

Accessibility of Financial Services for Customers with Disabilities in Russia: Challenges and Prospects

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Abstract—The development of information technologies provides an opportunity for banks to introduce a new category of customers to the financial market that are the persons with disabilities. The emergence of innovative remote banking services allows creating their barrier-free entrance to the market. Despite the increased attention given by the Bank of Russia to ensuring the financial accessibility for the new category of the customers, there are a number of challenges at the domestic market. The challenges can be addressed through the widespread application of biometric technologies.

Keywords—*financial accessibility; banking services; disability; Internet banking/online banking; mobile banking; remote servicing; ATM; biometrics*

I. INTRODUCTION

The improvements in information technologies, their ever-increasing entry into the great variety of spheres of our life, as well as the tremendous growth in the volume of information have resulted in a new qualitative leap in the development of the society. It is often said, that the digital revolution is taking place and the digital economy is being formed. In Russia, the challenges posed by the digitalization are controlled at the national level. In July 2017 the State Program “The Digital Economy of the Russian Federation” was adopted; its main objective is to ensure the changeover from consumption of the digital technologies to creating and developing them. One of the main goals of the Program is “to create an ecosystem of the digital economy of the Russian Federation, where the digitalized data serve as a key factor of production in all spheres of social and economic activities.”¹

The prospects and the opportunities for the financial innovations in the banking sphere have been long talked about, however, in the recent years, the significant changes

have occurred: the conditions, that are necessary and sufficient for the breakthrough solutions have been created. It may be considered, that Russia is already living in the digital era: it ranks 1st in Europe in the number of the Internet users and 6th — worldwide, 60% of the population are the owners of smartphones. In Russia, nearly 80 million people are connected to the Internet, 71 out of 100 mobile phone owners use mobile Internet. In terms of the average speed in the Internet (12.2 Mbps) Russia is situated on the same level as France and Italy.

II. MODERN TENDENCY TO DEVELOP FINANCIAL SERVICES FOR DISABLED PERSONS

This ensures that a greater financial accessibility can be guaranteed for the population of Russia, including a new segment of the citizens who previously, de facto, did not have the possibility to use the banking services. We are talking about the persons with disabilities. Statistically, nearly 15.3% of the world’s population cannot use the standard banking services due to the reduced psychical, physical or sensory capabilities.² But the banking technologies are developing globally while accommodating to this category of customers by means of creating assistive devices and technologies.³ In addition to wheelchairs, prosthetic appliances, mobility aids, hearing devices, visual aids, there are special computer equipment and software which improve mobility, hearing, vision and communicating capabilities. With the help of these technologies the persons with disabilities can improve their abilities, and consequently,

² NabilEid. Is Banking Accessible to Persons with Disabilities? June 2015 [Electronic resource] URL: <https://www.linkedin.com/pulse/banking-accessible-persons-disabilities-nabil-eid/> (last access date 20.11.2018)

³ Assistive devices and technologies// World Health Organization. URL: <http://www.who.int/disabilities/technology/ru/>

¹ State Program “The Digital Economy of the Russian Federation”

the possibilities, in order to use the banking services independently.

Various countries around the world have taken different approaches to stimulating the financial markets with the purpose of a better satisfaction of the disabled persons' needs for financial services, both regarding physical accessibility of the subdivisions and automated units of financial organizations, and regarding the accessibility of the digital financial services. However, an easy access to the remote channels for getting the financial services has a greater importance for the disabled persons because of convenience of this type of servicing and comparatively lesser amount of costs when creating the barrier-free digital environment. The definition of the notion –accessibility for the disabled persons,” the provisions about the accessibility of the banking services and the information availability are given in the corresponding sections of the United Nations Convention on the Rights of Persons with Disabilities.⁴

According to the Rosstat's data (Federal State Statistics Service), in 2016, over 12.7 million citizens with disabilities have been officially registered in Russia, there are nearly 40 million mobility-impaired citizens in total in the Russian Federation⁵. Since 2015, active work in the area of enhancing the financial accessibility for the disabled persons has started in the Russian Federation. Since 2016, the Bank of Russia and the Presidential Commission of the Russian Federation have set up the working groups within which the social organizations, the associations of the disabled persons, the Federal executive authorities concerned, other state structures, the banking and non-banking institutions and their groupings, the associations and groupings of entrepreneurs, as well as the educational organizations are interacting. As part of activities of the Working group aimed at enhancing of financial accessibility for the disabled persons and the mobility-impaired groups of the population formed by the Bank of Russia, the Plan of measures (–a roadmap”) for enhancing the accessibility of financial organizations' services for the persons with disabilities, the mobility-impaired groups of the population and the elderly population for 2017-2019 has been produced and is being successfully implemented. Moreover, in the Strategy for enhancement of financial accessibility in the Russian Federation for the period of 2018-2020, the line of activities related to enhancement of financial accessibility for the persons with disabilities has also been singled out as a separate priority.

