen 2002)

Another example of digital financial services is online securities trading providing a competitive advantage by reducing transaction costs, as well by giving the ability to provide customers with access to investment companies' high-quality analytics.

In the mid-2000s, smartphones propagation led to an increase in supply and use of mobile financial services, which are technologically similar to the Internet-services, but since people do not part with their smartphones (unlike computers), financial and banking services available from mobile devices have enabled companies and individuals to manage their bank accounts, to perform banking transactions and to trade equities in 24/7 mode.

Among the main trends that contributed to the emergence of fintech innovations, first, commoditization of resources should be noted. Facebook, the largest social network in the world, does not own the user content. Uber, the largest transportation company, does not own cars. Airbnb, the largest housing booking system, does not own houses and apartments. At the same time, a typical bank owns tangible assets (bank capital, real estate, machinery and equipment) and intangible assets (licenses, brand, technologies and business processes).

Another important trend is the growth of "the new economy". The growth rate of traditional largest companies share prices lags far behind the growth rate of "new technological wave" companies share prices.

The third trend is the spread of information technology, the Internet and mobile devices: Internet penetration in the world grows by 11% annually, and the Moore's law, according to which the processing power doubles every two years, has been in effect for 50 years.

The fourth and fifth trends are the social networks development and the generations revolution. Today's users of financial services used to live with computing devices since birth, and the number of users of social networks is estimated at billions.

The focus on fintech innovations started to emerge after the 2008 financial crisis, when digital and mobile financial services were supplemented by the possibilities of artificial intelligence and integration with social networks. Fintech start-ups differed from traditional financial institutions primarily by offering new services. Some start-ups offered traditional banking services to those customers with whom banks did not work for various reasons. Other fintech companies offered fundamentally new services based on data processing and analysis.

For some time, there was a major discussion on the prospect of transforming banks into infrastructure service organizations providing fintech companies with basic financial services like clients' accounts management, while fintech companies will provide end-users with all financial services that will become niche and differentiated. But since banking sector in the 2010s was developing mainly by introduction and improvement of technologies, in fact the banks became the main beneficiaries from fintech - both developing fintech initiatives within banks and acquiring fintech startups.

Today, most banks and financial organizations are serious about fintech and pay significant attention in their strategies to competition, coexistence and cooperation with fintech startups. As a rule, banks position themselves in their strategies as financial services providers, payments and trading platforms aggregators, as well as marketplaces – "supermarkets" of financial services and loyalty programs offered by third parties.

FINTECH ECOSYSTEM

(Diemers *et al*. 2015) define the fintech ecosystem as a "collaboration … among governments, financial institutions, and entrepreneurs". (Lee *et al*. 2018) highlighted five basic elements of the fintech ecosystem:

- fintech startups (providing services for payments and transfers, money management, lending and financing, securities trading, insurance, etc.);
- technology developers (providing services in the field of big data analytics and artificial intelligence, blockchain and cryptocurrencies, cloud computing, social networks, etc.);
- government organizations (financial regulators and legislative bodies);
- clients (individuals and legal entities);
- traditional financial institutions (traditional banks, insurance companies, brokerage firms and venture capitalists).

Fintech startups in the field of payments and transfers, capital management, lending and financing, securities trading, insurance, etc. form the heart of the fintech ecosystem. These companies provide customers with more personalized services than they can obtain from traditional financial organizations, reduce operating expenses, open niche markets. As a result, financial services are splitting, effecting traditional banks negatively (Walchek 2015).

The consumer gets the opportunity not to rely on a single financial institution for all of her or his needs, but to choose different services from various fintech companies. So, a Russian company can get a loan not from a traditional bank, but from a peer-to-peer loan service like "Potok" ("Flow") or "Gorod Deneg" ("City of Money"). A legal entity can promptly, in two weeks, issue bonds with the help of "BondiBox", it can accept

payments using “Simplepay”. It can also use “Moyo Delo” (“My Business”) online accounting service. Individuals can also use peer-to-peer loan services like “BezBanka.ru” (“WithoutBank.ru”) to get a loan at a lower interest rate than from a traditional bank, without providing certificates of income and bringing guarantors. Other individuals can use the same peer-to-peer platform to lend money earning more, than from traditional bank’s deposit. Non-bank payment services, for example, “Pay-up.Payments”, allow clients to make safe purchases from online stores, to pay for various services, and to transfer money to any card issued by any Russian bank. To transfer money to a card issued by a foreign bank, a client can use “PayPal” online service.

