

Cashless Economy in Russia 2030: Scenarios for the Market and Industry



Cashless Economy in Russia 2030: Scenarios for the Market and Industry

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ANDREI SHARONOV,
President of the Moscow School
of Management SKOLKOVO

Everything changes — and that is the only thing that is consistent throughout the history of mankind. Representatives of business understand this rule more than anyone, because for them it determines the financial health of their companies. The rate of emergence of new ideas, business models and market changes is high enough to discard the illusion of the ability to be in control of it. In order for you to live in this market, you need to have a long-term vision and be sufficiently agile and responsive to the signals for the future.

It is impossible to predict the future, but analytical assessment of its possible development options, based on the trends and developments in each specific industry, is a feasible task. That is why the Finance, Payment and e-Commerce Chair, on behalf of the Moscow School of Management SKOLKOVO, initiated the project “Cashless economy in Russia 2030: scenarios for the market and industry.”

The book you hold in your hands is the result of a dialogue between experts and representatives of the financial services market and related industries, government bodies and independent associations — all of whom care about the future of a cashless economy and who want to understand the options of its possible development.

The scenarios presented in this book are an intellectual product, the key aim of which is to form an independent vision of the payments industry. As a business school we hope that this study will be used, primarily, in practice. The ideas described in this publication provide food for thought and may be useful for strategic decision-making and strategy development at the level of an individual, the company and the state.

And last but not the least, future scenarios are not there as a prediction to occur. We do not have to accept the future will be the way it seems today. On the contrary, paying attention to the signals of potential development and knowing the trends, one can participate in the creation of the world in which he or she really wants to live and to develop.



ALEXEY MALINOVSKY,
Head of MasterCard Russia

Mastercard celebrates 20 years in Russia in 2017. Together with our business partners, we shape the future of the payments industry. Research and forecasting, and the development of well-grounded citywide, regional, and national strategic scenarios are crucial to this process. The “Cashless economy in Russia 2030: scenarios for the market and industry” project brought together key representatives of the financial and finance-related industries and utilized leading global research and the experience of Russian companies. The result was new scholarly work containing valuable theoretical and practical information.

Mastercard has worked in partnership with the SKOLKOVO Moscow School of Management for many years, and the Finance, Payment and e-Commerce Chair is a product of this partnership. We believe that the study and analysis of the payments industry is the most important prerequisite to its continued and steady development. This, in turn, could have a positive impact on economic growth, and lead to a better quality of life for every citizen and the country as a whole.



VICTOR DOSTOV,
President of the Russian
Electronic Money Association

Cashless payments in Russia have seen a tremendous change during the last few years: There has been a considerable increase in their volume but, more importantly, there was a shift in the perception of cashless payment methods—the population began to consider them as the norm, often preferring them to cash. Besides, the cashless payment ecosystem became “complete”: almost any payment from taxi to tax can be made without cash instruments.

The need for the mid-term analysis of possible alternative paths for cashless economy development became evident after the solution to these basic problems was reached. From this point of view, this study, which is based on the scenario approach, is very timely, consistent and effective. It highlights major industry trends and directions, forming a framework in which scenarios of cashless economy development are studied. This allows analysis of possible trends and trajectories that result from combinations of key factors, putting aside at the same time the fine details of the ways scenarios are to be implemented.

The study is structured in the manner of “if... then...” assumptions and although this does not lead to a single answer, this is more of an advantage. It was important that the authors were fully aware of the variability of scenarios and the fact that the payment ecosystem is a part of the overall economic and political situation. Its trends, although not always predictable, are critical for choosing ways of developing cashless payments.

It was very useful for me to take part in the discussion of this study alongside the wonderful analysts, business and academia representatives. I am confident that this study will be useful to all those involved in the medium and long-term prospects for developing cashless payments.

Change is the law of life.
And those who look only
to the past or present
are certain to miss the future.
John F. Kennedy

The share of cashless retail payments in Russia today is about 30 percent, at the same time cashless payment methods are actively used by more than 50 percent of the population. The financial market participants and general public were not ready to use cashless payments for daily operations like paying for goods and services as recently as 10 years ago. Payment cards were used mainly for cash withdrawals at ATMs. The success achieved by Russia in the area of cashless payments during recent years brings it to the verge of becoming a cashless economy. Hence, the key market players, faced with new goals, are required to respond effectively and timely to a variety of new challenges and are forced to analyze, overcome and take advantage of new uncertainties and opportunities.

In order to determine possible paths for the development of retail cashless payments market the Finance, Payment and e-Commerce Chair of the Moscow School of Management SKOLKOVO launched a project “Cashless economy in Russia 2030: scenarios for the market and industry.”

Our independent view on the future of the payments industry and its impact on the economy as a whole provides grounds for constructive and productive dialogue among all of the key payment ecosystem participants in the country.

More than 50 experts from different areas of economy participated in the project. They shared views on key elements of the industry, its trends and events that will shape the form of a cashless Russian economy over the course of the next 13 years.

The key findings of the project are presented in this book. With this book we want to show the alternative future states of the cashless economy in Russia to all the interested participants of the retail payments market. We hope that the developed scenarios will be used by them in planning and will shape their own approaches and strategies. Our team will continue to work with key stakeholders in the economy to foster the dialogue between them, as well as to develop and implement the most effective solutions to achieve the desired version of the future.

We believe that the results of this study will allow key market participants to get a fresh look at the contemporary retail payments market and to develop a unified approach towards the establishment of the cashless economy in Russia. During the course of the next 13 years new risks will emerge. However, the new comparative advantages of Russia may be unveiled and the long-run growth of the economy may be facilitated if the retail cashless payments market is developed using the correct approaches.

Over the last 5 to 10 years the cashless economy has evolved from an abstract concept to a tangible reality. Russia is just a few steps away from the new economy, however, when it comes and what it will look like is still unclear.

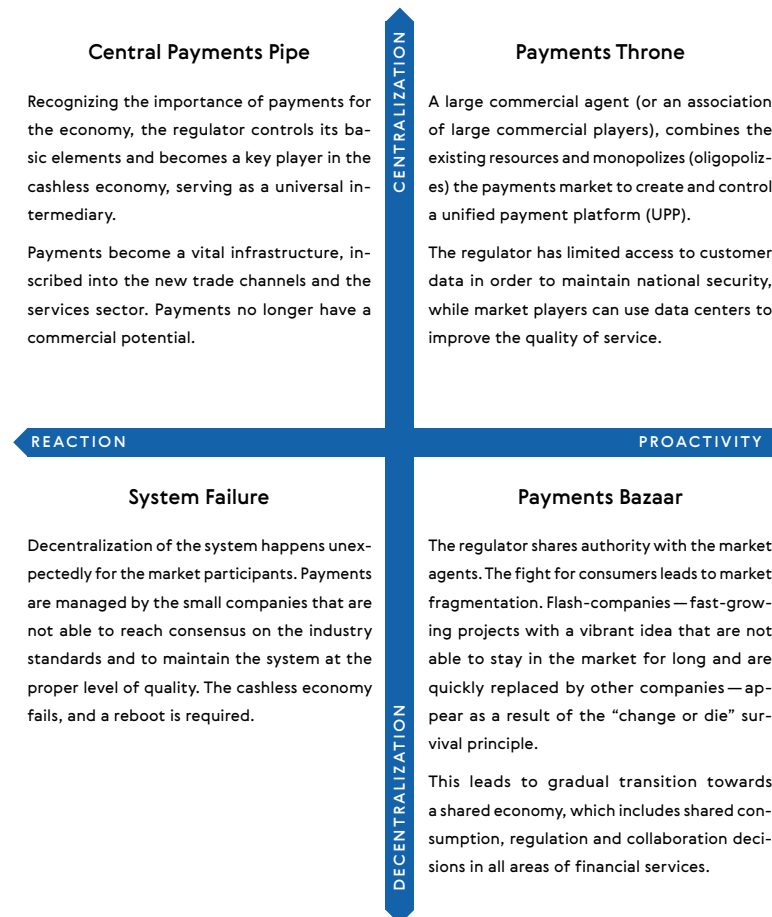
On the one hand, old habits are strong: Russians find it difficult to stop paying with cash. On the other hand, new trends formulate the configuration of the future cashless economy. Key uncertainties are concentrated in the behavior of economic agents and the structure of the external environment: the economy is fluctuating between proactivity and reactivity (in agents' behavior) and between centralization and decentralization (in the systems structures). The dominance of one or another trend will influence the resulting cashless economy in Russia.

Recognizing the necessity of pursuing strategic actions in the new economy motivated us to create scenarios for a cashless economy in Russia in 2030. We define cashless economy as the state without barriers for any payment method (cash or cashless) at any time and, when the major market participants are aware of their benefits, from using every existing payment method. Apart from that, a cashless economy is going beyond the payments industry and needs to take into account a wider range of effects.

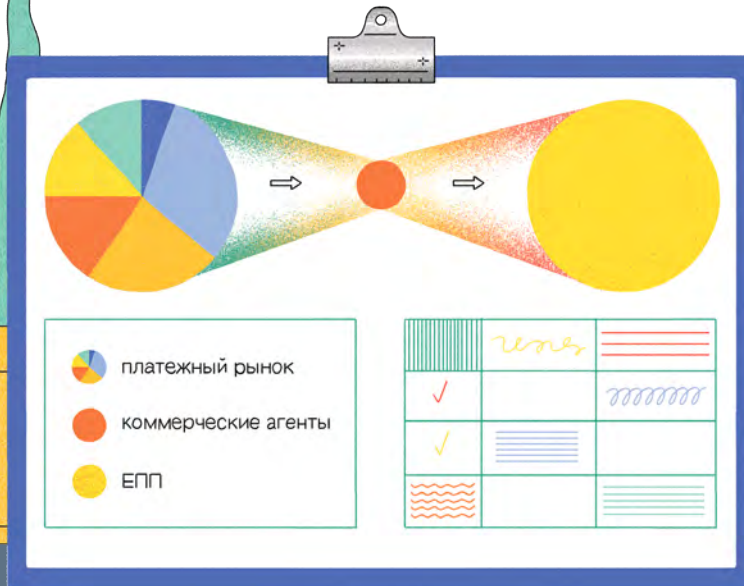
Scenarios resulted from a foresight session, a series of expert interviews and the work of a task group on scenario dynamics that included representatives of all the key agents in the cashless economy. We offered experts a certain structure but decided not to make it binding, in order to get more insights from them.

The results of this project will show users an independent analysis of the industry in the long run and help to identify alternative options for a cashless economy. The proposed scenarios are in no way the most probable future options. On the contrary, they show alternative configurations of a cashless economy in Russia. Understanding all possible options might expand the strategies of the agents, e.g. by including opinions that were not taken into consideration before. The results obtained are a foundation for further discussion and direction for developing new projects.

The proposed scenarios will be useful to everyone related to the economy and especially to the market for cashless retail payment services. Scenarios will help them formulate long-term strategies, including regulation, for the sustainable development of the Russian economy.



Paper currency
has become
a major impediment
to the smooth
functioning
of the global
financial system.
Kenneth Rogoff



A cashless economy is usually considered to be “a world without cash”, especially in the media.

In fact, it appears much sooner, even before cash becomes extinct. Academic research states that the main feature of a cashless economy is the lack of discrimination between cash and cashless payment instruments. This means that the choice of payment method to be used depends mainly on consumer preference, not on the costs of using any particular method or the availability of the necessary infrastructure. Costs here include not only the direct cost of using a particular payment instrument, but also all of the indirect costs and intangible barriers of executing a cashless payment.

Being the most popular contemporary cashless payment instrument, payment cards are a great example of why a cashless payment might be more beneficial than a comparable cash-based payment. They have a number of advantages over cash such as those in security, transparency of operations, and improved personal financial management. In addition, the development of cashless payments contributes to the stability of the financial system and overall economic growth of the country.

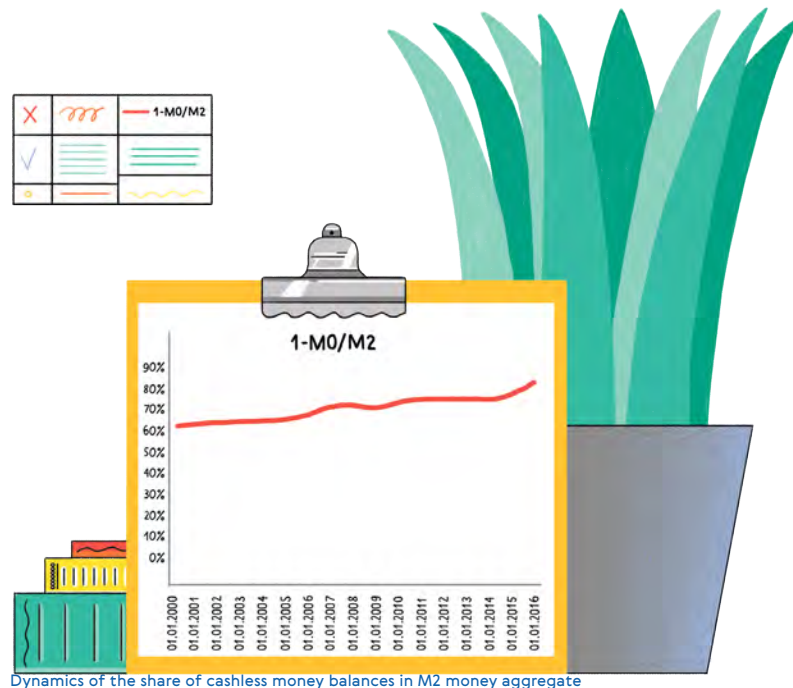
There is, as yet, no accepted definition of the cashless economy as the concept is still in its early stage. However, some defining features of a cashless economy can be deduced from the effects of the development of a cashless society on the key players in the retail payments market and the economy as a whole.

These core elements are:

- the increase in cashless retail payments volume and value, which is a consequence rather than the cause of the transition to a cashless economy;
- the situation when the use of cash, including its withdrawal, becomes much less beneficial for all of the market participants, including consumers;
- the increase in the number of cases where standard economic theory stops working properly, for example, negative interest rates that fail to stimulate economic growth, contrary to expectations; and
- the increase in transparency, economic stability and growth.

Given all the above, we propose to define **CASHLESS ECONOMY** as an economy in which **there are no barriers to executing cashless payments by any method at any time and where all of the major market participants are aware of the necessity of and benefits from paying cashless.**

The share of cashless payments in Russia has not grown as fast as the main players would like it to. During the period from 1 January 2015 to 1 January 2016, the increase in the share of cashless money balances in circulation in the country was equal to 2 percentage points (calculated using the formula $1-M0/M2$, where M0 is cash in circulation; and M2 includes, in addition to cash, balances on current accounts, time and savings deposits in commercial banks and short-term government securities).



At the beginning of 2016 Russia was behind its BRICS colleagues in terms of the share of cashless money balances in circulation: in Brazil the figure was around 91%, in China 95%, in India about 86%, and in South Africa 93%, whereas in Russia it only reached 80%.

Despite this, Russia is one of the top 10 global economies, measured in terms of the volume of cashless payments¹, mostly due to the large size of the market. According to the available statistics, the rate of growth of cashless payments volume surged: in 2014 in comparison to 2013 it reached 48.7% while in the first quarter of 2016 in comparison to a similar period in 2015 it stood at 34.68%. The growth rate of transaction value also declined: in the first quarter of 2016 compared to the first quarter of 2015 this figure was equal to 17.42 %, while in 2014 it was 33.15%.

In spite of the fact that in the first quarter of 2016 compared to the first quarter of 2015, the number of cash withdrawals slightly increased (4%), the value of withdrawals dropped by 5 percentage points (from 73% to 68%). This is a positive sign in favor of the development of cashless retail payments, however, the issue when consumers use cards only for cash withdrawals from ATMs is still significant for Russia. The stability of this kind of consumer behavior can be explained by the fact that they are not aware of the benefits of cashless payments and do not trust the online infrastructure such as online banking due to their lack of financial literacy. On the contrary, a unique infrastructure of payment terminals plays an important role in Russia. This feature of the Russian retail payments market significantly affects the transition towards a complete use of cashless payment methods using bank accounts, namely the account-to-account transfers without reference to any form-factor whatsoever.

In general, looking at the dynamics of growth of the share of cashless money in circulation, one may conclude that the market equilibrium between cash and cashless money in Russia is suboptimal, yet, fragile. There is a potential for an increase in the share of cashless money in circulation, however, the behavior of the market agents (every cashless economy ecosystem participant, including the commercial players, regulators and consumers) is fairly steady, and the movement towards an optimal equilibrium requires certain market or administrative reforms and stimulating measures.

¹ World Payment Report 2016, Caggemini and BNP Paribas (based on 2014 data)

Both the government and commercial players realize that a cashless economy is a new stage in the financial and economic development of Russia. Is it possible to predict its future? No, but certain trends that are evident now or expected by market experts in a few years can help anyone who is involved in cashless retail payments to be proactive and to plan their actions properly.

To guide the efforts of the market participants towards the establishment of the desired version of the future, it is necessary to depart from the routine and narrowly focused questions aimed primarily at strengthening existing business models and strategies or improving short-term success indicators (KPIs). To some extent scenarios can answer these questions as well.

However, **the main objectives of this project are:**

- to try to describe the future of a cashless economy
- to identify its main effects on each of the agents and the market as a whole.

Some versions of a cashless economy can fundamentally change the usual order of things for the majority of agents. Understanding these alternatives will either help confirm some of the strategic decisions and choices regarding existing/new business models or force them to be revisited. In any case, this analysis will allow every player to think “what would it feel like in this scenario”, and will also help to understand what problems may exist for various companies, whether their solutions can be integrated into existing business models or whether there is a need for change.