III. RECOMMENDATIONS OF THE BANK OF RUSSIA

The Bank of Russia drew up recommendations for providing the accessibility of services offered by banking

⁴ Convention on Rights of Persons with Disabilities// United Nations Organization, 13/12/2006. URL: http://www.un.org/ru/documents/decl_conv/conventions/disability

⁵ How the Russian banks became more willing to provide services to the disabled and the elderly persons // <https://ria.ru/economy/20171202/1510063750.html>

institutions for the persons with disabilities, the mobility-impaired groups of population and the elderly population.⁶

The significant part of the recommendations, based on the analysis that the Bank of Russia has performed while reviewing the experience obtained by a number of banking institutions in providing the accessibility of their services to the persons with disabilities, is devoted to the area of payment.

Thus, when equipping and setting up the ATMs, for improvement of accessibility of services for the vision-impaired persons it's recommendable for the banks to include the tactile markers on the keypad; the option of putting out the complete information displayed on the screen of an ATM with the use of the software speech synthesizers, through the user's earphones as well, and the option of listening to the information repeatedly; the option of putting out the information on the screen in large type, as well as in a contrast-enhanced mode (black letters on a white background or white letters on a black background with the option of selecting the background); availability of contact information concerning the possibility of receiving guidelines on how to work with an ATM in large print or in Braille. The banks are recommended to ensure a limited access of the third parties to the information displayed on the screen of an ATM, while the vision-impaired persons are working with it, in particular, where possible, to locate an ATM in a special box.

While servicing the payment cards and other electronic payment means by the bank, ideally, a system must be applied allowing for interaction with the customer with the purpose of providing information to this customer (for example, concerning the account status, creating a PIN-code) in automatic mode; if the only channel for such interaction is the voice system, then there shall also be an alternative channel for providing/receiving the information for hearing or speech-impaired persons.

The Bank of Russia calls on the banks to adapt the mobile applications and the official websites for easy use by the hearing and vision-impaired persons. For example, for the vision-impaired persons, it is possible to ensure the use of mobile applications and websites jointly with the software converting the text information into speech. In its turn, there may be a need to supplement the audio channels for interaction with the customers with the text user interfaces and the graphical user interfaces, for example due to implementation of a chat, video call technology and rendering of a sign language interpretation service.

The banks are offered to appoint the officers from a subdivision's management who shall be responsible for implementation of measures for improvement of accessibility of services for the disabled people. Besides, the regulatory authority recommends including the subjects concerning the peculiarities of work with such customers and the corresponding laws and regulations into the training

⁶ Information Letter of the Bank of Russia No.IN-03-59/20 –On recommendations for ensuring accessibility of services offered by banking institutions for the persons with disabilities, the mobility-impaired groups of population and the elderly population” dated May 12, 2017

programs for the employees of banking institutions. In the Bank of Russia, they point it out that the information contained in the letter is not prescriptive in nature.

However, the Bank of Russia plans to introduce in stages the system for supervision of the banks with regard to assessment of quality of services provided to the persons with disabilities, the elderly and the mobility-impaired population, in 2018, the regulatory authority intends to develop a special rating of banking institutions, and, possibly, the firm action will be taken against those who do not fulfill the recommendations.

IV. CHALLENGES OF BANKING SERVICES FOR CUSTOMERS WITH DISABILITIES IN RUSSIA

The analysis of the banking services market shows that, for the most part, the customers with disabilities are provided with services by Sberbank PJSC and VTB PJSC (they account for 90% of this target group). 92% of the customers with disabilities have accounts in the banks, 82% — payment card, 40% — deposits. However, the credit loans are taken twice less often by this category of the customers, than by the common customers (16%). The key criteria for ensuring the real accessibility of services (for all types of disabilities) may be considered the following:

- Infrastructural connectivity;
- Availability of remote and specialized services;
- Systematic approach in work with this category of the customers;
- Internal policies of the bank and personnel training.

Among the challenges of the domestic market of banking services for the customers with disabilities the following can be listed:

- Impossibility to get a service quickly in emergency situations (for example, blocking a card for the customer with reduced speech or hearing capabilities, in case of a loss) without visiting the office;
- The ATM infrastructure is difficult to access by the vision-impaired customers in the whole;
- The issue of familiarization of the vision-impaired customers, as to familiarization with the agreements, is not well-resolved in legal terms.