Technology developers provide digital platforms for social networks, artificial intelligence and data processing, cloud computing, cybersecurity, blockchain, and mobile technologies. Cloud computing allows fintech startups to rapidly deploy online platforms without capital investment in infrastructure, and, if necessary, to scale elastically. Based on artificial intelligence and data processing technologies, advanced scoring systems, algorithmic trading strategies and robo-advising systems are developing, unique personalized client offers are creating, and the customer service is improving. Social networks promote the growth of communities, for example, the growth of peer-to-peer lending communities. Mobile operators can provide infrastructure for mobile payments and mobile banking. In turn, the fintech industry generates significant revenue streams in favor of technology companies.

Naturally, legislators and regulators are important participants in the fintech ecosystem, because they determine the rules. Thus, today the Draft Federal Law of the Russian Federation “On Digital Financial Assets” (Bank of Russia 2018a) is actively discussed, aimed at regulating relations that arise in digital financial assets creation, issuance, storage and circulation, as well as rights exercise and obligations performance under smart contracts. At the same time another Draft Federal Law of the Russian Federation “On Alternative Methods of Capital Raising (Crowdfunding)” is debated (Bank of Russia 2018b). This law is designed to regulate relations on the use of crowdfunding platforms for investments attraction, as well as on crowdfunding platforms organization. Being the mega-regulator, the Bank of Russia can simplify some procedures, for example, by creating some special regulative sandboxes for innovative financial technologies and services approbation. On the other hand, the order of the mega-regulator can stop any fintech service for a long time (for example, “VDolg.ru” (“Debt.ru”), the oldest Russian peer-to-peer lending service, was suspended in 2016 because its partner, RNCO RIB, was ordered by the Bank of Russia on the restriction of payments in favor of individuals and individual entrepreneurs).

While major customers in traditional banking are represented by large enterprises, fintech is primarily focused on individuals, small and medium-sized businesses. A significant part of fintech customers are “generation Y” people, and this is favorable for fintech, since technologically advanced representatives of this generation will make up the bulk of the population in the next few decades.

Traditional financial institutions also occupy an important place in the fintech ecosystem. Having competitive advantages over fintech startups in scale and financial assets, at the beginning of the fintech era, traditional banks and financial companies sought to impede the fintech development, understanding its destructive impact on traditional financial services. However, now there has been a change in the attitude of traditional banks and financial companies to fintech, and many banks develop fintech initiatives internally. So, “Potok” (“Flow”) peer-to-peer lending service is offered by Alfa-Bank. Sberbank actively uses machine learning services in various processes, from credit factory to customer service. Alfa-Capital Management Company have implemented investment strategies based on machine learning algorythms developed by the Financial University. Leading Russian banks have joined the FinTech Association and jointly develop several projects based on the Masterchain decentralized platform for information exchange and storage (depository system for mortgages registering; bank guarantees register; digital letter of credit; “Know Your Customer”). In April 2018, the member banks of the FinTech Association launched a prototype of the “Fast Payments System” for instant interbank payments and transfers by phone numbers and e-mail addresses. Initiatives in the field of identification, authentication and digital identity management, as well as open APIs initiatives are also actively conducted by the FinTech Association.

Among the neo-banks, that is, banks that do not have physical branches and are fully working in the digital space, two digital banks can be mentioned that are operating under their own license: “Tinkoff Bank”

and “Modulbank”. In addition, there are “RocketBank”, “Touch Bank” and “Tochka” (“Point”) banks, operating under licenses of traditional banks and in fact representing separate activities of these traditional banks. “TalkBank” is an interesting project working under the license of “Transcapitalbank” - it conducts all its operations in the “Viber” and “Telegram” messengers.

FINTECH BUSINESS MODELS

Fintech opens new ways of storing, borrowing, investing financial assets, payments and purchases, as well as providing security. There are nine basic types of fintech business models:

- payments and transfers;
- asset management;
- crowdfunding;
- peer-to-peer lending;
- securities trading;
- online banking;
- online accounting;
- insurance;
- blockchain and cryptocurrencies.

Payments and Transfers

Payment services represent a significant part among all fintech projects. This is due to relative simplicity of payments as financial products. First, fintech companies specializing in payments can increase the customer base relatively quickly and cheaply. Second, today the level of technology development in the area of payments allows the continuous introduction of new opportunities based on innovations. Third, payments are financial services, most popular among both legal entities and individuals.

Among the payment services for individuals, we can separately mention mobile wallets (for example, “Qiwi”, “Yandex.Money”), direct payments between cards of different banks (“Pay-up.Payments”), currency exchange services (many online exchangers, for example, Russian “New Line” and “ProstoCash” (“SimpleCash”) services allow to exchange bitcoins or ethers for rubles or dollars; although we do not know Russian peer-to-peer currency exchange platforms for traditional currencies, for example, one can use British “Kantox” or “TransferWise” platforms to exchange rubles for other currencies and make cross-border transfers).

To a large extent, development of fintech payment projects in Russia is associated with a large number of service providers accepting payments for their services, and with the needs of these service providers to do it more quickly and more convenient for clients.