The scenario framework presented in this document is not intended to serve as an immediate solution to all of the problems of any agent, especially in the paradigm of the existing business models. On the contrary, the scenarios described should be considered as a base and a platform on which the solutions, including those regarding current models, products and services can be developed. Based on these scenarios one can consider creating a more specific product for the needs of both new players and incumbent agents.

It may seem that a cashless economy in 2030 is still a distant future, which is impossible to describe even in the most general terms, or that it is not applicable to the Russian case and the time period is too short for any significant changes to occur. Yet, 2030 is closer today than 2000, and the cashless payments penetration rate in the lives of Russians is growing faster than the rate of the Internet penetration during comparable periods. Therefore, a cashless economy in one form or another is an inevitable future for our country. Understanding the alternative versions of its development will help different economy participants, regardless of the segment or industry, to understand the key characteristics of a future cashless economy and to build their strategies properly.



As far as the laws of mathematics refer to reality, they are not certain, and as far as they are certain, they do not refer to reality.

Albert Einstein

Due to the events that happened a few years ago, the future global development slightly changed its direction. Before moving on to Russia and payments industry specific trends, it is necessary to mention some of the most relevant global trends that are able to affect the look of financial services and a cashless economy around the world, including Russia, over the next 13 years.



Globalization or localization?

The fight between localization and globalization continues. On the one hand, such events as Brexit, bilateral reciprocal sanctions between Russia and other countries are signs of political and economic localization. On the other, the acceptance of refugees and opening up of Iran are great examples of expanding globalization. These two mutually exclusive trends influence the financial system structure in different ways in each country. In Russia the most vivid example of localization in a cashless environment is the creation of the National Payment Card System (NSPK). Localization in this case is associated with the control of necessary infrastructure in order to lower systemic risks. However, globalization of the payments market is still present, although not in relation to critical issues but to the diversity of products, processes, companies, etc. that allow customers needs to be satisfied in a more complete way. For example, in the autumn of 2016 APPLE PAY and SAMSUNG PAY entered Russian market, while ANDROID PAY joined them in May 2017.

The diagram on the clipboard includes the following elements:

- Two small circular charts: one solid blue, one divided into six yellow segments.
- A large circular chart divided into four segments: yellow, blue, green, and red.
- Legend items:
 - Blue circle: рынок
 - Yellow triangle: flash-компании
 - Red circle: shared-экономика
 - Yellow circle: потребление услуг
 - Blue circle: регулирование услуг
 - Green circle: решение услуг
- A table with three columns and three rows:

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### Stricter banking regulation

The regulation of the banking system becomes stricter and more complicated. The government control of banks influences not only the creation of certain norms and rules but also the everyday operating activities and structure of banks. Some experts think that there is a strong trend towards the creation of government banks and their increasing role till 2030. The example of such toughening banking regulation in Russia could be seen in the increased number of revoked banking licenses during the last couple of years.



### Technology development (artificial intelligence (AI), virtualization, blockchain)

Technologies are developing at a very fast pace, influencing the services and the way they are offered to the customers. Robots and AI replace investment managers and traders, the Internet and new identification technologies give an opportunity to get financial services online allowing banks to decrease the number of branches, while blockchain could completely change or even replace certain agents in the future financial industry. The payments market is not an exception — on the contrary, it is one of the most popular areas for financial innovations: from aggregators and payment cards optimizers to different types of form-factors. Cryptocurrencies, such as bitcoin, have a chance to become money equivalent in the new cashless economy.

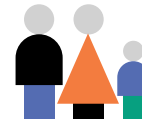


### Personalization, seamless experience, data analysis and return to simplicity

Simple and easy solutions, intuitive interface are features that most consumers are looking for in new products nowadays. Increasing demand for “seamless” payments is one of the reasons why such online giants as GOOGLE, AMAZON and ALIBABA create and introduce their own payment solutions. New technologies allow both customers and companies to get proper communication and feedback in real time. In the case of customers, these are targeted offers of similar products that they might like. For the

company, these are reviews on the service or product. This results in a better interaction between client and the firm.

Big data analytics is used more often to customize and personalize recommendations and offerings. This helps establish trust and personal relationships between the client and business, and firms as a result start including customers in their **value chain** at the early stages of product development. Clients, in turn, are willing to share larger amounts of personal data to increase the quality of the service they get.



### Financial inclusion and harmonization of privileges — inaccessible services become accessible

The large part of financial services that were earlier available only for certain population groups become available to a wider audience. New players, in particular fintech start-ups that actively enter the market, start offering services that are much cheaper than those offered by traditional institutions. Investment management was in demand among rich social classes. However, now there are fintech start-ups that provide technological solutions for investment analysis as well as securities trading that are more efficient than most of the investment managers. A good example of this in the payments market is money transfer. One can transfer money via social media, mobile operators, messengers, card-to-card, account-to-account: all these niche solutions find their users.



### Ageing population and urbanization — new products and services

The increase of average life expectancy, as well as a decrease in fertility rates, especially in developed countries, is another trend that influences the financial services offerings. The lifestyle of elderly people is very different from the lifestyle of younger generations, therefore such groups of customers demand different services, products and channels or the way they can be accessed. Providers of financial services should take into account these issues via new products and interface improvement.





### Payments — new methods and providers

The payments market becomes more and more attractive to different agents. Technological giants (GOOGLE, APPLE), telecommunication companies, online-retailers (ALIBABA, AMAZON) are trying to enter the market of cashless payments. Simple and seamless payments at the checkout might increase the profit of these non-finance related companies. Some firms in other sectors introduce payment method as a competitive advantage and a key element of their business model (e.g., new taxi services such as UBER).



### Energy — what is next?

The energy industry has been undergoing heavy changes for the past years. Decreasing oil prices influenced the economic development of most exporting countries, including Russia. Despite this, the demand for energy is increasing, especially due to the transfer of all of the information and work to the servers and virtual clouds. The financial industry is very dependent on the availability of energy since all of its operations are done online.

Currently the volatility of price and supply of extracted oil, as well as the development of alternative energy sources, make countries dependent on natural resources think about long-term strategies in line with the new reality.

## Main trends shaping the Russian cashless economy during the next 13 years



### Stricter regulation

One of the most important trends in the market is toughening regulation including governmental regulation. On the one hand, it may prevent the occurrence of unscrupulous players that deceive clients and increase systemic risks. On the other hand, experts worry about too much regulation in innovative fields (e.g., fintech activity) at the early stages of development. Overall, for the time being there is a tendency to increase regulation and monitoring in both the short and long term.

The main changes in the cashless retail payments market occur to a major extent in the following three areas: regulation, new business models, and infrastructure and technology. Nowadays, in all of these areas there are trends that affect agents' current expectations.

Overall, present micro trends indicate that the payments industry is unlikely to remain unchanged. It should be noted that there is a probability of an adverse development in a cashless economy, if the agents do not take into account in their strategies some of the following trends or use these trends in a better way to create the desired future.

The ideas described below have fed into the foundation for scenarios and touch on all the elements of a cashless economy and financial services industry.





### Increasing role of payment systems

This trend concerns not only established players in the global market, e.g. payment giants (VISA, MASTERCARD) that are looking for their future niches by collaborating with new and old players as well as creating innovative products, but also the Russian national payment system — MIR. With sanctions being imposed on the Russian government, centralization of the payment market has become visible and, at the same time, controversial. For instance, in 2016 a law was introduced requiring that all government employees should get their salaries on the MIR card. Experts consider that the Russian regulator will continue to stimulate activity of the National Payment Card System (NSPK), although this might have a negative effect on the development of the payments market. One of the examples is the discrimination against government employees who are obliged to get their salaries on a specific card. On the other hand, such stimulation might lead to unfair competition and hurt the commercial players and the market. The market participants are also expecting market domination by legacy systems and business models based on the principle of economies of scale.



### Increasing speed of change

Today many things change much quicker than before: technologies, infrastructure, structure and the content of information, behavior of people, etc. As a result, many players are unable to catch up with all of those changes. However, while the replacement of one business by another (simple market survival) is only beneficial for the market due to “survival of the fittest”, slow actions by the regulator might have negative and more serious consequences.

If the regulator lags behind the changes in the external and internal environments (and this is what most experts are concerned about), then the financial system in the country is under the threat of slowdown while innovations are doomed to stay at the early stages of ideas without their implementation. On the one hand, such reactive behavior of the regulator could be explained by the fact that it usually adapts to the events already happened in the past.

On the other, any regulator is capable of leading by example since there is a lot of open data on both cashless economy development and regulation of financial areas in other countries. By following the current status of the regulatory landscape in other countries, especially global examples of best practices, as well as taking into account local specific practices, it is possible to plan effectively and efficiently our own actions in both the short and long term.



### Development of form factors

Currently, apart from traditional plastic cards, it is possible to pay with wearables (rings, bracelets, watches) and smart devices (smartphones, tablets), through online gateways, and with the use of integrated billing, etc. In the future, innovative technologies will simplify payments even further (in both online and offline channels) making them seamless and fast. However, the trend of the form factors development is rather controversial.

On the one hand, the client wants simplification of the services and a limited choice of form factors (in order that the user is not lost or discouraged while making a choice), meaning a small number of universal form factors. On the other, technologies and innovations make an abundance of payment methods possible and affordable.



### Changing an intermediary's role

Nowadays, the roles of financial intermediaries are changing: some of them disappear, some of them move to digital space. Banks, according to experts, perform too many activities relying on their own internal departments, which could negatively impact their profits. Some functions, such as processing, are easier to outsource. That is why some experts believe and expect a dramatic reduction of in-house processes: banks will rapidly get rid of inefficient internal processes and functions. Due to the active development of global platforms, traditional banks are expected to either “die” and transform into IT company analogs, or change through business model modernization.



### Changing consumer behavior and rejection of traditional segmentation

New consumers — **MILLENNIALS** — want to have easy, simple and quick access to payments. They give away their own data freely and do not think much about privacy and security. They have a better knowledge of financial services from different sources. Importantly, as the “smart-way” of doing things spreads to every aspect of life, people become more proactive and cautious with their behavior, especially in finance related matters. Consumers choose more beneficial, better “value-for-money” services. They easily change providers if those offer better options. New clients live in a 24/7 online regime and check their smart devices up to 100 times per day — all these give new opportunities and a foundation for competitive advantage, as well as challenge the existing financial services companies.

New consumers make companies act in a proactive way and consider a better segmentation of their client base. One of the trends is segmentation by lifestyle which is very popular in different industries and is now moving into the financial services sector in Russia. Experts expect that in the mid or long term, the boundaries of socio-demographic factors will be removed, and gender and age will no longer define consumer segments.



### Increasing levels of security

For the time being, the threat of cyber attacks is at its highest level. The global hack is very probable and is actually happening. The Wannacry attack, in May 2017, is a good example of how much companies and governments might suffer without proper protection from such computer viruses. Russian experts claim that each day approximately 300.000 **NEW VIRUSES** appear.

Such global cyber attacks might not necessarily be aimed directly at the financial system. Any critical infrastructure is on the radar — telecommunications, energy or payments. The solution that might partially help in this case is a cyber police force that exist in some countries and is currently being set

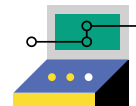
up in Russia. Another issue is related to multilevel identification of users and verification of their actions in order to minimize and control the risk of a cyber attack. Security systems are in high demand in the payments market, however, the proactive and cautious behavior of users is also important.



### New identification methods

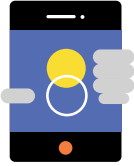
This trend is partially related to the previous one, since new identification methods come from higher security levels. However, this trend is so important that we decided to point it out, since it can both make the life of all market agents easier and more difficult at the same time. Currently there is an active discussion in Russia which identification method might be universal and equivalent to a paper passport. The introduction of such identification will simplify the access to online services, especially financial ones.

Moreover, high-quality biometric identification, e.g. voice or face recognition, simplifies the life of the client and provides companies that implement such ideas in real life with a competitive advantage. Experts expect that new methods of identification will appear in the short/ mid term in Russia due to global sporting events (e.g., the Football World Cup in 2018).



### Internet of things

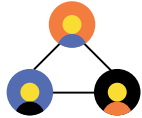
The popularity of the Internet of things could change dramatically an individual's daily life and possibly even the structure of whole cities. For example, new methods of urban planning, called “smart-city”, is directly related to the Internet of things. The payments industry is not an exception. Automation of payment processes via the use of M2M (**machine-to-machine**) learning and M2M payments, artificial intelligence, personal assistants and simple subscriptions lead to the rapid development of a cashless economy. Many aspects of the Internet of things simplify the process of payment for the client by eliminating the time and labor consuming operations for transaction completion. However, the risk of system failures is very high especially during early stages of the Internet of things entering the mass market.



### Spread of fintech and its increasing role

Another trend that changes the financial industry on the global scale is fintech. In Russia these changes are negligible since most of the fintech solutions are hidden in banks. Still, some startups are getting stronger and entering global markets. Fintech startups provide financial services that were earlier offered by traditional financial institutions. The difference lies in the fact that those services are simpler, cheaper and faster. These services are usually provided through digital channels, which increases their attractiveness and allows fintech startups to gain new customers. Moreover, fintech startups development is leading to market fragmentation: these small companies take one service and provide it in the most efficient way, servicing their own niche.

Fintech is still the least predictable part of a cashless economy since innovation based on new technologies might change the current state of the industry in the shortest possible time. The development of fintech will focus on two main goals: decreasing transaction friction in current business processes and innovations that target radically new ways of offering the services.



### Active use of P2P

**Card-to-card** money transfers, transfers through social media and messenger apps are great examples of how P2P, or **peer-to-peer**, services might become very popular in the future. P2P connections also influence the market structure: earlier payments were processed by one large player, right now they might be transferred directly from one account to another. Therefore, all unnecessary intermediaries are excluded from the procedure. Experts see the active emergence of the direct account-to-account transfers ecosystem as one of the possible future outcomes. Although P2P is expected to stay in the private money transfers, it might bring in shadow sectors in the cashless economy.



### Increasing share of cashless payments

The share of cashless payments volume in Russia is low, which is why its share is increasing with the spread of point-of-sale acceptance of cashless payments methods, creation of new form factors, financial innovation and niche market players offering better services to the client. However, such growth cannot be constant. When the market becomes saturated, growth will stop. Experts expect this to happen around 2024. This trend will either give birth to new business models, not based on the growth of cashless transactions; or will lead to the elimination of the commercial potential of the payments business, turning it into an infrastructure (should that prove possible).

### Structure of the external environment

Russia traditionally has been a centralized state as a result of its political and economic development over centuries. The consequences of complete centralization during the USSR period, backed up by a new economic architecture, can be traced to nowadays. However, modern trends show that the move towards a decentralized structure is quite possible. It has to do not only with the political issues but also with the business model structures, products and process characteristics of different industries.

In 2013 Russia took the decision to create a mega regulator in the financial market in order to achieve a better economic environment, more attractive for investors. The Central Bank of the Russian Federation has taken up the role. As a result, almost every aspect of financial industry came under the control of THE BANK OF RUSSIA, leading to the centralization of regulation.

On the one hand, bringing together experts specifically to help with decision-making, under centralization, may lead to better results. Especially if agents responsible for regulation realize that they may not know everything and engage in the work with other experts in this or other aspects in order to make the final decision. However, on the other hand, if the mega regulator makes a mistake, it impacts the whole financial market and national economy, including such macroeconomic indicators as imports and exports, because of the palpable integrated nature of industries. Moreover, as the degree of influence and interdependence is high, this mistake is not easily corrected because of the domino effect that causing added problems in the long run.

While centralization in regulation results in a mega regulator, centralization of the market leaves one or just a few players providing services. In Russia it could happen due to localization, protectionism, under-regulation in some areas, and rapidly developing technologies. The reasons for taking key positions in the market might be such factors as competitive advantage, governmental support and possession of valuable resources. The main risk in this case is systemic, meaning that dependence on one player could lead to the collapse of the system in the case of a mistake, e.g. inability to make payments without cash.

However, in the case of a cashless economy there are certain trends that lead towards decentralization of the financial services market, e.g. active P2P development mentioned above. Nowadays, due to the development of platform services and the discussion of the [new sharing economy](#), system decentralization, market fragmentation and shared regulation might become a reality.

In a decentralized system in a cashless economy central authorities and institutions play a less significant role in all areas of the financial market. There are no universal agents that could solve all the problems at once. Specialization in the market and finding their own niche allow the companies to understand and provide services to the client in a better way, and on a deeper level. Any decision taken mistakenly could be localized and corrected quickly without any major consequences.

Furthermore, new technologies, including platform solutions and blockchain, support decentralized regulation or even self-regulation. The latter does not exclude governmental regulation: it transfers responsibility for regulation from the government to other agents playing key roles in a cashless economy.

Before P2P, government intervention was necessary to remove market inefficiencies. One such inefficiency, e.g., asymmetry of information, is partially solved by increasing the transparency of services in a sharing economy due to ratings, comments and reviews on the web-site/applications/social media. Some centralized regulation can exist in such a system anyway, particularly for the protection of personal data of the consumers and proprietary developments by firms, but overall the need for centralized regulation is smaller.

There is also a possibility that active P2P development in payments and blockchain will lead to a situation where all financial services, including payments, will be provided by niche players in the new economy. Such a fragmented market might be one of the features of the future cashless economy.

**Hence the first key uncertainty:**

Which way will Russia follow in its pursuit of a cashless economy?  
Which structure will it have — centralized or decentralized?

## Agents' behavior: reactive vs proactive

The behavior of agents is one of the key factors that influence the structure of society.

Moreover, the way agents behave in an external environment and the structure of the external environment are interdependent and influence each other thus shaping the economics, politics and other areas of life.