When evaluating the accessibility of financial services, the vast majority of the vision-impaired persons (86 %) stated that this poses a problem for them. The same evaluation was expressed by the two thirds of the hearing-impaired persons (64 %). Overall, almost a half (46 %) of the persons with disabilities reported that it's more difficult for them to use financial services than for other people.

In this connection, the domestic banks are faced with a rather difficult task of developing the tools and the technologies for attracting the customers with disabilities to the financial market.

V. SPECIAL PRODUCTS AND SERVICES FOR PERSONS WITH DISABILITIES

Today, in the world banking practice there is a sufficiently developed set of tools for improvement of accessibility of remote channels for banking service to be used by the disabled. These include:

- The ATMs equipped with audio jacks, protruding dot above figure 5 or Braille typing on each button for improved navigation of the keypad, deepenings on the keys to be pressed easily and keys “enter” and “cancel” made in colour;
- The ATMs modified for the wheelchair users;
- The non-contact ATMs (are being developed and tested);
- The documents presented in several formats — in audio-format, in Braille (including PIN-codes typed in Braille), in large print⁷ (including check books and payment documents), in simplified form, which are available at the bank departments or can be ordered at the departments and sent directly to the customer;
- The adapted websites and mobile applications — accessible by screen-readers and convertible in Braille type, versions of websites in large type, with simplified information and colour scheme;
- Provision of services with the help of the mobile banking offices and the possibility of ordering a service in the home, in the hospital or at other locations of temporary or permanent stay;
- The option of mobile application allowing the disabled person to announce his/her arrival to the personnel through the lighthouse system specially-installed in the office (when downloading this mobile application the customer may specify all peculiarities of the way in which the services shall be provided to him/her, and as soon as the application detects the signal of the lighthouse, installed at the bank department, the officers automatically receive notification on the visit of the disabled customer, his/her photo and details about the peculiarities of the way in which the services shall be provided to him/her)⁸;
- Provision of services to the mentally-impaired customer through his/her authorized representative subject to effectuating the corresponding power of attorney for such person;

⁷ Arial font, font size: 20. (Additional needs: Making everyday banking easier for customers // Guide, Lloyd's Bank, September 2016. URL: http://www.lloydsbank.com/assets/media/pdfs/Accessibility_additional_needs.pdf).

⁸ International experience of regulatory innovations with regard to provision of services to the persons with disabilities and the mobility-impaired groups of population, the practices of individual countries as related to ensuring financial accessibility // http://www.cbr.ru/content/document/file/44094/review_jan_2918.pdf

- Video banking, including video interpretation services (sign language interpretation) for the hearing-impaired persons;
- Telephone banking;
- SMS-services, chats and text translation services for the persons with reduced speech and hearing capabilities;
- The alternative methods of identification for the customers with specific mental or physical impairments — for example, voice biometrics, fingerprints and other biometric parameters as an additional parameter of the customer's personal data protection instead of a PIN-code and a password, Chip&Signature cards in case of problems with memorizing a PIN-code (instead of entering a PIN-code the customer will be offered to put a signature on the bill, which then will be compared to the customer's signature on the specified card);
- The applications allowing for effectuating payments with the help of Touch ID technology without entering and voicing out a PIN-code and card details, or contactless payment method (Near Field Communication, NFC) may be used, as well as Talk-Back technology and voice-activated control for the vision-impaired users;
- The option of using bPay — the technology for contactless payments by means of devices with NFC-chips – key fobs, stickers, wristbands, etc. — for which the funds from the bank account are allocated, excluding the necessity of taking the payment card along;
- High-visibility payment cards for the people with reduced visual capability, with the color scale including high-contrast colors, that also suit for the users with color-blindness;
- Payment cards with special symbols for the blind people (for example, dots on a particular side), built-in technology for contactless payment, etc.

VI. BIOMETRIC TECHNOLOGIES AND BANKING SERVICES FOR DISABLED CUSTOMERS

In our view, the great potential for improvement of financial accessibility for the disabled is the development of biometric technologies. The digitalization of the banking sector can't be implemented without ensuring the safety of the customers' personal data. Today, the customer trust is becoming the main factor, and to gain it the banks compete with each other at the market. The upgrade of the information safety system, as well as application of the modern methods of protecting the customer's personal data against fraudsters, will allow the commercial banks to take leading positions at the digital market of the banking services.

At the core of the biometric technologies lies the mechanism of detection of the unique biological characteristics inherent to every specific person. Depending

on the set of individual characteristics of a person, two types of the biometric data can be singled out: statistical data, which are inherent to a person since birth (for example, DNA, fingerprint, eye retina), and dynamic data, which a person acquired and is capable to be changed with age (for example, speech dynamics, hand-written signature or the manner of typing text on the keyboard, etc.).