Nevertheless, in the area of payments, transfers and currency exchange in Russia, the dominant position remains with banks that provide these services at a high level and with sufficient speed (until it comes to cryptocurrencies exchange or cross-border transfers, where fintech services provide customers with opportunities that traditional banks can not give).

Some innovative payment services based on the use of artificial intelligence have appeared recently. So, in May 2017, Bank Otkritie introduced “Otkritie.Payments” mobile application available on Android and iOS platforms. One of the functions of this application is “transfer by photo”: a money transfer can be made by photographing the payee on the smartphone camera or selecting her or his photo from gallery (Figure **4**). Then the image is transferred to the bank’s face recognition system, which identifies the recipient and returns the number of his bank card to the application. The sender has to choose her or his card, from which the transfer will be made.

In addition, implementation of services that facilitate payments in traditional stores is also actively developing in the consumer segment. So, POS terminals supporting “MasterCard PayPass” and “Visa payWave” contactless technologies have become de facto standard in Russia in record short time. Today no one is surprised when a customer make a payment by attaching a smartphone that supports “Google Wallet”, “Apple Pay” or “Samsung Pay” technology to the terminal. Similar technologies are introduced by manufacturers of the most diverse mobile electronics (for example, “Garmin” smart watches with “Garmin Pay” technology). Currently, there is a large-scale implementation of “Samsung Pay” technology for “Mir” Russian payment system.

Asset Management

Fintech solutions for personal finance management are also popular among customers. These solutions allow clients to visualize their financial transactions on

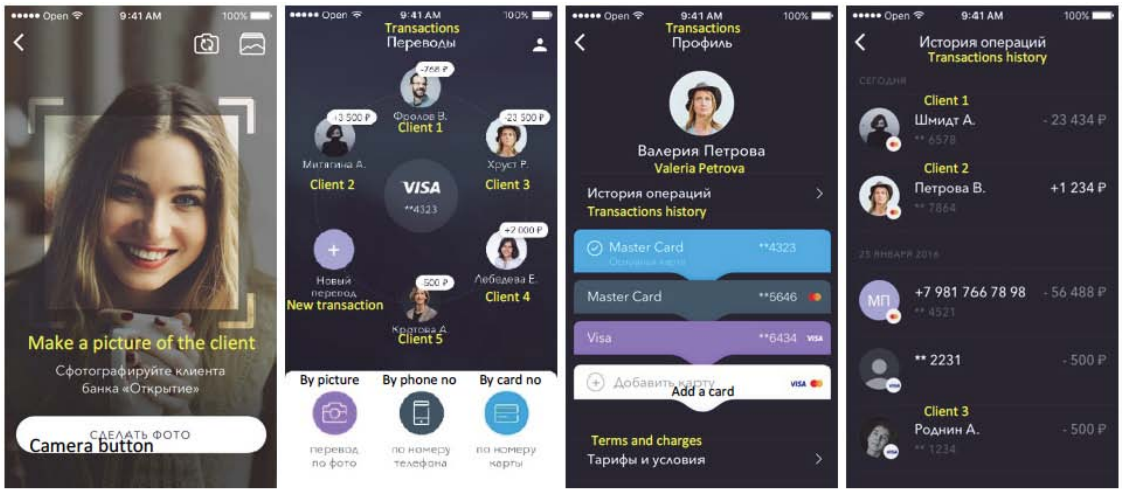

Figure 4: "Otkritie.Payments" mobile app user interface.
(https://play.google.com/store/apps/details?id=com.legionlabs.p2p.open)

accounts in different banks, analyze cash flows and identify patterns, and form personal recommendations. Working with personal finance management dashboards, customers realize the importance of controlling their expenses and savings, and they increase their interest in working with the bank. Visualization of expenditures and the forecast models help to plan vital activities and achieve financial goals.

One of the popular business models for financial asset management is roboadvising. The value proposition in these business models is advisory application for automating of money management by providing financial advices based on artificial intelligence and data processing for a small part of the cost of a real consultant. For example, the "Cashoff" service allows to manage the customer's budget by aggregating transactions into categories, providing expense reports and personal recommendations for reducing expenditures (Figure **5**).

"Panda Money" service allows to save money for realizing some dream in a game form: each accumulation is the process of feeding the "Panda" baby (Figure **6**).