As mentioned before, for much of its history Russia was a centralized state, producing a certain behavior model among the Russian population. In the USSR, all strategic, financial, sales and social support functions and decision-making were centralized. Therefore, people did not consider that they could be part of the process and that this process could be performed in a different way. The USSR generations (including workers, consumers and companies) became accustomed to living and changing anything only when instructed so to do. The efforts of one or a couple of people will not lead to success, no matter how hard they try. In their opinion, one person/agent has a very limited future — there will always be a factor that will make it impossible to do what they want. Thus, very often they do not even try to change anything and prefer simply to react to everything that comes “from the top”. They adapt to the external reality.

Moreover, each has a very limited perception of their influence on other agents. That is why, for instance, missions and aims of the company (if they exist at all) seem something remote to the workforce. They rarely perceive themselves as part of the company. Many agents do not have any mission and goals whatsoever due to uncertainty and the high turbulence in all areas, including business and politics.

Some agents often worry only about the functions they control and for which they are responsible. Such people are commonly overly confident in their own knowledge and experience. They might not consult other experts and do not accept that they might not be sufficiently competent in this or other aspect of their work. They risk taking the wrong decision that could bring undesired consequences.

Many agents became accustomed to agreeing with everything said to them by people of higher rank: teachers at school, managers at work or regulators in industry – without questioning in order to avoid additional problems. They prefer to continue acting without any barriers. Despite all of this, Russian agents are very persistent and survive thanks to their creativity, fatalism and belief in luck.

In Russia, the majority of the managers have always come from older generations, and they are usually resistant to change. Contrary to the majority, some of them do want to change but when they try to act proactively and do something through official channels, they face a lot of bureaucratic red tape and Russian apathy. They get around the system and achieve results by relying on personal alliances and networking with key people.

However, with globalization and active digitalization, the older generation is being replaced by a new and more proactive one. The older generation is also trying to change in order not to lose their position under both local and global trends. Initiative defines the behavior of people: they try to do more than just follow a written instruction, start doing something before being instructed, or even participate in the formulation of the instruction itself.

**The behavior of such agents could be defined as:**

- mission driven (private, business or country),
- long-term strategy driven,
- based on the goal-setting and oriented at particular tactics,
- sustainable in the case of barriers and challenges, and
- flexible enough to adapt to change.

These new agents rely not only on their own opinion but seek external advice from experts and look for external information, in order to use all possible sources and to be confident in the decision they make.

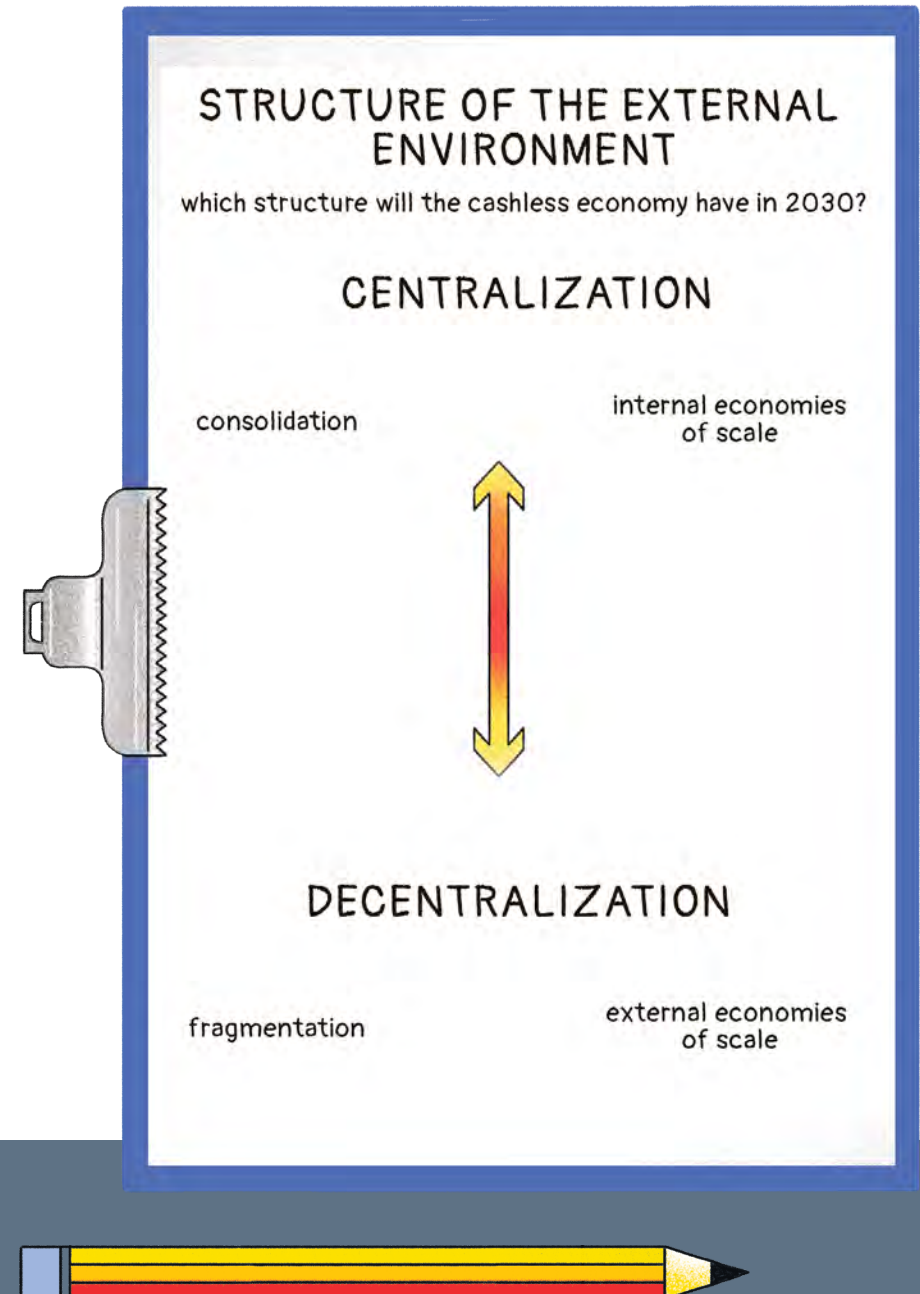
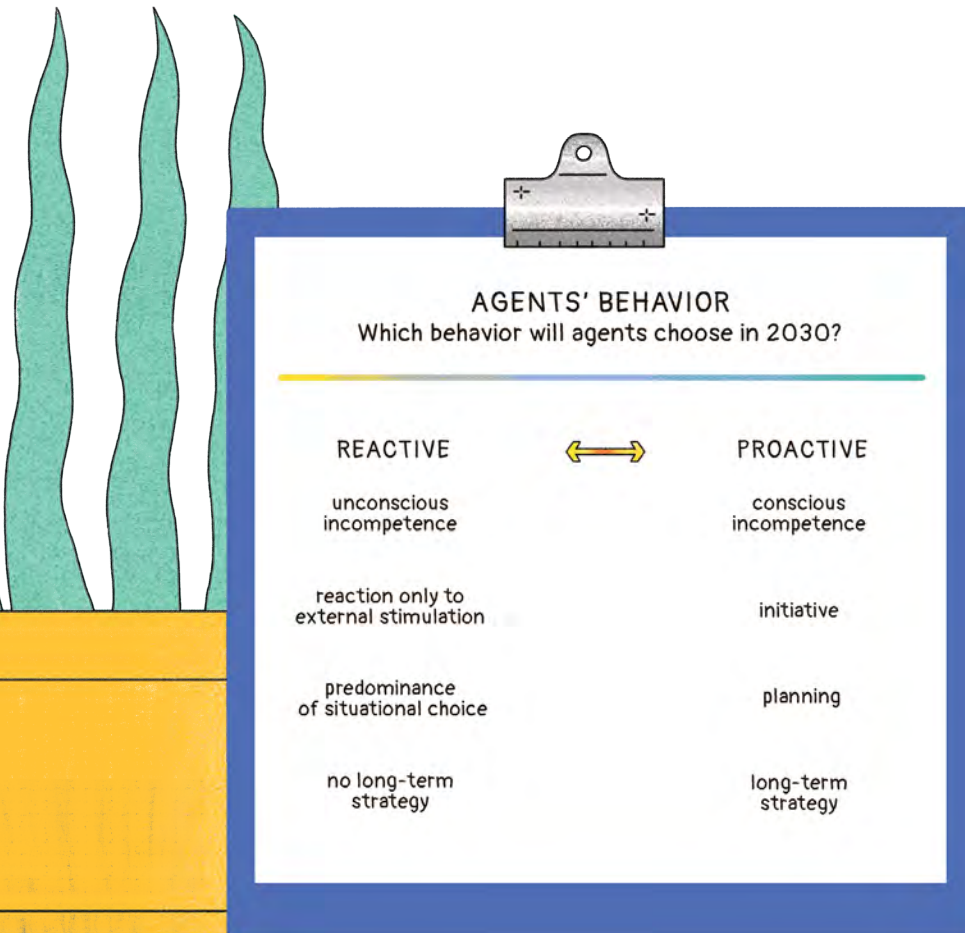
Such proactive behavior is possible if a supervisor helps to achieve the same goals and collaborates with the agent. Such supervisor makes an agent believe in the possibility of change and optimization. The regulator and other cashless economy agents could think proactively and try to predict/assess the possible changes at both local and global levels.

**Thus, the second key uncertainty is:**

[Which behavior will Russian agents choose – proactive or reactive?](#)

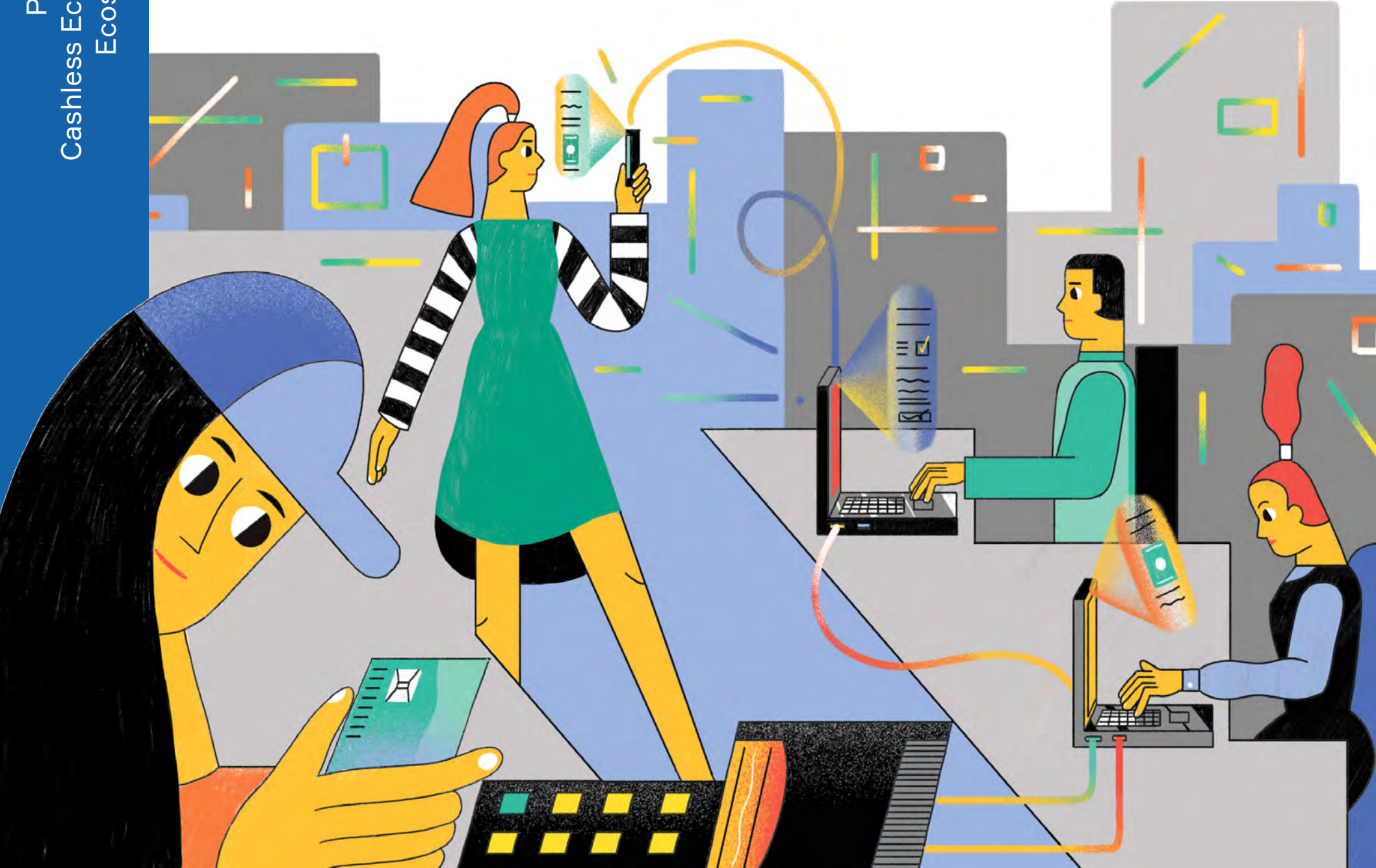
## Cashless Scenarios Framework

The key uncertainties described above define the framework used for further analysis of a cashless economy in Russia:





Players:  
Cashless Economy  
Ecosystem





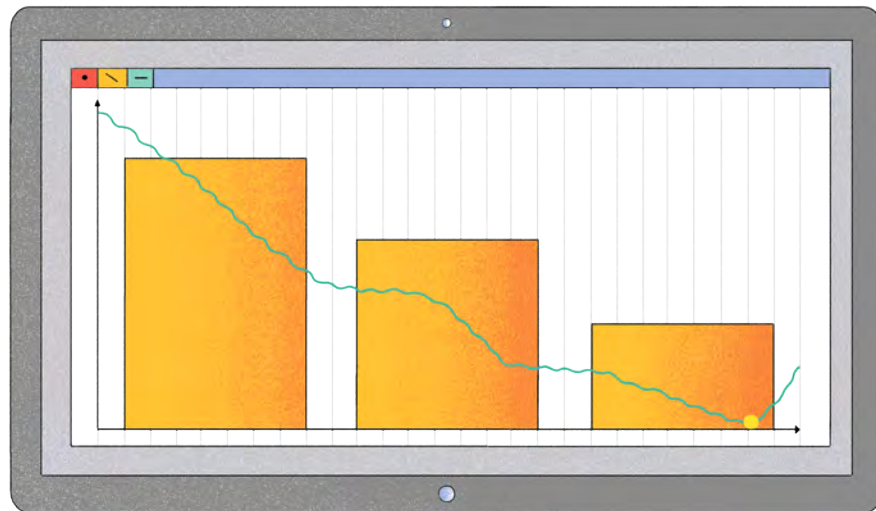
All actors' character types  
are born while writing the script.  
If you don't know who  
will be playing, it is a disaster.  
Nikita Mikhalkov

A cashless economy is a network ecosystem in which many diverse and unique agents interact, collaborate and compete, each one with its own tactics and strategy. First of all, it is necessary to outline the key agents, their motivation in a cashless economy and describe the effects on their everyday activities. This is an important condition to understand what a cashless economy will look like in 2030 and how it will be developing in the next 13 years.

We have summarized below two circles of ecosystem participants — inner and outer.

The **inner circle** consists of direct participants in the payments market, who have a vested interest in the cashless economy scenario to be realized in the future. Some of these agents might disappear, while others become absolute leaders.

The **outer circle** are participants in a cashless economy who have a certain influence on its development. However, their relation to the payments market is indirect.



■ рынок  
— безналичная экономика  
● перезагрузка



Such classification allows us to take into account the differences in motivation of agents in a cashless economy as well as to understand its connection to non-trivial networks. The inner circle is related to the direct effects and actions that form the foundation of the payments industry, while the outer circle helps define the optimal configuration for a cashless economy which is in line with the aims and goals of other agents, both in the economy and the state.

For instance, cashless payments enable better control of transactions, helping to fight corruption, reduce minor crime and use consumer data for better behavioral analysis.

Understanding the roles and potential drivers, as well as the incentives of agents (directly or indirectly related to the cashless economy) will help readers of this book to evaluate potential threats, find allies and partners as well as evaluate the results of their own actions and actions of others in a cashless economy.

## Inner circle



### Regulator

On the one hand, the regulator monitors order and lays down certain rules, laws and other regulatory standards. It is responsible for stability in the country, which is its priority, along with making the national financial market a world leader.

However, in Russia the regulator is becoming a direct player in a cashless economy (e.g. NSPK). Moreover, the transition to a cashless economy requires entirely new regulatory standards. The transformation has already started, but the rate of change in the economy is growing, and the need for regulatory advancement increases as well. There is a risk that the regulator will not be able to keep up with these changes. However, if the regulator pays attention to the Russian market and takes into account the local context, in addition to monitoring the mistakes and successes of foreign colleagues in this area, there will be an opportunity to make a big economic leap forward and make the country one of the world leaders, via proper and clearly defined regulatory standards.

The primary role of the regulator in a cashless economy today is to reduce the systemic risks caused by potential changes in the current payments industry.



## Banks

Worldwide, and especially in Russia, banks want to remain leaders in the financial services market, and in the cashless economy as a whole. That is why in Russia almost all of the financial technology has been developed inside banks, and fintech start-ups are unable to rise to the appropriate level. Banks want to be more profitable and already consider payments as something that can bring additional income. Although just a few years ago (and even now too) banks did not account adequately for either costs or profit from payments. They want to control all the processes, as much as possible, and start performing some of them in-house; for example, processing, even if it is not profitable. Banks innovate, revise and optimize their operations because they are afraid of falling behind market changes, in particular changes in customer preferences, or disappear altogether in a new cashless economy.

Their main motivation in a cashless economy is the commercialization of payments in a direct (via services to clients) or indirect (cross-selling) way.