The world market of the biometric technologies drives up the rates of growth year after year. The forecast of J'son & Partners Consulting, the international consulting company is that, by the year of 2022, the market volume will exceed US \$ 40 billion (see "Fig. 1").

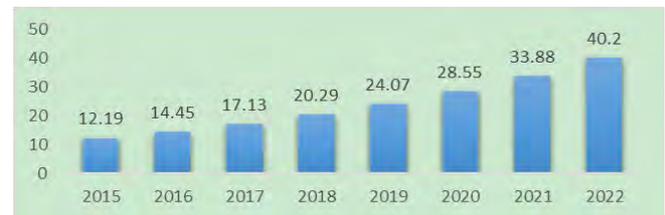


Fig. 1. The world biometric technologies market volume in 2015-2022, billions of USD.⁹

The most frequently used technologies at the world biometrics market, as of today, are fingerprints (38%), as well as hand-vein patterns (18%), which taken together exceeds 50% of the whole market (see "Fig. 2"). Nevertheless, based on expert estimates, in the nearest five years, the method of identification by fingerprints and palm scanning will grow with a reduced rate of progression as compared to the technologies of identification by eye retina and voice, the average annual growth of which is projected to be at 22% by the year of 2022 (for comparison, the growth rate of the fingertips technology on the average is expected to be at 16% per year)¹⁰.

⁹ Review of the international market of biometric technologies and their application in the financial sector. – URL: http://www.cbr.ru/content/document/file/36012/rev_bio.pdf (access date: 19/11/2018).

¹⁰ Dostov V.L., Shust P.M., Kozyreva A.D. New conceptions of applying a risk-based approach in the course of identification procedures // Legal science. – 2017. – No.5. – pages 104-112.

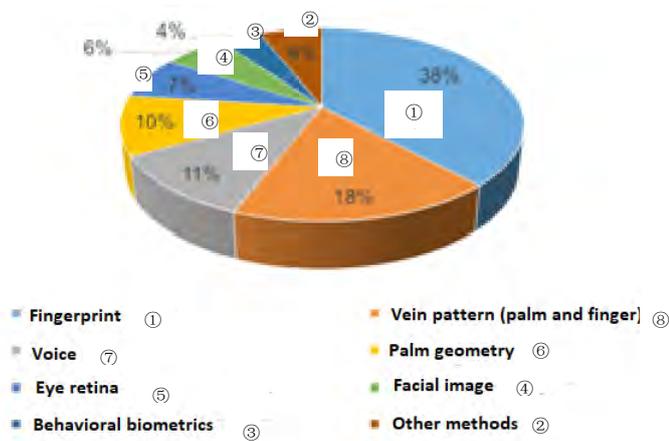


Fig. 2. Structure of biometric technologies in the financial sector, 2016, %.¹¹

The primary driver of growing use of biometrics at the financial market is the active development of mobile technologies, and, correspondingly, the popularization of the mobile banking which, for several years already, is taking the leading position at the electronic banking market. Today, all state-of-art mobile phones have the scanning device for fingerprints, which reaffirms the leading position of this biometric technology at the market. Besides, the smartphones can record voice, make photographic images, and high-quality cameras can even identify a person by his/her eye retina. Thus, the modern phones progressively become the multi-biometric devices.

Apart from mobile phones, the biometric technologies are beginning to be applied in other devices as well, such as ATMs and self-service terminals with the help of a built-in sensor and a video camera, at the shops by means of expansion of biometric terminals, without using the bank card, as well as the devices identifying a person by voice when contacting the Call-center. One of the key trends in the world today is equipping the payment systems with biometric technologies.

Indeed, the introduction into the world market of ApplePay, SamsungPay and AndroidPay technologies became a big breakthrough in the development of biometric technologies worldwide, because these payment services became convenient for a great number of smartphone users. The successful use of biometric technologies by means of mobile devices had a major impact on development of biometric identification, because the banks throughout the world are already launching the pilot projects with the purpose of testing various biometric technologies for identification of users, and, importantly, for ensuring the

high level of the customers' personal information protection. Thus, the biometric technologies can become the driver for the growth of the financial services market available for the persons with disabilities.

VII. CONCLUSION

Creating the stable, long-lasting relations with a huge and previously unused market consisting of more than one billion people around the world is the opportunity that can no longer be ignored by the banks, that is why the question of establishment of inclusive financial infrastructure for the persons with disabilities is fairly relevant.

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¹¹ Review of the international market of biometric technologies and their application in the financial sector. – URL: http://www.cbr.ru/content/document/file/36012/rev_bio.pdf (access date: 19/11/2018).