Crowdfunding

Crowdfunding is a business model of services that allow to raise capital for new products development, companies' establishment, or charitable activities. A crowdfunding platform provides interaction between project initiators in need of funding and potential contributors who may be interested in supporting these projects. The platform automates receipting of funds for

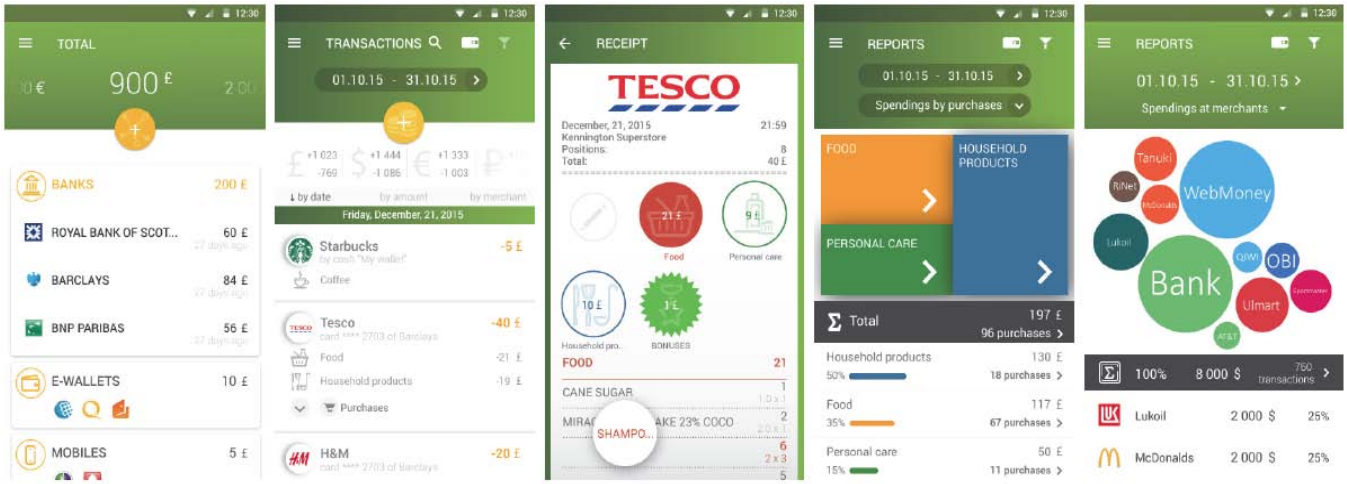

Figure 5: "Cashoff" mobile app user interface.
(https://play.google.com/store/apps/details?id=com.cashoff.std)

Figure 6: "Panda Money" mobile app user interface.
(https://play.google.com/store/apps/details?id=com.pandamoney.android)

the project through various financing channels and provides documentary support for transactions.

Global crowdfunding market volume in 2015 was $34.4B, by 2020 more than $100B and 2M of new jobs are expected (World Bank infoDev, Finance and Private Sector Development Department 2013).

Crowdfunding market in Russia is also growing. According to the Bank of Russia, the volume of the Russian crowdfunding market grew from 6B rubles in 2016 to 11B rubles in 2017 (Alekseevskikh 2018).

The most popular form of crowdfunding is reward-based crowdfunding. For example, investors get the

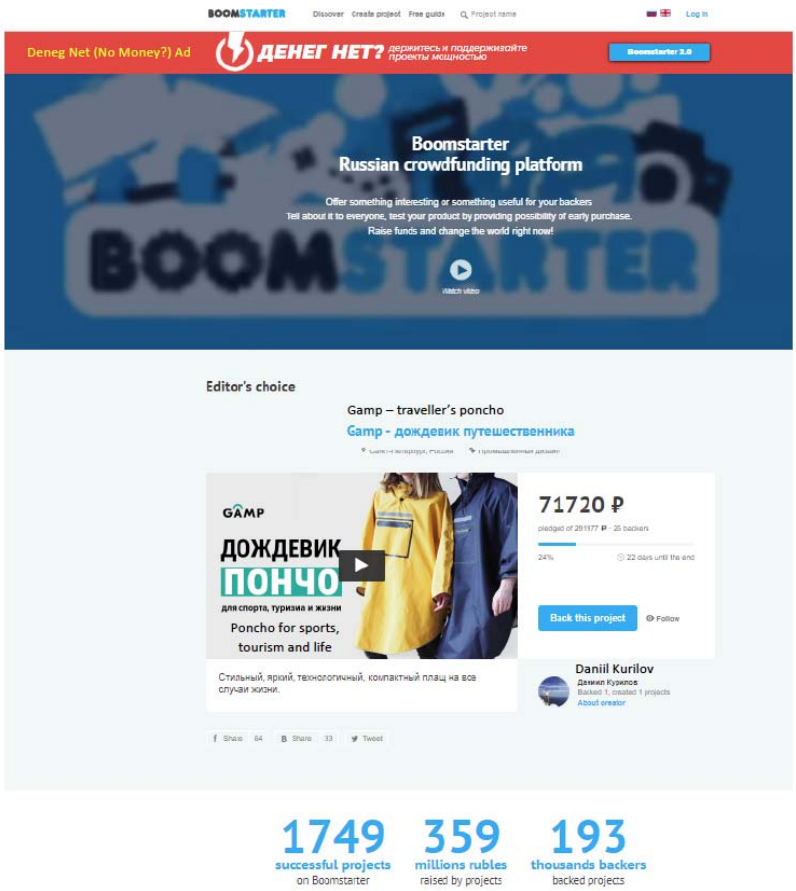

Figure 7: "BoomStarter" crowdfunding web-platform user interface.
(http://boomstarter.ru/)