## Consumers

As a result of changing generations, there is a new consumer in the economy that understands financial markets and cashless payments. The client knows, at least on a basic level, how to benefit from paying, for example, by saving or optimizing their resources (effort, money, time). At the same time the customer looks for simplicity to keep up with the current pace of life: the payment process should not interfere with the transaction process and make it harder, but rather it should be very clear and quick. Otherwise the client will refuse to use this payment method. New consumers want to receive a personalized or customized offering tailored to their needs.

But it is worth noting that, at this stage, the consumer, being in the inner circle of agents, is a passive rather than an active participant in a cashless economy. Consumers take the offered services and just pick those that suit them better. In addition, they may be forced to use cashless payments as

there is no other choice. Thus, consumers might effectively be prevented from using cash.

The population constitutes part of the basic demand for payment services. Payments for the public, as a whole, are nothing more than a tool for getting something they want with minimal barriers ([transaction frictions](#)).



## New players

New players in the payment services market are emerging, for example, fintech start-ups. They want to win market share, however, large players do not let them do that.

Despite this, fintech startups still want to have a profitable business, change consumer behavior through their own services and products, and in general transform the market structure through innovation. New players include mobile operators as well. Old economic models stopped being effective, so mobile operators try to find new solutions while a cashless economy opens up new markets for them.

Finance and telecommunications services are two industries that have the largest number of consumers in the world, and similar target audiences. With the advancements in technology it is much easier to provide financial services in partnership with mobile operators.

That is why mobile operators plan to act in the payments market, either on their own or in cooperation with other agents (e.g., payment systems). Not only have they created their own banks but they have also started integrating payment systems in their products. Moreover, mobile operators are investing in fintech start-ups. Mobile accounts and mobile numbers fill in some gaps in the financial market (e.g., fast P2P transfers or implementation of identification without a card number/with anonymity of the counterparties).

The main goal of the new agents is to gain market share for the commercialization of their products or other solutions.



### Merchants

Merchants, alongside consumers, are also adapting to the existing systems. However, they are trying to lobby their interests at government level. They would also like to reduce payments-related costs. However, even if they are unsuccessful, they will have to switch to cashless payments or, otherwise, leave the market.

The main motivation for them is to retain their clients and acquire new ones. Therefore they are still implementing the necessary infrastructure for cashless payments acceptance. Merchants constitute a significant part of the basic demand for payment services.



### Infrastructure

The main motive for infrastructure providers to shift to a cashless economy is stimulating demand for their services. For instance, in order for Russia to be cashless all of the country should have access to the Internet. This might stimulate the development of a cashless economy.



### Technology providers

Technology providers need to modernize and replace old payment devices (e.g. POS-terminals) by the introduction of new technology, as well as new payment solutions, in order to stay in business. Some of them might disappear (e.g., ATM producers) if they do not adapt to the new environment and do not produce technologies that are demanded by the market.

This motivates technology providers to create innovative and very often disruptive solutions. As a result, they force agents to change their infrastructure solutions and make the necessary purchases of these changed devices.



### Payment systems

These agents want to stay in business. As soon as the volume of cashless transactions ceases to grow they will face a risk of disappearing from the market. Besides, due to the entry of government as a market player, foreign payment systems will lose their market share and some of their profits.

Moreover, there are technologies that could replace payment systems, per se, e.g., P2P. These reasons make payment systems search for new business models that involve their existing network of bank partners that might help them stay in the new economy.

Another possible solution is to erect barriers for the new players in order to remain as the only universal intermediary.



### Government

The government is one of the participants that could benefit most of all from a cashless economy. First of all, according to the number of researchers, economies with a high share of cashless payments are less prone to shocks and fluctuations. Moreover, more cashless payments increase the assets of the commercial banks making the banking system less volatile. Apart from sustainability, some research indicates that a higher level of cashless payments brings higher economic growth. The reasons are higher speed of transactions and an increase in the number of transactions. The latter happens due to the decreasing cost of each single transaction as well as increasing average transaction value. Quantitative evaluation of the results in this area varies considerably (a number of authors include the effects of transparency as well), but in general they range from a few tenths to 1.5% of GDP, which is a significant value. **TRANSPARENCY** is another benefit for the state. For example, an increase in transparency leads to improvement in tax collection and a reduction in corruption.

Transition to a cashless economy provides a benefit for the state in that it gives opportunities for active stimulation and promotion of cashless payments in government programs and institutions. However, the complexity of processes and downside risks could result in the state creating artificial barriers for cashless payments usage or restricting information access until after a payment transaction has been completed.

In general, the state acts either as a catalyst for various processes (for example, opening up new opportunities, setting standards, goals and objectives that need to be accomplished by other agents) or as an inhibitor (prohibiting certain technologies or processes at the legislative level, creating artificial barriers). The state is trying to balance the additional benefits and additional risks, present in its various forms in a cashless economy.



### Education, culture and healthcare

These players are among those who start to have access to a cashless economy and thus affect its development.

Firstly, education is directly related to financial literacy. Russian education, despite the high level of mathematical training of students, lags behind in this area. Thus, it should actively include at least basic financial and economic concepts into the school curriculum, for example through a particular formulation of problems and examples in math lessons. Moreover, education is a participant that enters a cashless economy by implementing a universal card/biometrics to identify students and make payments whilst on the school/university campus. Healthcare is another good example of a cashless economy participant. Ensuring the highest possible coverage of financial services (financial inclusion) in this area may increase the ability to pay for medical services.

Financial inclusion might also facilitate the purchase of drugs due to new payment technologies and innovative methods of patient identification. In all of these social institutions spreading the use of cashless payment methods will solve a number of problems; increase efficiency and improve the quality of the main activities by reducing queues; simplify the monitoring and recording of visitors; and improve procurement and inventory planning, etc. In a broad sense, these social institutions formulate a perception of cashless payments among the population. They familiarize people with cashless payments and teach basics of economics in the initial and subsequent stages of socialization. These institutions are some of the channels that shape public opinion and consumer behavior in a cashless economy.



## Global politics

After Russia's transition to a cashless economy the first countries to notice will be countries of the EURASIAN UNION. Developed networks of a cashless economy could optimize production and distribution channels not only within individual countries but also through international agreements. The world economy has created global production networks. It is common for the production of certain parts of a product, to be concentrated in one country (cheap resources), while assembly of the final product to be carried out in another country (closer to the consumer). A cashless economy will create an [international trade 2.0](#).

If it is possible to pay remotely for goods produced in any country, it is not about wholesale purchases from local retailers anymore, it is retail purchase made directly from the manufacturer.

What this means is lower costs for consumers, disintermediation, and a new method of commodity-money relations. Instead of reselling goods to the retailers, one can simply rent a warehouse from which goods will be quickly and efficiently delivered to the customer.

In addition, transition to a cashless economy is capable of increasing the efficiency of the customs union, by decreasing transaction costs and other market imperfections (e.g. asymmetry of information), reducing the incidence of improper accounting at the border, opening up possibilities for automation and digitalization of customs processes, etc.

The transition to a cashless economy helps raise the customs union integration to a new level: a cashless economy facilitates new decisions on the money supply (for example, decentralizing money printing), and also influences such other aspects as the money market (e.g. decreasing interest rate volatility) and other financial markets.

All of this allows the monetary policies of different countries to be integrated without establishing a single center of money issue and regulation (CENTRAL BANK).

The creation of a cashless economy region will lead to a big economic leap forward in other allied states and lead to the establishment of a cashless payment process, in line with competitive advantages, resources and other classic aspects of international trade (payments might become international, and some services, e.g., processing, clearing, embossing, acquiring, etc., might be provided by a country best equipped for such services).

A cashless economy is capable of creating a region operating on new principles, and redistributing forces in the global arena. Customs unions are motivated by restructuring their trade patterns to increase benefits from international trade.



## Global regulators (FATF, Basel)

A cashless economy emerging across the countries can influence global regulation. Moreover, stronger regulation of the banks (requirements for reserves, capital, functions) leads to changes in their structure and operating activities. Quite often, FATF recommends monitoring large cash transactions as well as businesses that mainly use cash transactions, to fight money laundering and international terrorism.

FATF may influence public perception of a cashless economy by reporting the threats and potential dangers of cash transactions. Such organizations affect the development of most economies in a certain way, and adopting their recommendations and regulations can impact the creation of a cashless economy. If a cashless economy really helps maintain financial stability and combat terrorism while improving global security, active coverage in mass media and lobbying for cashless payments, will contribute to the development of a cashless economy worldwide. On the contrary, if it becomes clear that cashless payments do not help in the situations listed above, or even become unsafe, it is quite possible that the withdrawal of cash from circulation and necessary infrastructure arrangements would prove too costly for many countries without sufficient return on invested resources. The role of the global regulators is similar to the role of the state but in the global market and with an eye on specific aspects of a cashless economy.



### Rating Agencies

Rating agencies have a strong influence on the financial industry today. The transition to a cashless economy will either increase or reduce their role. The decline will happen if the automated rating models become available to everyone, due to innovative technologies and with easy access.

As most of the data on large and public companies, as well as governments performance, is in the public domain, investors can use it to analyze account payables and make decisions. However, the role of rating agencies may increase as they could monopolize such services, allowing small companies to remain on the market.

Moreover, the reduction in costs due to a fully automated process could only consolidate their market leadership. If the economy is cashless and more data is in the public domain, such agencies will be able to give a much more precise estimate of credit opportunities for both companies and governments, which directly affects economic growth and investment attractiveness of the projects.

In addition, the integration of rating and scoring models will allow products to be developed based on the financial flows from debit and credit cards (such attempts were made through securitization of credit card payments). They will also help enhance security of payment services (by setting benchmarks and guidelines) and other aspects related to payments (information, account balances, etc.). Ratings might penetrate new segments of the financial services industry, where ratings were not common before.

The purpose of rating agencies is to assess the state of the company, product or process to facilitate the analysis and comparison of risk and return. For a cashless economy it could open up new ways of lending and funding, enhance security, and improve financial literacy leading to the discovery of new capacities associated with financial flows from payments (for example, investment).



### Consultants

Consultants are trying to change the rules and the behavior of existing players in the market through the distribution and popularization of their knowledge and research. Many companies study their reports and build/change strategies relying on their expertise. A cashless economy, especially at the early stages, provides opportunities where their services may be needed.

Consultants are also able to shape the needs and present products to fit a cashless economy (e.g., adjusting innovations to fit the current business model, even if it is not optimal, so that a new cashless economy does not destroy the businesses of their key customers).



### Global banks

Global banks are the players that want to get access to the Russian market and freely use Russian money and resources, and perhaps, even to dictate their own rules. Now their presence is prohibited, and most likely will stay that way in future.

However, nobody stops them from influencing a global cashless economy and its regulation that, in turn, might influence Russian banks and their behavior (e.g. toughening **BASEL** requirements after the financial crisis in 2007-2009). Global banks could offer new solutions that will either stimulate innovation in Russia via best practice knowledge or will eliminate certain segments of the payments industry and financial services and lead to further localization.



### Microfinance Institutions (MFIs)

MFIs compete mostly with banks (for example, in the segment of microcredit). Regulation in this area has recently been tightened, and customer trust is declining, despite a growing demand for small loans. New scoring models, new identification technologies and other innovative solutions to lending could help MFIs to stay in a cashless economy. So far MFIs are a niche solution, but the technologies and products offered by MFIs will stimulate cashless economy growth.

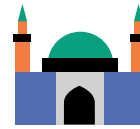
Moreover, other agents might benefit from MFIs innovations, for example, implementation of scoring technology based on open data or management of high-risk assets. It should be noted, that MFI profitability is based on high risk, and the risk is not limited to financial (e.g. social risks). However, development of hedging tools and mechanisms, as well as the proper use of resources, might open the field to new players, products, and services.



### The Russian Orthodox Church

The Russian Orthodox Church is actively involved in the payments market, voicing their opinion on methods of payments (for example, biometrics), influencing public opinion and the decision-making of different agents. Besides, church donations in a cashless form are widely practiced in countries such as Sweden, where the share of cashless payments is approaching 100 percent. It is not the practice in Russia though.

The volume of church sales is unknown and not taken into account in the economy. The role of the Russian Orthodox Church may be to engage more customers in a cashless economy and financial services market.



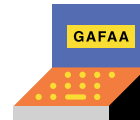
### Islam / Islamization

The increase in the number of followers of Islam has made the financial market adapt to their principles and practices. For example, there has been a replacement of loan interest by the partnership between the client and the financial institution in Islamic banking. In March 2016 a first center compliant with the basic Islamic rules of financing opened in Russia. The role of Islamic banking at the moment might be to involve more customers in a cashless economy and financial services market.



### “The Fourth and the Fifth Power” (mass media, bloggers, thought leaders)

These players are a source of information and knowledge for many people. They also act as a channel for influencing consumer behavior. If mass media or opinion leaders mention that cashless payments are bad for the country, it could really lead to a disaster. This group has the greatest influence on the public opinion for the majority of agents in the economy.



### GAFAA (Google, Apple, Facebook, Amazon, Alibaba)

Many agents present currently in the payments market do not consider these players as competitors. At the moment, their products are perceived as an element integrated into the existing processes (e.g. GOOGLE WALLET). Payments for GAFAA are a way to reduce costs, to obtain profits with the help of seamless payments and to become leaders in their markets.

They come up with innovative products and services, changing the structure of the economy as a result. In addition, GAFAA are key global players in technology and digital space. They could also become potential payment providers. Products of GAFAA are widely used and thus most actively contribute to making cashless economy popular (for example, NFC TECHNOLOGY IN APPLE PAY).

The role of GAFAA is in offering key interfaces and in the provision of new solutions in a cashless economy.





### Venture Capital and Business Angels

These outer circle players influence indirectly the emergence of a cashless economy through the development of new players (fintech start-ups) and investment in the innovative products that are changing the face of the new economy.

Their main motivation is getting profit from investment in new companies that will contribute to the creation of the foundations for a cashless economy. Venture capitalists want those companies to earn a high profit by exploiting innovative business models as well as creating new products.



### Electricity Providers

These days, many commercial and government agents in the payments market are considering introducing blockchain, which will make their industry already heavily dependent on electricity, even more so (e.g., MINING BITCOINS requires power capacities and resources).

But even without the introduction of blockchain the financial industry is already consuming huge amounts of energy: processing, 24/7 access to the Internet and communications channels with banks and payment systems, supporting servers, etc. require a lot of electricity. Importantly, whichever energy sources are to be used (alternative or traditional), the energy industry will be dependent on the cashless economy for their sales channel.

The question that will be probably addressed in the next 10-15 years is whether the energy industry will service the cashless economy or will make other industries adapt to their own business processes. In any case, integrating elements of a cashless economy, the electricity sector can help to generate new competitive advantages.



### Mining Industries

On the one hand, mining industries affect the transition to a cashless economy pursuing their own goals. They provide energy, the need for which, after the transition to electronic payments, will only increase.

But on the other, companies that extract natural resources (e.g. oil and gas) are directly involved in the retail payments market, e.g. by opening banks or selling gasoline in gas stations.

Just as the energy sector, the mining industries, having joined the cashless economy, might create new areas of competitive advantage and promote economic growth, e.g. by introducing innovative/breakthrough solutions in support of some of their payment processes (processing, verification, identification, etc.) or by investing in payments related projects.



### Transport

Transport also adapts to the current reality and moves to cashless payment services together with merchants and consumers. However, beyond simple cashless payments, urban transport companies are introducing various smart cards, offering a more convenient service and making consumers' lives easier. Consumers, in turn, start using public transport more often. This contributes to better living standards, including a better environmental situation (reduced exhaust emissions) and reduction in traffic jams on the roads.

Moreover, data on smart cards usage becomes available for analysis and might be used to develop solutions for controlling passenger traffic throughout the day. In a cashless economy, municipalities will have the opportunity to improve and optimize transport interchanges/routes, facilitate passenger traffic records, locate customers without violating their personal space (in contrast to other methods, for example, mobile communication) and also to find optimal solutions for urban transport (subway, buses, etc.) — just by analyzing better the data obtained.



### Other Financial Institutions (brokers, dealers, etc.)

These agents want to stay in a cashless economy and get a return from their work. They have to learn to benefit from a cashless economy, changing customer behavior, new products, technologies and methodologies. There is a high probability that many existing non-payment financial institutions will disappear with innovation (e.g., blockchain can replace a depository).

At the same time, the development of new investment and other financial products based on the payments or payment related solutions might help these agents to survive or even strengthen their positions (e.g. in credit card loan securitization).



### Industrial Associations

Industrial associations are mainly concerned with lobbying for various inner circle agents' interests (e.g., association of banks, payment systems or merchants). Moreover, the industrial associations together with the regulator might formulate universal standards to be used at a country level and bring benefits to all participating parties (e.g., common standards for customer identification).

The role of industrial associations lies in maintaining dialogue among all stakeholders. They are also responsible for the implementation of some strategic aspects in order to help inner circle agents create the new economy in line with their vision.



### Shadow Economy

One of the key issues of economic development is how to involve the shadow sector, which by current estimates accounts for about 40% of the Russian GDP. Although a cashless economy increases transparency, undermining the key benefits of the shadow economy (tax evasion), the benefits from participating in a cashless economy can outweigh the costs.

For instance, if providers of financial services do not charge additional fees (commission) for accepting cashless payments, those who are willing to accept cashless payments but are not currently involved, will switch straight away. Participation in cashless payments will also lead to an expansion in the customer base or add to the confidence that the remuneration for the work performed will be received.

New market conditions, changing generations and information availability make these facts more obvious to those operating in the shadow sector of the economy. This segment of the economy can ensure the growth of cashless payments and either allow some traditional agents to retain their key positions or else help new players grab large segments of the market.