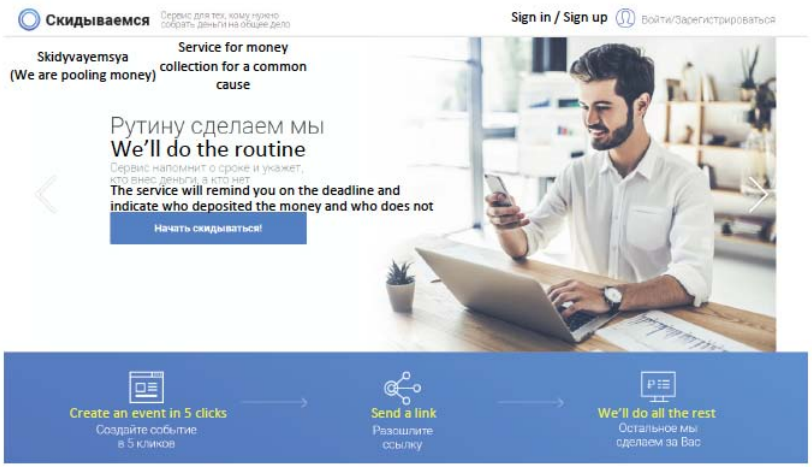

Figure 8: "Skidyvayemsya" ("We are pooling money") platform user interface. (https://chipin.online/landing)

opportunity to purchase a product they finance with a significant discount, as in the "BoomStarter" Russian platform - an analogue of "KickStarter", the World's most popular crowdfunding platform (Figure **7**). The second popular form of crowdfunding is donation-based crowdfunding when participants make donations, expecting nothing in return.

An interesting example of a new service in the field of crowdfunding is "Skidyvayemsya" ("We are pooling money") platform, which grew out of the OpenFights fintech startups contest held by Bank Otkritie in 2016. The platform allows to automate the collection of money for a common cause - on a gift to a friend, on a uniform for a hockey team or on an excursion for a class. The service automatically reminds all participants who received a link to the event, about the need to pool the money, and automatically transfers the collected money to the organizer's card. At the same time, participants see in real time how much money is collected, who has already contributed their part, and who still have not contributed (Figure **8**).

Peer-to-Peer Lending

Such a business model is implemented by fintech projects that automate direct peer-to-peer lending to and from individuals and legal entities without bank as an intermediary body. Peer-to-peer lending platforms place proposals on the availability of free funds from potential lenders and collect applications for a loan from potential borrowers. The execution of transactions takes place, as a rule, within the framework of civil legal relations in the form of loan agreements.

The most popular Russian peer-to-peer lending platforms are "Potok" ("Flow"), "BezBanka.ru" (WithoutBank.ru"), and "Gorod Deneg" ("City of Money").

For example, as of the beginning of May 2018, more than 46,000 peer-to-peer loan agreements for the total amount of more than 348.5M rubles were settled in the "Bezbanka" service (Figure **9**).

The volume of loan agreements settled on "Vdolg.ru" (Debt.ru"), the oldest Russian peer-to-peer lending platform, before its suspension in 2016, amounted to 422.5M rubles.

Alfa Bank's "Potok" ("Flow") service attracts money of individual creditors and diversifies investments, distributing them at least to 20 loans to different companies. At the same time, full profitability statistics is published in the public domain. From 2017 to May 2018, 2,411 loans were issued, of which 741 were paid in full, and for 1670 repayment period did not expire. At the same time, defaults were announced in 3.2% of cases, and the average net yield was 21.8% per annum (Potok 2018).

Securities Trading

This class of business models consists of solutions that automate the work in the financial markets, helping to choose financial instruments, estimating and forecasting price behavior, giving personal recommendations, automating electronic document management with brokers, operations on brokerage accounts, portfolio optimization and portfolio management. A wide range of payment instruments for cash input / output, with mobile platforms support makes such systems convenient not only for amateur