### Police and Security Services

A cashless economy provides increased transparency that might reduce the share of the “shadow” economy. Transparency is important in maintaining order and strengthening national security (fighting terrorism and other severe crime).

The role of these agents is similar to the role of global regulators, but at the local level. Also, in the event of major public risks, the Ministry of Internal Affairs and security services could influence the emergence and configuration of a cashless economy in the country, or impact uninterrupted payment operations.

A cashless economy ecosystem is diverse and heterogeneous. Some of the players have more influence on its development in Russia than others. Note that the way agents interact with each other within the inner circle (compete or cooperate) will determine the configuration of a cashless economy in 2030.

Note also that a cashless economy cannot exist without an outer circle of agents. In fact, the outer circle is what makes a cashless economy wider than the payments industry. This ecosystem makes payments a critical infrastructure and an essential element of the modern economy.

THE STATE OF CASHLESS ECONOMY DEVELOPMENT HAS A MUCH GREATER IMPACT THAN WE ALL USED TO THINK.

Although the payment process is invisible to the general public, it is a cashless economy that might change the country's development by reducing costs, improving the efficiency of current processes and business models or by providing the foundation for completely new solutions in different fields.

Agents' interactions within the ecosystem will determine their behavior in a cashless economy over the next 13 years. While the roles of agents may change, and some of them may disappear altogether, the transformation will start in the inner circle.

Today, the change may be initiated by THE REGULATOR, COMMERCIAL PLAYERS that profit from payments, directly or indirectly, as well as INNOVATORS AND PROVIDERS OF ADVANCED TECHNOLOGIES that develop new solutions that alter industries (including financial services) and the majority of global economies.

However, these changes will be reflecting current motives and the roles of these agents. Therefore, the cashless economy that is being created in Russia, will largely depend on who will be the leader and whose actions will seem more convincing to the other agents. This idea is fed into the scenarios described in the next chapter.

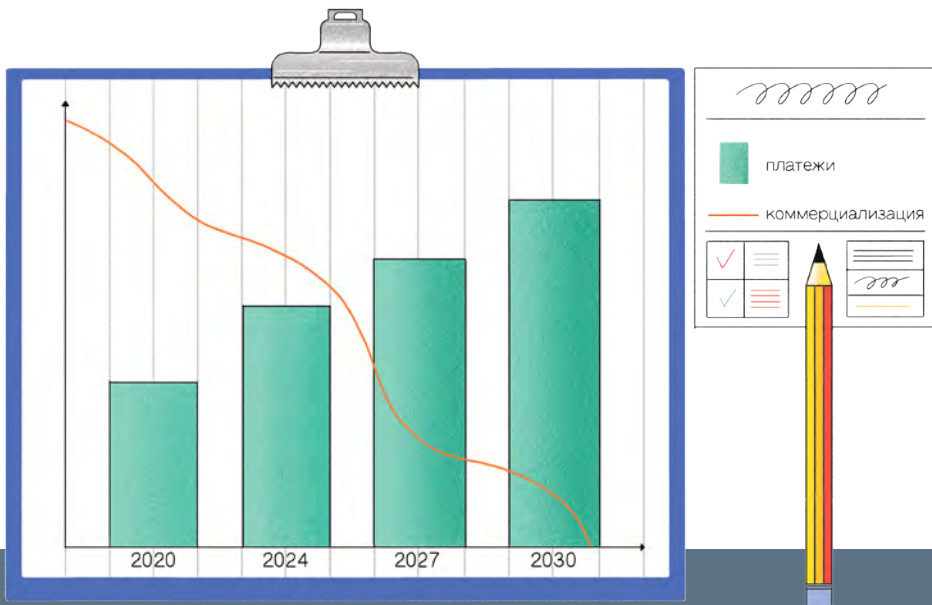
Agents bring life to static scenarios by showing who, how and at what point in time, could win or lose from possible changes.

Scenarios must be perceived as an impartial and independent vision of the future state of the payments industry. However, they also reflect the agents' views, thoughts, expectations and feelings about the future.

The big picture expands the perception of what is happening, and provides ideas that might be useful in addressing specific questions. This approach implies the creation of a universal framework which might be used to develop individual products and projects that take into account the needs of agents from both the inner and outer circles, and even of agents that are not in a cashless economy ecosystem yet.

The planning fallacy is that you make a plan, which is usually a best-case scenario. Then you assume that the outcome will follow your plan, even when you should know better.

Daniel Kahneman



Finally, the key elements are: the trends, the framework and the players. Combining all of this together, we get 4 versions of the future that we call scenarios of a cashless economy in Russia 2030.

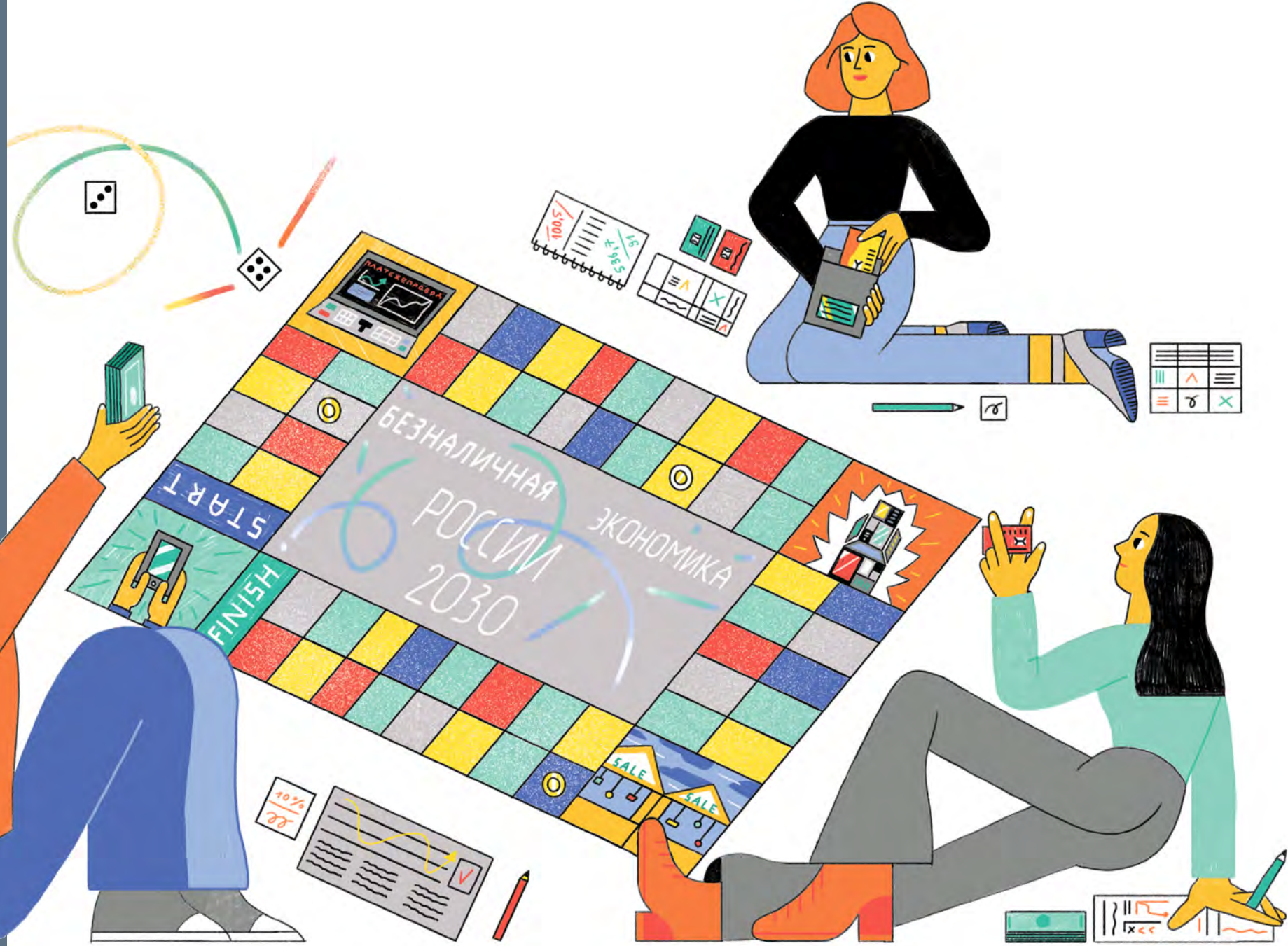
Is it possible to predict the future? No, unless you have special abilities. However, we did not try predicting the future outcomes. A scenario is a picture of the future based on the analysis of trends and initiatives that happen today. These images define the framework, a way to take a fresh look at the world skipping the routine of everyday life in order to realize the strategy. But this framework should not restrict the reader. Ideas offered in this book attempt to go beyond the boundaries of existing packaged products and structuring of the already existing ideas. It is a chance to get a foundation for the development and adoption of better decisions.

A scenario is a combination of intelligence and creativity, so the descriptions of possible future alternatives are presented in the form of stories that include the most important facts about each state of the cashless economy. All scenarios are written in the form of notes by an independent research analyst, who travelled to 2030 by accident. His notes include general description of scenarios, description of the behavior of key agents, possible reasons for the scenario to happen, its distinctive features, and real-life examples from the 2010s, which may be suggesting to us this or that scenario.

If the description of the players does not go in line with your expectations, your strategy most likely does not consider all scenarios possible, and you are not completely ready for the future. Understanding this allows you to change either yourself, your company or making the future fit your expectations.



Scenarios of a Cashless  
Economy in Russia 2030



In 2016, K. L., an independent researcher, asked the question “How might a cashless economy look in Russia in 14 years?” This topic completely captivated him. He wanted to see the future in advance to figure out what to do today. He spent hours at work, researching trends, talking with many experts from different industries in order to solve this problem.

One day, he woke up in 2030. At first he did not realize what had happened, he checked his email and saw the letter and the date:

**April 1, 2030.**

“You have exactly 24 hours to find the answers to all of your questions, do not waste your time.”

Grabbing his tablet and not believing his luck, he started recording everything he saw: news headlines, search engines queries, information from websites, social media posts, users comments — all of these could give a hint as to whether there is a cashless economy in Russia in 2030, and if so, what it looks like. The next morning, jumping out of his bed, fearing that it was a dream he checked his notes right away. In the corner the date showed 2016 year, but all the records had been saved.

Putting all the notes in a single document, he decided that the next day he would send them to his colleagues. Falling asleep, he was thinking about surprising them and showing them his records.

In the morning, as usual he checked his email and saw a new letter:

**April 3, 2030.**

“If you think that everything is so simple, you are mistaken. You have again 24 hours and a chance to see the alternatives”.

Realizing that he was in a completely new world unlike anything he saw yesterday, he forgot about everything, and began to take notes.

The above story was repeated twice more. And every time he woke up in the new 2030, he was in a new cashless economy, which was different to the previous ones. He thought he was going crazy, but he did not give up and did what was necessary.

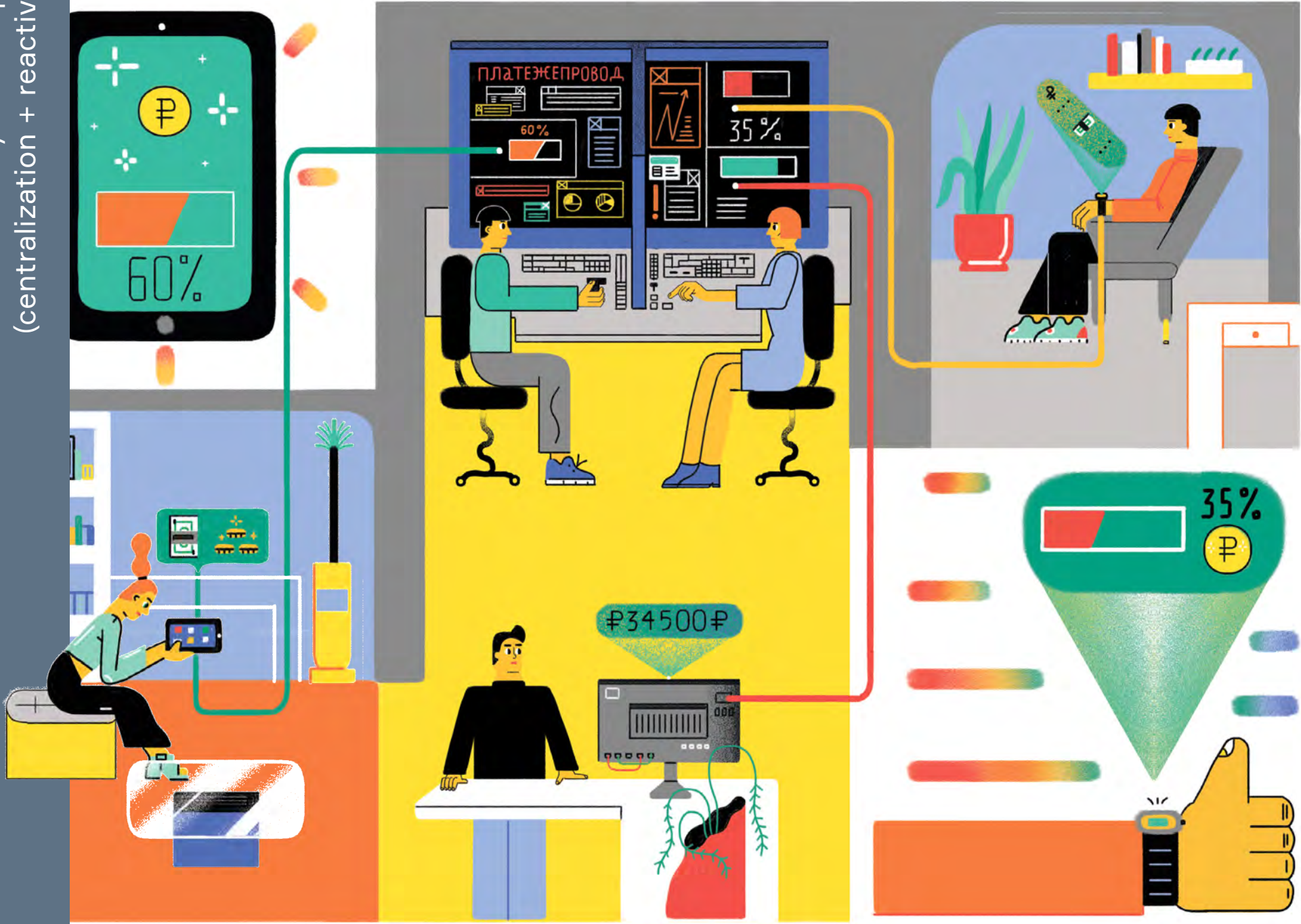
EVERY TIME HE TRIED TO ANSWER 5 QUESTIONS:

- “What is the configuration of this cashless world?”
- “What caused such changes?”
- “What is remarkable in this world, what will my colleagues be particularly interested to know?”
- “What is the agents’ behavior?”
- “What may be a signal of such cashless economy outcome in our lives today, in the mid 2010s?”

After the fourth occasion his travels to the future stopped. His notes are given below.



Scenario #1.  
Central Payments Pipe  
(centralization + reactive)



## Scenario #1. Central Payments Pipe (centralization + reactive)

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Recognizing the importance of the payments to the economy the regulator controls its basic elements and becomes a key player in a cashless economy serving as a universal intermediary.

Payments become a vital infrastructure, inscribed in the new trade channels and the services sector. Commercial potential of payments disappears.

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“What is the configuration of this cashless world?”

- The regulator or an agent controlled by the regulator becomes a universal intermediary and provides a standardized payment solution with clear and transparent fees for different segments of the Russian population.
- Mass payment services become economically unprofitable or legally prohibited.
- Payment is commoditized and the payment infrastructure becomes critical, inscribed in the new trade channels and services similar to utility services.
- The consumer does not oppose the regulator’s proposals and has no choice if he/she wants to continue using cashless payments.
- Centralization of the processes in order to secure digital identities via the newly developed legislation/law on digital identity protection.
- Regulation is changing to:
  - minimize structural risks;
  - standardize the payment process: for each group of agents there are clearly defined documents, rights and obligations of each party in the transaction process;
  - increase the availability of payments due to the simplified identification process; and
  - subsidize and support consumers/organizations that need access to payments but cannot afford it.
- Key payment elements are centralized. Tenders determine which suppliers/contractors will be undertaking each process. There is a competition among the commercial organizations for the positions outsourced by the regulator.
- Data nationalization. All information about the payment is available to one player – the regulator or the affiliated agen



**“What caused such changes?”**

- Commercial players are no longer able to “surprise” the market, so the business ceases to grow and does not meet the expectations and desires of shareholders and partners. Service quality deteriorates.
- The government and other key agents responsible for resources allocation in the economy (e.g., large businesses), agree on the necessity for a standardized infrastructure solution.
- Cashless payments have reached their critical mass and become a key payment method in the economy. Unexpected infrastructure shutdowns or payment failures have a negative impact on the economic welfare of all agents.
- The regulator considers that its solution will improve the country’s well-being, primarily by increasing national security and minimizing systemic risks.
- The consumer does not want to choose or wants to have a limited choice among non-essential aspects of the payment process.
- There are resources for a “payments pipe” provision, as well as for its functional maintenance and support.
- The supporting infrastructure necessary for a “payments pipe” to function is available to any client throughout the entire territory of the Russian Federation.
- There is an interface that could cover all customers in the country (mobile phones, email, etc.). People are accustomed to this interface and actively use it.