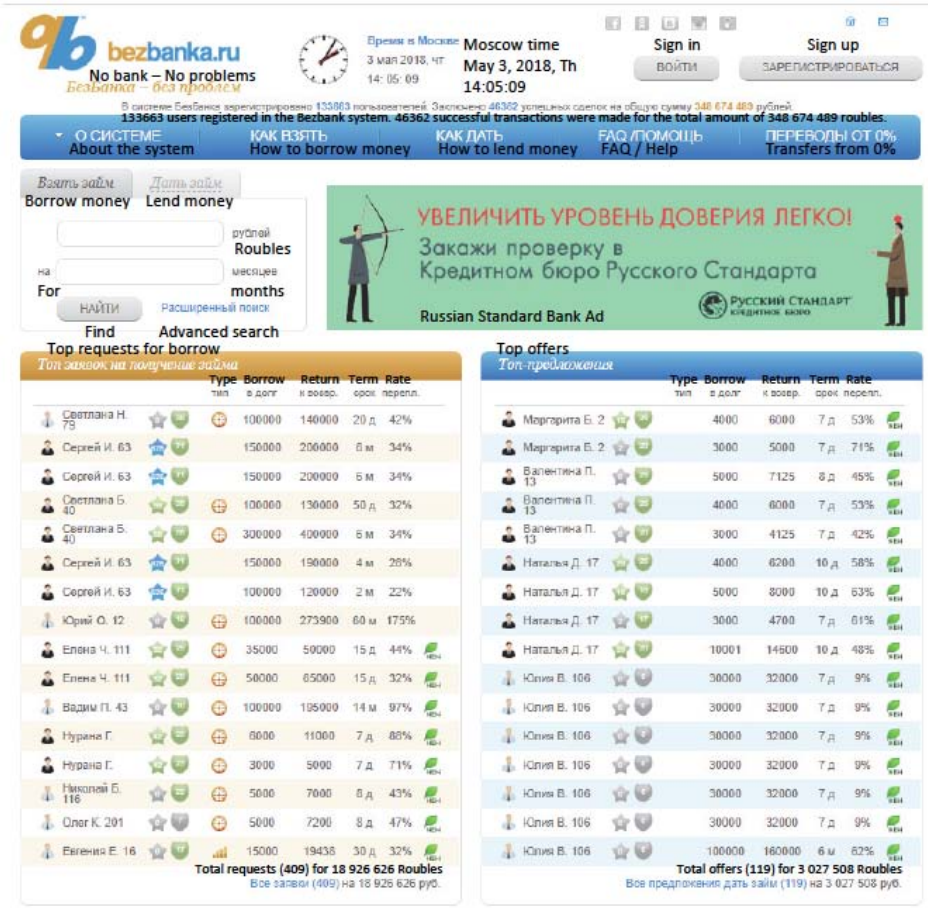

Figure 9: "BezBanka.ru" (WithoutBank.ru") platform user interface. (https://bezbanka.ru/)

investors, but also for treasuries of legal entities that prefer to invest free funds in securities.

For example, the "eToro" service is actually a social network of investors, allowing to copy investment strategies of other project participants (Figure **10**).

Alfa Capital Management Company offers its clients an investment strategy based on the machine learning algorithms developed by the Department of Data Analysis, Decision Making and Financial Technologies of the Financial University to predict stock market turnovers (Gaidayev 2018).

Online Banking

The mandatory functionality of the mobile banking app already includes same-client and client-to-client transfers; payments for utilities, mobile and fixed phones, Internet, and TV; payment templates creation and editing; currency exchange; deposits and accounts opening. The functionality of card-to-card transfers and derived services is actively expanding, including card replenishment from the card issued by different bank, cash-flow analytics, and other services.

The first five places in the "iPhone Apps" category of recent study of mobile banking apps efficiency (Markswebb Mobile Banking Rank 2017) are occupied by Tinkoff Bank, Binbank, Pochta Bank, Alfa-Bank and Russian Standard Bank, the leaders in the "Android Apps" category are Tinkoff Bank, Binbank, Alfa-Bank, Pochta Bank, and Sberbank. The five best mobile banks for Windows Mobile platform are Tinkoff Bank, Binbank, Uralsib Bank, Pochta Bank, and RocketBank. On the iPads, the best mobile apps are developed by Tinkoff Bank, Pochta Bank, Alfa Bank, VTB24, and Sberbank, and on Android tablets - Pochta Bank, VTB24, Russian Standard Bank, Raiffeisenbank, and Bank Otkritie.