**“What is remarkable in this world, what will my colleagues be particularly interested to know?”**

- There is a standardized and intuitive digital ID available for every citizen.
- Account information centralization: a person has a single account that can be used to pay for any transaction defined in the regulations (it is necessary to exclude undesirable products of the “illegal economy”).
- Payment security is ensured mainly by the external barriers and by the agent that provides the payment infrastructure.
- Payment infrastructure is created and funded by the government. Initially, the infrastructure meets global standards, it is innovative and modern. However, there is a risk that constant improvement and modernization of the infrastructure will be impossible due to lack of investment, leading to a slowdown in innovative activity and a gap forming between Russia and the developed world.
- Such infrastructure might become a natural monopoly that will always require funds for maintenance due to discovered problems. There is a risk that this monopoly will be unprofitable due to a large initial investment and high maintenance costs.
- Since the system is concentrated in one player, which may not be efficient, there is a high risk that people often will not be able to make cashless payments due to outages.
- There is a risk of centralized databases overflowing with data due to lack of control/expansion.
- There is a risk of a surge in the shadow economy, as some people will not want to grant access to their information to the government. They will switch to cash due to the lack of trust in the regulator and a misunderstanding of its motives

**“What is the agents’ behavior?”**

- The regulator reacts to any incoming external threat in order to minimize risks and to increase national security and reduce systemic risks. However, in some cases the regulator could be described as “unconsciously incompetent” since at times its representatives refuse to accept the fact that there is something they do not know.
- The change agent in this scenario (i.e. the regulator) does not have a long-term strategy as its behavior is mostly reactive: decisions are made retrospectively, as a reaction to the events that have already occurred instead of foreseeing or preventing them in advance.
- Decisions are made quickly and internally, without strategy, preparation, options evaluation and selection of the optimal decision, sometimes even without taking into account all of the available information. Due to lack of time, there is no active cooperation with other payments market participants. As a result of turbulent changes in the economy (from boom to recession, from activity to apathy, etc.) there is no long-term planning.
- Overall, under the purpose of protectionism, the regulator is trying to make its idea work and popularize cashless payments by making it as inclusive as possible. However, this idea would have already been dead in a competitive environment. Other key agents react to the central decisions of the regulator, understand where to get information on payment services, and take these offerings for granted.
- Agents that provide commercial services, become a part of a larger agent, a regulator or affiliated agent. Moreover, due to lack of stability none of the agents create long-term plans and strategies: unsustainable decisions and sudden changes in the behavior of the centralized player could interrupt any existing plans.
- Agents carry out short-term projects, focusing on quick wins.

**“What may be a signal of such cashless economy outcome in our lives today, in the mid-2010s?”**

National Payment Card System (NSPK).



## НОВОСТИ

### #ПЛАТЕЖИ



4 августа 2030 – поправка к Федеральному Закону о «Защите цифровой личности» вступит в силу с 1 сентября

24 июля 2030 – тариф на использование приложения повысился в связи с удорожанием поддержки баз данных

5 февраля 2030 – Пенсионеры в Балашихе отказались устанавливать приложение на свои смартфоны и организовали свой собственный подпольный бартерный рынок

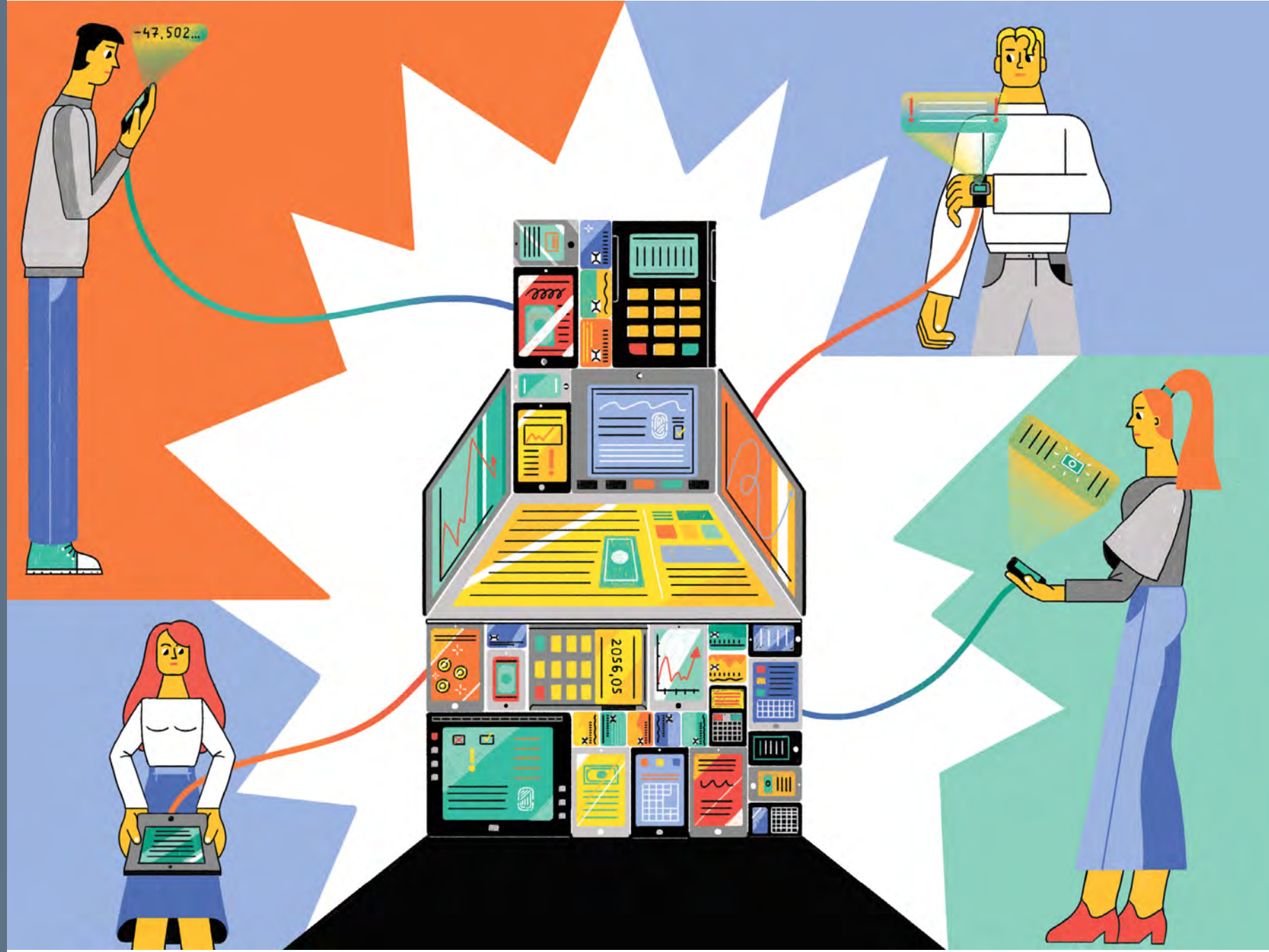


7 марта 2030 - платежи стали недоступны на несколько часов из-за сбоев в системе накануне праздника

15 января 2030 – объявляется тендер на осуществление процессинга в Московском регионе



Scenario #2. Payments Throne  
(centralization + proactive)





A large commercial agent (or an association of large commercial players), combines the existing resources and monopolizes (oligopolizes) the payments market to create and control the unified payment platform (UPP).

The regulator has some limited access to customer data in order to maintain national security, while market players can use data centers to improve service quality.

«What is the configuration of this cashless world?»

- A commercial player or an association of a few surviving commercial players actively develops its business in the payments market to provide all payment solutions. This scenario describes the situation when the “payments throne” is occupied by an association of commercial players, but it can only happen if there is only one commercial player on the throne.
- Payments maximize profit. Companies with a large capitalization and recognizable brands are in this or other way related to the payments market.
- Payments have a platform solution (a unified payment platform), which is controlled by the association of commercial agents (the “Association”) dominating the market. Changes occur in both front and back offices.
- Better financial literacy of all population segments through public and private programs that effectively engage various agents of the ecosystem.
- Thriving market: members of the Association are leaders that are changing the market. New solutions appear for as long as it is necessary. Time to market decreases in all areas.
- There are practically no other offerings in the payments market except for the products developed by members of the Association. The market gaps are so little that customers constantly choose the solution proposed by the Association. A solid competitive advantage is necessary in order to occupy the

«payments throne» or even a place nearby. Despite this, if members of the Association have not been satisfying their customers’ needs for a long time and will not change in response to customer requests/do not modernize to satisfy the customer, other firms replace them. However, the Association attempts to foresee problems in order to solve them in advance.

- The regulator uses the available data to improve national security, fight terrorism and other criminal activities. Moreover, the information stored in the cloud is used to develop a long-term strategy for a cashless economy in the country. Overall, the regulator cooperates with the Association and, instead of prohibiting, develops a strategy for regulation together with the Association.

“What caused such changes?”

- There is commercial potential in the payments
- A few large commercial players have reached a sufficient level of efficiency and effectiveness as well as trust in each other in order to provide a payment platform for the entire population, using their resources. Moreover, they have an equal membership share in the Association.
- Major agents effectively control and prevent risks. The main risks in the system include:
  - security risks: if the platform stops working, the country will remain without the ability to make payments;
  - inability to make a payment/withdrawal at a critical moment due to improper platform operation, leading to financial difficulties for the agent;
- To prevent/reduce systemic risks, infrastructure and technology are being constantly modernized and improved to ensure the smooth operation and security of payments.

- There is a biometric/digital ID for each client using the payment system enabling him/her to access the platform.
- The Association was able to occupy the throne for the following reasons:
  - a high-quality, innovative and efficient infrastructure, IT systems: a well thought-out architectural design of the platform, facilitating mutually beneficial relationships among all parties;
  - radically new optimized business processes: functions that are not profitable within the Association are outsourced;
  - an understanding of the consumer and his needs: a platform-based, big data analytics in real time is used to constantly improve the interface; speed and ease of use of services as well as the ability to expand and improve the set of services offered (the platform should be designed in a way that it can introduce new services in the shortest time possible, given the differences between different customer segments in order to meet the needs of the whole population);
  - transparent services, starting with a clear definition of a flat rate, ending with the transaction mechanisms: all users can access data on the real cost of using payment services and other required information;
  - state support: the state, in the guise of the regulator, provides rules and a legislative platform;
  - openness to innovation: regulations do not hinder active technological development and innovation into all business areas (business models, targeting, technology, etc.).

- The regulations are flexible enough to allow the Association to operate as they plan. The regulations either adapt to the Association's needs or are developed in cooperation, instead of the Association adjusting to the regulations.
- There is a universal solution presented by the Association that meets the needs of all agents; it is more profitable to use than other, less common alternative options, for a number of reasons including the network effect (if all consumers are accustomed to using this platform and they like it, they would be more likely to choose a merchant that accepts the usual method rather than something new).
- Cashless payments are preferred to cash by both an individual agent and the economy.
- Strong barriers to market entry do not allow competition to grow and interfere with the oligopolistic market.
- The client wants limited customization and limited choice. The consumer does not want to think too much about the payment or to spend much time on customizing their product. So, customization is very specific and does not require special effort from the customer (e.g., the choice of images on the card).
- Well-established communication and interaction among all agents: in case of dissatisfaction or frustration, all agents can express their opinion in order to improve the service/product/ quality of life, and the agents responsible will take this into account.
- The Association has enough resources to build the necessary infrastructure and modernize it along the way.

**“What is remarkable in this world, what will my colleagues be particularly interested to know?”**

- The Association may consist of:
  - a coalition of banks,
  - a coalition of payment systems,
  - a coalition of mobile operators,
  - GAFAA (GOOGLE, APPLE, FACEBOOK, AMAZON, ALIBABA) and messaging apps.
- The Association could also be represented by any other combination of participants — those that were able to find the right business model and maintain a presence in the market till 2030.
- It is probable that the Association would operate a payment platform without any infrastructure costs. A “[smart data pipe](#)” might be created which would require the integration of different solutions/services provided by various small players in order to create a unified system, which the Association will operate.
- The number of customers does not necessarily serve as the main indicator of the payments business/service success.
- It is likely that there will be a single interface, where you can select the service and the way of obtaining it (analogy with a simple store).
- Analyzing big data to segment the population becomes easier. There is a consumer “infantilization”: the majority of customers stop thinking about what they want — there is a bundle of offerings corresponding to different consumer lifestyles to satisfy their needs. There is no need to customize the internal payment processes and often no need to customize anything at all, as long as the process is completed efficiently and at a reasonable price.

- If the consumer is not finding a suitable offering, he/she could create a personalized bundle of services.
- If the commercial player is partially owned by the state, this information will be disclosed to the extent that it will secure public confidence.
- Consumers, being proactive, are concerned about security and choose to be more responsible about the payment process.
- A cashless economy forms the basis for boosting the competition, however, to join the Association or replace it becomes almost impossible: it is necessary to differ significantly from other players.
- All members are aware of the need to have solutions that allow them to plan and optimize costs, so there are a lot of similar proposals in the market.
- The involvement of all groups in cashless payment is not a key parameter. Some groups of agents that do not generate significant profits/benefits, directly or indirectly, may be excluded from cashless payments.
- Companies create products, technologies and develop solutions that can be used in different industries. Inter-industrial solutions appear and become commercially viable.
- Customer data is available in a centralized or a distributed cloud but access is limited by a special key and a password that grants access to a specific database. Such access is available to the regulator (and all companies belonging to the Association), and other smaller companies in the market (the decision on granting access will be made by the Association).

- Possible alternatives in the development of this scenario:
  - A. the Association is constantly trying to secure the throne and the power:**
    - There is a competition between different coalitions of players who fight for the right to be a leader in the provision of payment services;
    - the regulator coordinates/adjusts the processes in the market aiming at improving the well-being of society: monitors and eliminates systemic risk;
  - B. the Association receives full freedom:**
    - to implement price discrimination: each participant is forced to pay the maximum price he/she can afford to pay for the service;
    - the Association dictates rules to all participants and may even “regulate the regulator”.
- A cashless economy is discussed in business circles along with such pressing issues as M&A, IPO, the country’s macro-economy, resource prices and currency exchange rates.

“What is the agents’ behavior?”

#### Change agent.

Several commercial players act proactively, they create an association and take the development of the payments market into their own hands, pursuing additional profit. Thus, to maximize profits they provide services efficiently and effectively, controlling the risks and minimizing the use of resources.

The possibility of losing power forces them to provide payment solutions that satisfy customers. They have a long-term strategy for the development of a cashless economy in which they occupy the “payments throne”.

The Association and regulator provide an adequate level of security, however, due to the internal barriers and responsibility of all agents, and the overall level of fraud in the payment system decreases. Various participants in the cashless economy (consumers, State, etc.) have a high level of confidence in the Association members.

The Association recognizes the areas of incompetence and outsources them, eliminating them from the process or solves the problems that they cause in any other way. The Association is open to innovation and ready to implement them at any time. However, it also provides universal products in all areas of the payments industry and some decisions may copy foreign or local equivalents. The user’s opinion is taken into account through the information that they provide indirectly or directly (e.g. reviews), but the consumers are not involved personally in the development of payment and other financial products.

#### Other agents.

All the other participants are proactive. They plan their actions and develop long-term strategies and scenarios, trying to calculate all possible risks in advance. The agents trust the Association and understand where to find the key information on the changes in the payments market. Agents know their strengths and understand the areas in which they are incompetent.

It is almost impossible to occupy the “payments throne”, even if the quality of provided services superior to those provided by the Association. Such competitors are either eliminated by creating stronger barriers, or acquired by the Association. Brand and membership of the Association play a key role in the decision on choosing partnerships/using specific services.

“What may be a signal of such cashless economy outcome in our lives today, in mid-2010s?”

SBERBANK’S ecosystem, MTS BANK, MEGAFON CARD, APPLE PAY & SBERBANK & MASTERCARD collaboration-

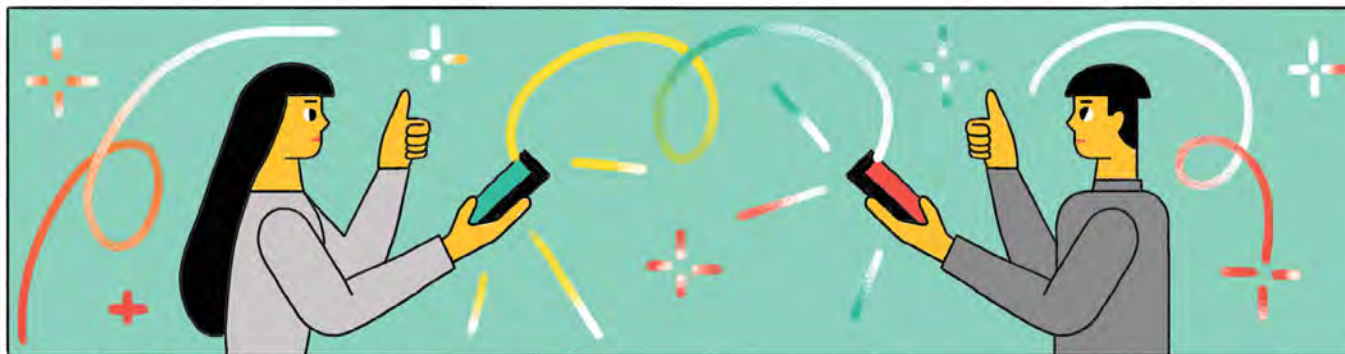




Существенно новые оптимизированные бизнес-процессы помогают нам сосредоточиться на самом главном – предоставлении услуги, а также модернизации и улучшении платформы для обеспечения бесперебойной работы и безопасности проводимых платежей.



Наша качественная, инновационная и эффективная инфраструктура и IT система дает базу для архитектурно продуманной платформы, которая способствует взаимовыгодным отношениям между всеми участниками.



Scenario #3. Payments Bazaar  
(decentralization + proactive)





The regulator shares authority with the market agents. The fight for consumers leads to market fragmentation. Flash companies: fast-growing projects with a vibrant idea that are not able to stay in the market for a long time and are being quickly replaced by other companies appear as a result of the “change or die” survival principle.

There is a gradual transition towards a shared-economy, which includes shared consumption, regulation, and collaborative decisions in all areas of financial services.

“What is the configuration of this cashless world?”

- Collaborative solutions/products appear in all areas of financial services; simple payment solutions to satisfy customer needs/wishes are possible due to fintech evolution and the emergence of new business models.
- Many parts of the payment process become distributed and open, for example, API, access to customers’ information when changing the service provider (subject to agreement).
- The market is decentralized and specialized: every business tries to meet the needs of a certain customer segment, the main idea is to find a niche and serve it in the best way possible. There are a growing number of services and products created for a particular client based on platforms that bring together external providers of the services.
- There is strong competition in the market where everything is done for the client. The provider is not necessarily the biggest player but rather someone who can make a technological breakthrough. Hence, the market often sees the flash companies: fast-growing projects, which are based on a “bright idea”, however these projects exit/disappear from the market as quickly as they enter it.

- If the solution/offering is not popular, it dies out, giving way to new, more efficient alternatives; it does not matter who offers such a product (a known brand or an unknown small player) as long as it satisfies the client.
- Infrastructure and technology are collaboratively supported at a basic level, with total cost shared among the market players. Any improvements to the infrastructure and technology are funded by those who need these improvements. The market is governed by the “beneficiary pays” principle.
- Regulation either becomes shared or transforms into complete self-regulation.
- There is no asymmetric information, the economy becomes fully transparent. Transparency no longer serves as a competitive advantage and cannot be commercialized. Databases, ecosystems and processes are completely accessible: open API, structured databases and a simplified possibility of using Big Data. Value chains of the companies include third-party agents with the considerable part of the production/services provision being outsourced. Market entry barriers are weak (most of the markets are close to perfect and monopolistic).
- Personal long-term financial strategies are preferred to immediate consumption. Each agent can plan their actions several steps ahead due to the organization of this cashless economy. All agents have the resources and capabilities to improve their own well-being, which, in turn, increases collective welfare.
- The level of trust, the quality of shared consumption and the level of security increases in different areas starting from the payments industry and spreading to other aspects of society.

### “What caused such changes?”

- There are changes in behavior of agents, decentralization of the external environment and the transition to a sharing economy. Every agent is aware of the benefits of sustainable behavior and the advantages of an economy of such type, for instance:
  - public benefits:
    - agents like to share products/information/resources/assets
    - due to the active participation of agents in society, their reputation improves;
  - economic benefits:
    - resources saving (time, effort, money, natural resources),
    - more efficient use of resources: easier access to them, as well as additional income from the reduction in idle time.
- Key business models are those based on network effects such as online marketplaces, mainly due to the active development of network offerings (networks) resulting from agents trusting each other and the distribution of power. Banks are no longer needed as transaction performers, payment and other bank offerings can be ordered as a service.
- The product life cycle or the relevance of technology critically depends on the speed of change, which sets the key principle of survival in the external environment, “change or die”.
- Single universal solution/set of solutions that satisfy all cashless economy does not exist.
- There are mainly customer-oriented services.

- Consumers are willing to participate actively in the development and creation of offerings and content. They are involved in the value chain of products and services and become a key element of business models. Customization and personalization are integral parts of the process of any payment product creation.
- The decentralization is supported by the systems’ architecture and the regulator’s decision to move away from controlling functions in its activities. In the majority of cases, agents are aware that the system is decentralized and do not expect instructions from one or more agents.
- Decentralization will help to mitigate operational and structural risks (e.g. the risk that the system will fail and nobody will be able to pay at that moment). Every local failure of one player can be immediately replaced by an offering from another player.
- Inter-industrial standards for customer identification that are accepted by all providers are created. Virtualization of information makes it possible, if necessary, to transmit all the data about a client.
- Consumers internalize the decision to use cashless payments from an early age. The services are so intuitive that anyone can understand them, despite the complexity of internal processes. Financial literacy is developed at such level that the population can easily choose among a large number of alternatives. There are services that significantly help make the choice or even make the choice for the customer.
- The economy can be clearly segmented, niches for payment offerings are clearly distinguished.

“What is remarkable in this world, what will my colleagues be particularly interested to know?”

- Market niches can change and modernize. The boundaries of the services are blurred. Clients select the providers without referring to their history and brands, but the brands themselves don't disappear.
- Based on a number of indicators (number of customers per offering, the volume of assets, etc.) there are local leaders in different segments of the market. However, there is no single universal solution, in most of the segments, that could help an agent to become the market leader.
- The platforms that are initially owned by commercial companies will eventually become public.
- A new form of relations between the agents evolves in the market. The usual commercial formula “money – goods – money” breaks because of new offerings that involve different exchange processes (e.g., “goods – goods” or “value – item – value”).
- Accounting and tax rules, regulations and norms change because of open data, personalization and customization.
- Shared regulation, self-regulation (partial or full) can take one of the following forms:
  - **voluntary self-regulation** implies no-interference from the government or the individuals/organizations with certain powers;
  - **coerced self-regulation** appears when the industry creates rules and obliges all participants to comply with them because of the threat of state regulation;
  - **sanctioned self-regulation** is an option, in which the industry creates rules and regulations that are subject to a regulator's approval;

- finally, **mandated self-regulation** occurs when the government requires industry to develop its own regulatory norms and framework.
- Versions of self-regulation vary both in the methods of implementation and the level of regulatory responsibility. Partial self-regulation occurs when individuals create the rules, while control of the execution of these rules is carried out by state authorities (e.g. the regulator). Full self-regulation implies that the industry is responsible for both the creation of standards and regulations and their implementation by all of the market participants. In the latter case, the government does not intervene in any form. The key feature of self-regulation is the existence of a credible threat, established either by the industry or regulator. Violation of the rules entails serious problems, including a threat to the existence of the violator (for example, being banned from the industry).
- There is a risk that the competitive system will transform into noncompetitive models. A system can become centralized in cases where decentralization is not supported by architecture.
- There is a possibility that people will get tired of constant situational choice and will start buying from one/a few providers which can thereby capture a considerable market share. This behavior of agents will identify the leaders and will result in centralization of the system.
- The inclusion issue disappears: everyone can find a niche player which provides the financial services in a desired way and on acceptable terms.
- A large number of developers/employees are oriented to cashless economies. Innovations thrive because of an increased interest of Russian and foreign companies and people.
- Due to active competition, an absence of information asymmetry, as well as the removal of market imperfections and transaction frictions, the market becomes close to perfect.

- There is a potential alternative:
  - The payments industry is part of the general economy and coexists with it based on the rules established by the external agents of the ecosystem. This situation is similar to the way the payments industry coexists with the rest of the economy today: banks that participate in the payments business must take into account the requirements of the Central Bank, Basel Accord and other agents that are not direct participants in the payments market. The economy becomes quasi-cashless: the main changes occur around the payments industry and there is little effect outside.
  - The payments industry becomes the key industry, and the rest of the economy has to accept the rules set by the agents that are members of the inner circle of the cashless economy ecosystem. A cashless economy is a national priority, other industries (not only financial services and payments) also promote cashless payments and help develop the industries that are important for payments industry. The economy becomes completely cashless: main changes and effects are observed outside of the payments industry.
- **“Interface Renaissance”:**  
the number of interface offerings increases daily. The client gets more opportunities for customization and choice among payment solutions. Companies get a chance to profit on the interface products, constantly improving existing and proposing completely new offerings.

#### “What is the agents’ behavior?”

- Every participant of the cashless economy pursues long-term goals: the consumer, the regulator, and commercial agents. Moreover, they are proactive and do not wait until there is a major problem.
- They anticipate changes and prepare solutions/eliminate possible causes of adverse shocks and changes. Every agent tries to be responsible and cares about security (e.g., fraud), despite the fact that it is controlled by the state. Agents want to participate actively in the life of society and the creation of shared products, both at the level of regulation and at the product level. Agents know the areas in which they are incompetent, and do not participate in them without proper training.
- Agents have different goals in the economy, not all of them are focused on commercialization. Each agent is aware of its role and the role of others in the economy and expands its presence in the economy, if in a position to provide the best solution. As a result, the commercial player usually selects a small number of niches that become its priority or its only direction. There is a high level of substitutability: there are no irreplaceable representatives of the agents.
- Businesses are predominantly innovative, there are few to no duplicates of the products. Targets, barriers and drivers are internalized within the agents, rather than existing outside of their organizations and representatives. It does not matter if a commercial agent exists in the market for a long time or has just appeared: the brand history plays a minor role compared to the quality of products and services. The consumers have full freedom of choice; they even have the possibility of creating their own offerings.

#### “What may be a signal of such cashless economy outcome in our lives today, in mid-2010s?”

PANDAMONEY, PAYQR, MOBICASH, IBOX, 2CAN, KOSHELYOK, CARDBERRY, YANDEX.MONEY, APPLE PAY, SAMSUNG PAY, ANDROID PAY, QIWI WALLET, GOOGLE WALLET.



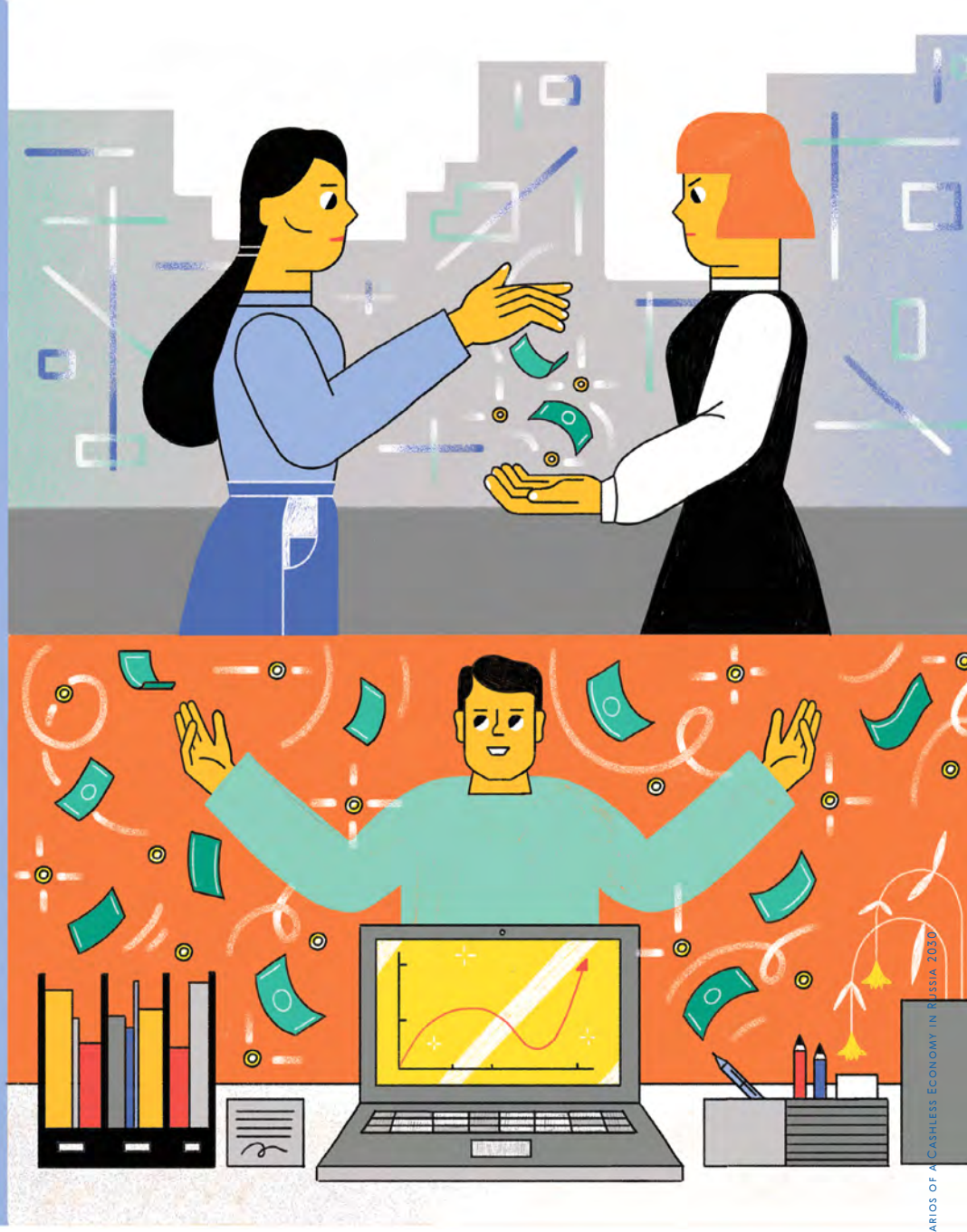
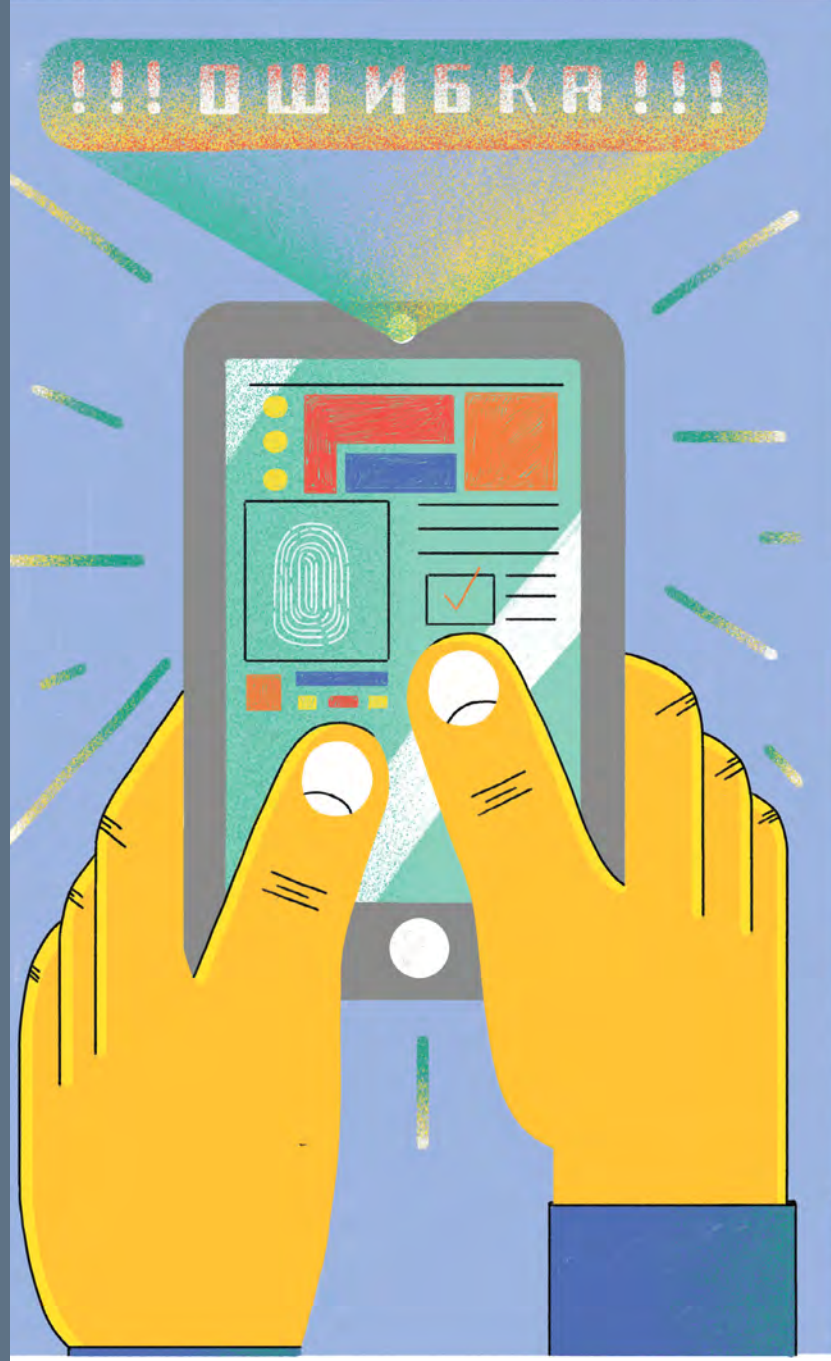
The interface features a top navigation bar with a home icon, a profile icon, a search bar, and a notification icon. The left sidebar contains a search section with five hashtag entries and a grid of nine navigation icons. The main feed displays three posts:

**Post 1:** Profile picture of a moon and night sky. Username: @ratepaymapp. Date: 25 апр 2030. Text: Лучшие методы для совершения платежа по нашему мнению в новой подборке. Подробности: [bit.ly/fs3ba2uuc23lkzzz](http://bit.ly/fs3ba2uuc23lkzzz)

**Post 2:** Profile picture of a red YouTube play button. Username: @newsrusss. Date: 26 апр 2030. Text: Сегодня представители финансовой индустрии внесли поправки в регулирование предоставления P2P платежей. Подробности: [bit.ly/gkmdweofmvwetgewgd!md](http://bit.ly/gkmdweofmvwetgewgd!md)

**Post 3:** Profile picture of a woman with red hair. Username: @klisr577869. Date: 5 авг 2030. Text: заплатила футболкой, как хорошо, когда не нужно с собой ничего таскать на пробежку. Below the text are two illustrations: a woman in a white t-shirt with a red heart on the chest making a peace sign, and a close-up of a hand pointing to the red heart on the t-shirt.

Scenario #4. System Failure  
(decentralization + reactive)



Decentralization of the system happens unexpectedly for the market participants. Payments are managed by small companies that are unable to reach consensus on the industry standards and maintain the system at the appropriate level of quality. Failure in a cashless economy: a restart is required.

“What is the configuration of this cashless world?”