Online Accounting

This class consists of solutions for personal accounting services for legal entities. As a rule, individual entrepreneurs, small and family businesses

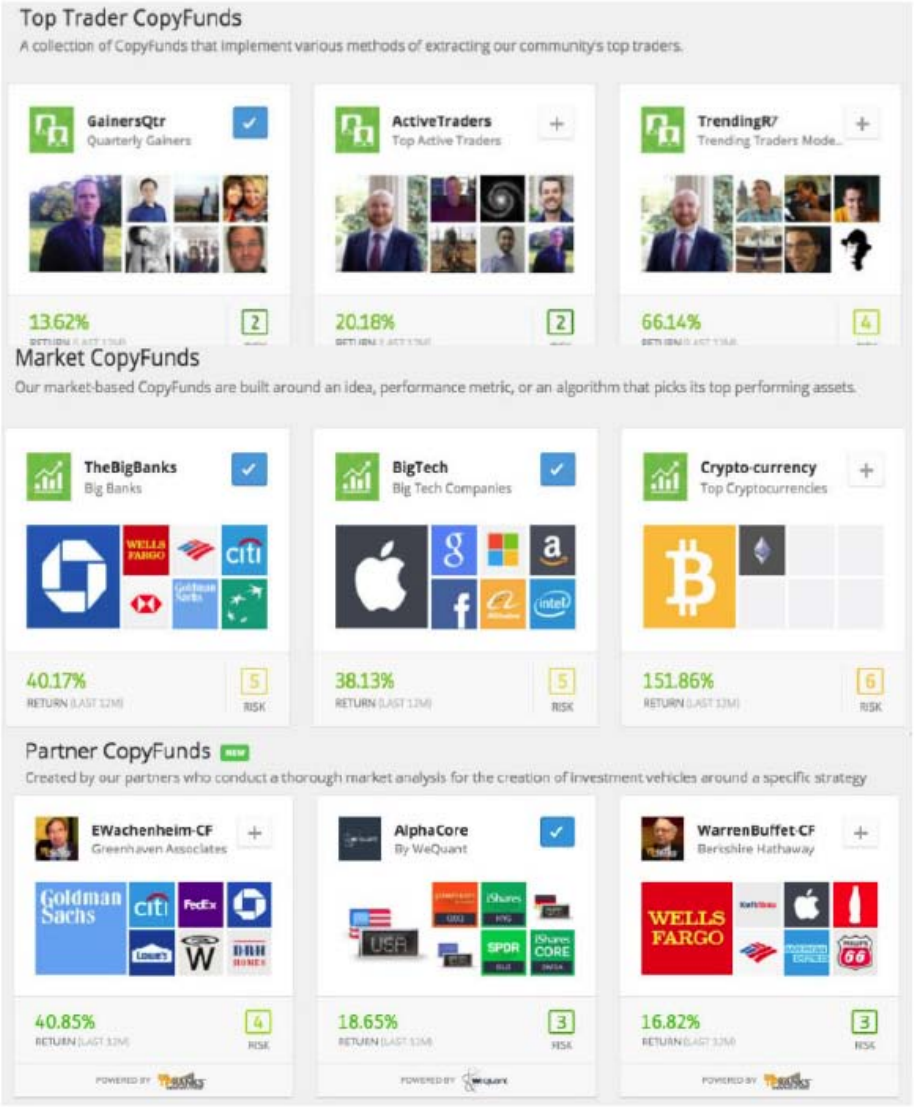

Figure 10: Strategy copying in “eToro” service.

are limited in funds and can not afford to keep dedicated staff including accountant, lawyer, secretary, etc. And if they save on quality and staff, doing everything on their own, they are distracted from the main business, and due to their lack of competence in the field of accounting and reporting, they can sustain significant losses from supervisory bodies’ claims and identified law violations.

Apparently, already 1.5M owners and managers of small companies (while total number of legal entities registered in Russia is slightly less than 5M) use cloud services that allow for 10-20K rubles per year to use website and mobile app to issue invoices to clients, calculate salaries for employees, maintain accounting and tax records, prepare reports and automatically submit it to the tax authorities via the Internet, automatically exchange data with banks, etc. In such services, almost any user get comfortable quickly, even without any idea of accounting.

The most popular Russian online accounting services are “Moyo Delo” (“My Business”), “Contour.Buhgalteria” (“Contour.Accounting”), “Contour.Elba”, “Nebo” (“Sky”), “Knopka” (“Button”), “Finolog”, etc.

A lot of banks, starting from Sberbank, are also offering now online accounting services.

Insurance

These businesses provide insurance services based on the use of various technologies, including telematic sensors, wireless communications, mobile applications, etc., and aimed to facilite the convenience

of purchasing insurance products, the convenience of using them, as well as to reduce costs and prices.

Unfortunately, the projects of digital insurance services, e. g., providing flexible insurance rates changing them in real time depending on the geographic location of the vehicle (in the simplest form charging insurance premium only for the time or distance that vehicles are in motion, as in the popular American "Metromile" service) or depending on the driving style determined by telemetry data processing, as well as the use of Internet-of-Things technologies, were unrewarded by success in Russia.

There are not peer-to-peer insurance platforms in Russia, similar to German "Friendsurance" platform created in 2010, which returns some of the collected annual insurance premiums back to customers if these premiums were not spent to pay damages (in 2017, a hundred thousandth client was insured by "Friendsurance").