- Agents that could influence the structure of the economy (e.g., the state and the regulator), follow their Western colleagues, or even trying to get ahead, decentralize and transform the architecture of the payment system.
- Existing methods of payment fail. Cashless economy principles based on the intermediaries and the existing legacy systems also fail. Payments are no longer an interesting market.
- Increased systemic risk in the economy.
- Some decisions that seem drastic are being taken, even though they would have not been even considered several years before, e.g.:
  - closing business units: many banks refuse to provide payment services;
  - deregulation: complete freedom for new technologies implementation (mass “sandbox”);
  - merchants drop cashless payments: some agents, for example, mass retailers (stores, products, taxi etc.) refuse to accept cashless payments;
  - the population stops paying cashless due to frustration
- Consequently, the share of cashless payments is reduced due to the decreased levels of trust in the economy.

“What caused such changes?”

- Decentralization of the system that the agents did not expect. The behavior of the agents remains reactive, they fail to come to an agreement on the standards of payments and client identification for several reasons:
  - they do not realize the necessity;
  - they simply do not have time for anything because of rapid system failure; and
  - everyone insists on their opinion and does not want to change/adapt to other conditions.
- Unconscious incompetence of the majority of players does not allow them to support a decentralized architecture without the regulator’s help.
- The transparency of the economy decreases, resulting in an outburst in the shadow economy.
- Despite the access to information, agents either do not trust the data or are not in a position to analyze it. The right approach to data usage becomes a competitive advantage.
- Critical infrastructures (not only payments) become extremely vulnerable.
- Consumers react to constant payment failures by stopping using traditional cashless payments, or even by reverting either to cash or to new types of cashless payments, not used widely before.



**“What is remarkable in this world, what will my colleagues be particularly interested to know?”**

- Among the reasons for decentralization there are one or more significant issues (e.g., sanctions, the introduction of a new payment system for which Russia was not prepared, cyber attacks), or their expectations, the increase in systemic risks and cyber attacks (in the case of cyber attacks or other failures, systems distributed among smaller agents, would not all collapse at once, and each attack could be terminated locally).
- When the government is trying to recentralize the payments market, thus responding to the increased risks in the economy, they are not able to do it sufficiently quickly. The main reasons might include the fact that infrastructure and technology are in the hands of small agents. These small agents are aware that in the case of centralization they will lose their benefits and power, even if it is local.
- Reconfiguration of old solutions is needed. New business models with innovative solutions and new regulation will help to overcome crisis and to reboot/restart a cashless economy.
- As a result, in this scenario there are two possible ways:
  - the backward step reverting to cash payments,
  - a new era of cashless payment (e.g. electronic cash).

**“What is the agents’ behavior?”**

- Agents are incompetent when making decisions. Basically the decision-making process is a reaction to what is happening in other countries, in order to “keep up with the Joneses” because “we are certainly not worse and can do this, too.” However, due to incomplete information and lack of a long-term strategy the agents cannot do it. When the system crashes, reactive behavior dominates: the reaction results in unsuccessful attempts to fix the failure.

- Commercial agents are especially incompetent, because they have always relied on external incentives and barriers and now they have been given the control over the payments market. They are deprived of the opportunity to behave reactively, as they become key agents in the industry and have to set the trends that would define the behavior of all other players.
- Most agents are inert and are unable to realize their potential to find a niche in a decentralized system in which there are no predetermined solutions. They are trying to become a universal player, but are not able to meet all customers’ needs.

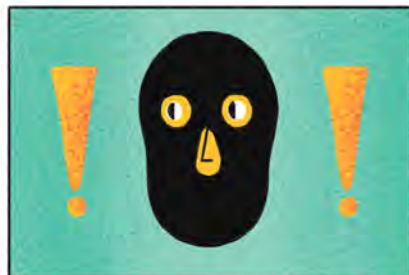
**“What may be a signal of such cashless economy outcome in our lives today, in the mid-2010s?”**

ETHEREUM, BITCOIN, attempts to create BITROUBLE, «regulatory sandbox», blockchain implementation

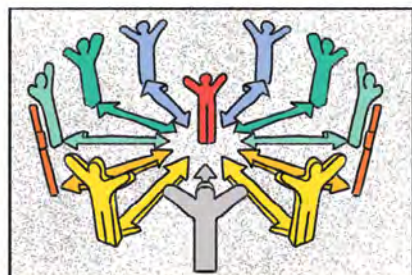
## кибер-атака



- ☞ кибер-атака 2029 что произошло
- ☞ кибер-атака 2029 кто виноват
- ☞ кибер-атака январь хакеры кто
- ☞ кибер-атака январь что делала кибер-полиция
- ☞ последняя кибер-атака что будет с платежами
- ☞ кибер-атака как защититься
- ☞ кибер-атака что делает регулятор



## децентрализация



- ☞ децентрализация 2029 зачем
- ☞ децентрализация будущее платежей
- ☞ децентрализация 2029 внезапно зачем
- ☞ децентрализация кто управляет
- ☞ децентрализация 2029 когда закончится
- ☞ децентрализация не работает

## безналичные платежи почему



- ☞ почему в кафе не принимают безналичные платежи
- ☞ почему в метро не принимают безналичные платежи через приложение
- ☞ почему в мобильном приложении не отображаются безналичные платежи
- ☞ почему госуслуги не проводят безналичные платежи
- ☞ почему не проходят безналичные платежи
- ☞ не показывает безналичные платежи почему

The future  
depends on  
what you do  
today  
Mahatma Gandhi

The best way  
to predict  
the future  
is to create it  
Peter Drucker



The analysis presented in this book is based on the ideas coming from a continuous dialogue with the state and industry representatives, as well as on the information about current and future cashless economies and financial services in Russia and in the world. These results represent only a part of the materials and knowledge on a cashless economy that we have acquired over the entire time spent on studying the topic.

Financial services, and payments in particular, are becoming more important every day. Soft regulation or even lack of it in some areas, more rapid technological and behavioral changes open up new opportunities, including economic diversification, which many participants dream about. Currently, Russia stands at a crossroads, due to uncertainty in the behavior of the agents (proactive or reactive), as well as in the structure of society (centralization or decentralization). The scenarios described in this work, are the extreme alternatives of a cashless economy. It is still uncertain as to who will lead: the regulator, commercial players or the market overall.

A cashless economy could be centralized and the regulator will be responsible for some important functions (for example, accounts storage) for the purposes of national security. And at the same time, the commercial players might be responsible for the payment process, where efficiency and optimization are important. In addition, in order to avoid systemic risk, it might be a centralized system with a sophisticated, architecturally decentralized network of small players offering payments. However, it may be a fully decentralized system, too.

The Russian market has its specifics; it differs from markets in Western and Eastern countries, so a simple application of foreign developments may not work in this case. If this country wants to create a well-functioning cashless economy, its participants should start preparing for it, focusing on successes while taking into account the mistakes made by other countries, choosing which scenario or combination thereof they want to see.

Sanctions notwithstanding, Russia is integrated into the world community quite strongly and, therefore, the policies of other countries and international organizations have the ability to affect the development of cashless economy in our country. “Black swans”, events that we do not even think of, might change everything in a radical way.

That is why these scenarios are not a crystal ball for divination. They perform their main function, making all the agents in the payments market and the economy think about what they are able to do now in order to achieve or avoid any of the described scenarios, and start to plan their actions according to the chosen strategy.

The “Cashless Economy in Russia 2030: Scenarios for the Market and Industry” project team and the whole Finance, Payment and e-Commerce Chair at the Moscow School of Management SKOLKOVO will continue their work on shaping the future of a cashless economy.

We are open to a dialogue with all stakeholders and are ready to cooperate on individual projects and on strategic planning for different markets and industries. Joint efforts to achieve the desired future will follow the Pareto principle: improving the welfare of individual agents without deteriorating the welfare of others. We believe in a better future and want to create it together with you.

Regulation

Security

Central Payments Pipe

Regulator becomes a service provider.  
New cashless payments regulation  
New law on the protection of a digital identity

Increasing national security  
Increasing systemic/social risk control  
External barriers for payment security  
Centralization of the processes for digital ID protection

Payments Throne

The regulator has a long term strategy for a cashless economy development that is based on the key agents' behavior  
The regulator provides rules and a legislative platform

Systemic/social risk control through providing necessary information to the regulator, as well as constant improvement of existing infrastructure  
Agents worry about security themselves, therefore they are more responsible during the payment process

Payments Bazaar

Self-regulation – complete/partial transfer of regulation and standards development to consumers and providers of financial services  
Each industry comes to an agreement on internal standards that are later used in practice  
In case there is no consensus on standards, the regulator introduces the standards in collaboration with industry representatives

Every agent tries to be responsible and cares about the security (e.g., fraud)  
Inter-industrial standards in different areas, e.g. identification, client verification, anti-fraud

System failure

Stimulation of decentralization via transformation of the payment system architecture  
Agents cannot maintain decentralization without regulator's help  
New regulation is needed

Agents are unable to come to an agreement on the standards of payments, client identification and other security related issues, including anti-fraud

## Business models

### Central Payments Pipe

Commercialization of payment is not possible

Small companies might be responsible for payment process elements, e.g. processing, verification, antifraud., if the regulator outsources them

Tenders determine companies for outsource

Key aim – inclusion of all population in cashless payments

### Payments Throne

Integration of payments into new business models in order to increase profit; new business models based on payments

Unified payment platform is used to earn income

Business processes optimization: functions that are not profitable to perform in-house are outsourced (Platform operator might not incur infrastructure costs at all).

Functions and segments that are not considered key or that do not bring enough profit for the Association members are excluded in advance

Models based on the growth and inclusion are no longer dominating

### Payments Bazaar

Specialization – search for a niche

Main principle of survival – “change or die”

Market is full of flash-companies – fast-growing projects with a vibrant idea that are not able to stay in the market for a long time and are being quickly replaced by other companies

There are only client-oriented services. That is why every consumer could find a niche player that will provide the service he/she needs (100% inclusion)

Firms start including customers in their value chain at the early stages of product development.

Key business models are those that are based on network effects – online marketplaces-e.g. platforms. Such models are no longer based on growth models or economies of scale

### System failure

Reconfiguration of old solutions is needed. New business models with innovative solutions and new regulation will help to overcome crisis

Exclusion of certain users from cashless payments; cashless payments are no longer in demand

## Infrastructure / technology

### Central Payments Pipe

the infrastructure meets global standards, it is innovative and modern

However, there is a risk that constant improvement and modernization of the infrastructure would be impossible due to lack of investment.

### Payments Throne

Innovative and efficient infrastructure with well though IT architecture

“Smart data pipe” – integration of different solutions / services provided by various small players to create a unified system

### Payments Bazaar

Infrastructure, technology and cashless economy structure help diminish the information asymmetry

Shared costs on infrastructure / technology maintenance and improvement at basic levels

Infrastructure and technology maintain economy decentralization

### System failure

Infrastructure and technology are in hands of small agents

Constant infrastructure/technology failures during the payment process

## Products

A single account that can be used to pay for any transaction

Standardized product with minimal customization and personalization, very limited choice

Universal payment solution (platform) with possibility of personalization and customization when and if needed

Large number of different products, interfaces, solutions. All products could be customized or personalized

Variability of payments: apart from prepaid or postpaid services, there are freemium, sharing, and other services.

No customer satisfaction

Switching back to cash or new types of cashless payments, not used widely before (bitcoin analogs).

## Information

**Central Payments Pipe**

Data nationalization

A risk of centralized databases overflowing with data due to lack of control/expansion

Big data analytics is used to improve economic development in the country

**Payments Throne**

Limited access to clients data saved in the centralized or distributed cloud

Platform is based on real time data analysis

Transparency of services: starting with a clear definition of the flat rate, ending with transaction mechanisms

**Payments Bazaar**

Information virtualization; transfer of all customer data virtually is possible

Everyone uses as much open information as possible to make a decision

Completely transparent economy. All data that is not limited by the law of privacy might be used by the agents

**System failure**

Lack of trust in given data or inability to analyze it by the agent, even though it is in open access.

## Payment market

Natural monopoly that needs constant investment, in order to solve problems with infrastructure

Risk of shadow economy growth

Association of the commercial players dominates the market

Cashless payments maximize the profit

Joint financial solutions

Simple payment solutions based on P2P and newest technologies

High competition in the market

Small companies handle payment transactions but agents behavior is still reactive

Cashless economy reboot/restart

## What is a scenario?

**Scenario method**—the process of creation, comparison and analysis of possible future events by examining alternative outcomes (“alternative worlds”) with projections of current trends on specific temporal, conceptual and other frameworks.

**Scenarios** are a structured representation of the future in the form of stories that help to create an objective picture of reality and to adapt it as required for each agent’s strategic direction.

Whilst scenarios **consider current facts**, they are aimed at the decision-making agents’ **perception of the future**. Their main goal is to collect strategically important information and reframe it.

Scenarios are a picture of the future, a snapshot of a day or a year. They are based on the current trends and opinions of insiders, some of which may be missed by some agents in the process of working on daily tasks. That is why the scenarios give a broader vision of the future of a region than any one particular agent can provide today.

## To what do scenarios contribute?

**Scenarios contribute towards:**

- creating a framework/structure, within which to consider uncertainties from a new perspective to broaden the view and to revisit what was overlooked during strategic planning;
- informing all participants about the current state of the problem/phenomenon and its possible future development in order to recognize the indicators of change and to prevent adverse outcomes;
- increasing agility and the speed of response, because of prior preparation and development, in case of unexpected events requiring urgent strategic decisions/changes;
- better communication between stakeholders by defining the concepts and the “language” that is clear to all stakeholders, thereby inviting all stakeholders to engage in a dialogue and make effective collective strategic decisions; and
- facilitating strategic planning through reducing the need to develop their own foresight materials and predictions of the future.



## What is new about the scenarios outlined for a Cashless Economy in Russia 2030?

Scenarios are:

- a consolidated, independent long-term outlook for the industry not only through the eyes of the members of the inner circle, but of the entire economy;
- a study based on the opinions of the financial services market experts as well as regulatory bodies and independent associations;
- a qualitative analysis of the existing academic and business literature on the topic to determine the starting points and localized global trends;
- a proven, multi-step methodology for analyzing the future;
- the first structured description of the key fundamental aspects of the future of a cashless economy in Russia and their impact on raising the awareness of the business community and improving business strategies; and
- the start of the dialogue on the topic of a cashless economy in all fields and with different agents.

## What scenarios of a Cashless Economy in Russia 2030 are not

- the only and exact picture of the future cashless economy;
- a probabilistic assessment of the configuration of a future cashless economy;
- a description of all events that will occur in society during the reporting period; and
- recommendations for the use of any particular strategy.

## How can I further use the materials presented in this book?

Scenarios can be used for:

- assessing potential benefits of agents in a cashless economy;
- developing one's own strategy and understanding the strategies of other players;
- developing entry/exit strategies;
- determining niches and understanding their roles in a cashless economy ecosystem;
- evaluating effects of major events in the industry for each agent;
- understanding the opportunities/shortcomings in internal processes/operations of the participants of a cashless economy;
- improving the interaction within a cashless economy ecosystem by understanding the needs/targets/actions of each player;
- strengthening the GR and PR strategies;
- making a probabilistic assessment of each outcome given the specified events in a cashless economy;
- understanding the areas of competitive advantages of each of the agents and their impact.

Finance, Payment and e-Commerce Chair of the Moscow School of Management SKOLKOVO launched the work on scenarios in June 2016 with a review of academic and business literature, government initiatives and other materials, including all existing global trends and practices in the area of a cashless economy, as well as relevant ideas from related fields. This helped consolidate the experience of other countries to start developing scenarios for a Cashless Economy in Russia 2030. The whole process consisted of three stages:

#### Step 1. June–July 2016

- Literature review (most important research on the topic)
- Outline of key trends in the industry
- Outline of key events that will happen on three horizons: 2016–2020; 2021–2025; 2026–2030

*Key event—foresight session July 26, 2016, Moscow School of Management SKOLKOVO*

#### Step 2. August–September 2016

- Methodology development, outline of key uncertainties
- Own methodology development to analyze foresight session results and outline scenarios
- Scenarios key details identification

*Key event—interviews with experts*

#### Step 3. October—November 2016

- Working group on scenario dynamics
- Results synthesis

*Key event—scenario dynamics working group*

*October 6, 2016—Moscow School of Management SKOLKOVO*

The first important event was the foresight session which was devoted to the identification of the main trends and events in the future economy of Russia over three horizons: the **short-term** (2016-2020) **medium-term** (2021-2025) and **long-term** (2026-2030). Each group worked on one of the four areas, selected on the basis of a review of existing materials:

- localization vs globalization;
- balance vs imbalance of benefits;
- the presence vs the absence of intermediaries;
- universality vs specialization.

Having summarized the results of the foresight session, the project team developed its own approach to analyzing and consolidating key trends and developments, identified during the foresight session; and elaborated the scenarios further. Based on the insights obtained, the team developed a method and a general approach to the development of static scenarios for a cashless economy in Russia. It should be noted that the method is not limited to this project and can be adapted to other areas of society.

Expert discussions with the representatives of the financial market and related industries began in September 2016. The main objective of this stage was to clarify the details within the scenarios and refine them before the final product was released.

A second session with experts took place in October 2016 to identify the dynamics of the scenario. It was aimed at describing the interactions between the four static scenarios in order to gain a more objective picture of the future.

The project team was engaged in the synthesis of the main results, design of all of the materials and summaries from late October to December 2016.

There is nothing which  
I can esteem more highly  
than being and appearing  
grateful. For this one virtue  
is not only the greatest,  
but is also the parent  
of all the other virtues.  
Marcus Tullius Cicero

This book is a synthesis of many contributions from different people. All of them have helped to shape the content by sharing their thoughts during the working sessions and expert interviews.

The project team is grateful for the time, energy and collaborative idea generation, and wants to thank the following participants:

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