Apparently, new services should appear soon in Russia, including innovative insurance products based on Internet-of-Things, artificial intelligence, etc., machine learning services for policyholders segmentation and scoring, as well as for coinsurance, insurers' operating costs optimization, and aggregation of targeted traffic.

Blockchain and Cryptocurrencies

Blockchain is a decentralized electronic mechanism for issuing, recording, exchanging special digital assets. In this case, usually information about transactions is not encrypted being always available. Cryptography is used not to restrict access to transaction data, but to ensure that transactions chain is unchanged.

And although, besides cryptocurrencies, most blockchain projects have not yet brought significant results, progress is already evident: real projects based on the blockchain appear in many areas, not just promises.

One of important blockchain trends is the use of smart contracts - cryptography-based algorithms that describe the terms of transactions in accordance with the rules of the platform in which these smart contracts are implemented, and provide automatic fulfillment of these terms.

The use of blockchain technology raises the level of confidence in the votings and guarantees the invariability of the results, since anyone can follow the voting progress by becoming a member of blockchain network.

Today in Moscow the blockchain-based "Active citizen" platform is running to conduct open electronic referendums. The project is implemented on the Etherium platform. For each vote, a smart contract is created, in which the storage and counting of votes is carried out. In this case, all votes are also duplicated on the computers of independent observers in real time.

Blockchain allows to replace and simplify all the certification services, for example, notary, as well as registries maintaining. From January to July 2018 in Moscow there is a pilot project on the use of blockchain to monitor the reliability of information from the Unified State Register of Real Estate.

On November 28, 2017 Sberbank and Alfa-Bank conducted the first payment transaction using blockchain. Megafon, one of the largest Russian telecom operator, transferred 1M rubles from its Alfa-Bank account to its subsidiary's account in Sberbank. To carry out the transfer, Sberbank installed three blockchain nodes, and Alfa-Bank installed one blockchain node. Banks also installed a client application. It may seem that it was much easier to use traditional methods of payment, but this project is in fact a landmark: as a result, giving experience of interbank settlements without the use of international interbank financial communication channels such as SWIFT.

CONCLUSION

The financial services industry of the future will look very different from what it is today. The landscape is expected to be more competitive and more efficient. It will provide much more customer choice. New value propositions, new products, services, and new markets will appear in financial services industry.

But as of 2018 banks still dominate in Russian financial sector. They are changing significantly, being really interested in investing to digitalization and fintech innovations that could help them to increase efficiency and reduce costs of existing business processes, to introduce new services, to improve customer service, to enhance clients' experience.

Russian "Tinkoff Bank" is the largest neo-bank in the World without branches and offices, there are some

other pure neo-banks, some neo-banks working as divisions of traditional banks, and most of Russian traditional banks provide now innovative online and mobile banking apps with smart payments and transfers functions, personal finance management solutions. Many banks provide their clients also with online accounting services competing with new non-banking online accounting like “Moyo Delo” (“My Business”).

Major Russian banks are trying to experiment with blockchain to get the best from implementing blockchain and smart contracts in their processes. There are also a lot of blockchain startups, but the market still waits for some significant blockchain-based services.

Few of banks are introducing non-traditional services like Alfa-Bank’s “Potok” (“Flow”) peer-to-peer lending competing with non-banking platforms like “BezBanka.ru” (WithoutBank.ru”).

In the field of crowdfunding and innovative securities trading there are some relatively small services and startups, as well as research and development carried out by traditional banks, but these markets in Russia are only beginning.

And there is still no insurtech at all in Russia, all initiatives of introducing smart technological client-oriented insurance products failed in Russia.

It should be noted that participants of Russian fintech ecosystem have different points of view on fintech.

Russian banks are looking for the ways to improve processes. For example, only a few of the Russian banks use artificial intelligence for customer service improvement, and most of banks implement machine learning scoring models mostly not to introduce new products but to reduce costs of existing processes. Most interesting fintech projects for banks are open APIs, registers and ledgers, cybersecurity, and regtech.

The Government, in its turn, does not see any big differences between fintech, regtech, and cryptocurrencies. So, it directs the main efforts to initiatives related to regulation of cryptocurrencies circulation and to introduction of blockchain in regtech and cybersecurity.

On the other hand, customers are interested in new and more convenient functionality in mobile applications, and they are waiting for new value propositions, including fast international money transfers, roboadvising, personal financial management, peer-to-peer lending.

Fintech initiatives have not yet led to a radical transformation of the financial sector in Russia. For real development of the market, it is necessary to coordinate the points of view of all ecosystem participants, and when it happens, many new innovative financial services will appear. And since there is no guarantee that banks will continue to dominate the new ecosystem, they are now developing fintech initiatives within themselves, encouraging technology companies and fintech startups to focus their efforts on innovations that are aimed at improving processes, rather than at opening new markets.

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