"Smart Government": prospects for introduction of digital technologies in public administration in Russia*

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ABSTRACT

The article discusses the prospects for introducing government technologies (GovTech) in Russia and the possibility of using digital technologies to improve public administration. GovTech projects are related to forming a "smart state" that uses new approaches to economic regulation, planning, and communication with citizens and businesses. In this regard, GovTech is a set of tools that allow adaptation of the models of public administration to social reality and increase the effectiveness of planning. GovTech is defined as the operationalization of space and resources of management through the creation of digital identities: GovTech tools allow to determine the object's position in real-time and assess the consequences of economic decisions. The author discusses trends in different directions of GovTech development in Russia: 1) open data, 2) public services and digital profiles, 3) integrated platforms and monitoring systems in "smart cities" and regions. Three scenarios of the results of the implementation of GovTech are formulated: 1) digital democracy; 2) machine of targeted control; 3) resource of technocracy.
Keywords: government technologies; GovTech; open data; public services; digital profile; "smart city"; information systems; "smart state"; public administration; digital society; client-oriented government

PROBLEM STATEMENT

The current political environment is characterized by increasing systemic risks. The negative effects are related to the coronavirus pandemic, increasing inequality and social differentiation, the crisis of existing socio-economic development models, including globalization, sustainable development, post-industrial and information societies. In this context, expectations of active government intervention are increasing, which is largely due to the role of the State as the central regulator, which sets and controls the "rules of the game", and is also able to support the vulnerable by increasing budget deficits. In this context, pilot projects for basic unconditional income payments in a number of countries are most illustrative [1], equally important are examples of public support programmes for people and businesses that are being implemented by national Governments in the face of declining business and income in the face of the constraints of the pandemic. [2].

Improving public administration and planning systems are mainstreamed in this context, government technology models are the most sought after — GovTech. GovTech is seen as a platform for the creation of the "smart government" and involves the use of

resources aimed at improving mechanisms of coordination and communication between the state, citizens and business. However, the term GovTech is much broader and, in addition to e-government, includes technologies from "smart cities", digital regions and e-government, digital profiles and identities, open data, integrated information systems. For these reasons, it is advisable not to limit GovTech to public services, but also to include other listed technologies in the analysis.

Digital expansion has been uneven: new solutions have been initiated by fintech and telecom, and the digital wave has spread to education (EdTech), medicine (BioTech). In the context of this logic, GovTech can be seen as involving public institutions in the digital agenda. Nevertheless, it is important to bear in mind that the Government is a complex configuration of interests and relationships that determine the outcomes, often non-linear, of the implementation of digital technologies. This nonlinearity updates the consideration of problems and prospects of the introduction of GovTech in Russia.

GOVTECH AS OPERATION OF CONTROL SPACE THROUGH CREATION OF DIGITAL IDENTITIES

First, GovTech covers a wide range of digital technologies to optimize public administration and planning processes: public service delivery platforms, digital monitoring and decision-making systems, electronic public security services, transport, environment and energy, e-document workflow platform. GovTech aims to improve the quality and reliability of public services, creating a digital environment of communication between the authorities, citizens and business, personalizing and adapting public services to the needs and expectations of citizens. Moreover, GovTech is closely linked to the provision of services and solutions by the private sector to public

entities, which stimulates the production of innovation. For example, in 2019, the global market of GovTech was 400 billion USD, while 48% belonged to the USA and Canada, 27% — to the European Union, 12% — to Asia.[1] At the moment, the leading companies of GovTech can already be identified, and the location of their headquarters in the USA and Canada largely explains the quoted GovTech market volumes in different regions (https://www.govtech.com /100/2020/).

GovTech functions, however, aren't limited to creating new technology markets and government-business cooperation. At the same time, the normative definitions linking GovTech to improved communication between the state and citizens (Government-to-Citizen, G2C), are also insufficient.

GovTech aims to bring new benefits to public administration, so it is possible to define **GovTech as the operationalisation of management space and resources through the creation of digital identities**. The operationalization of the control space involves the building of links between the control elements and the establishment of principles for the measurement of these connections. Previous approaches to public administration and planning used bureaucratic methods and statistics to operationalization. However, GovTech allows us to create a new approach: platforms and integrated government information systems become the basic element, which aggregate and combine information from different sources to form a complex digital identity or digital duplicate of the object of control — citizens, organizations, physical facilities and cities. Operationalization through GovTech solutions is aimed at establishing in real time the position of the object of control in different dimensions of state planning, as well as numerical evaluation of the consequences of economic and management decisions.

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[1] Accenture. GovTech. Europe's next opportunity; 2018.

The integration of public information systems and platforms results in the creation of digital identities. Identity is understood as a digital data corpus from which it is possible to identify a person or organization in a digital system. [3] For example, the integrated digital identity of a citizen is shaped by the integration of personal data from different services: health, welfare, security and public services; there is also a history of employment. However, digital identities are not limited to citizen databases; they may also include virtual maps, digital duplicates of cities and businesses that have become common due to advances in simulation and simulation modelling.

Digital identities and twins express the basic idea of digital transformation — integration of a holistic management environment rather than individual processes. On this bases, it may be concluded, that the operationalization of governance space through the creation of digital identities based on integrated information systems addresses the mismatch between governance models and social reality, using data analysis and artificial intelligence technologies, governments are given the resources to comprehensively assess decisions and forecast the state of the system.

GovTech thus has the advantage of being able to assess and predict the state of multiple control objects through digital identity, doppelganger and media technologies. These advantages enhance the capacity of public administration in the areas of financial planning, targeted social support, forecasting and obtaining operational information on crises, and communication with citizens and business. Today, these objectives are particularly important in view of the growing social differentiation, the rigidity of bureaucratic structures, the persistence of low economic growth and the general uncertainty of the future. To solve these problems, GovTech involves not only operationalization

through digital doubles, but also reducing transaction costs, increasing the availability of information, and involving citizens in decision-making.

It's worth mentioning that examples of large-scale implementation of GovTech at the national level already exist today. It's worth noting in particular the "Transformational Government"[2] program of the Government of "New Labour" in Great Britain, which was to integrate the databases of the various public authorities in order to optimize the fiscal burden of public administration in the context of increasing social differentiation. [4] The integration of databases allowed the identification of individual support measures for individual citizens or social groups through a comprehensive machine analysis of their social situation. A new organizational policy is being developed to implement national GovTech-projects in different countries: in the UK has a decentralized system for the development and implementation of digital innovation in public administration, in Singapore established Government Technologies Agency (https://www.tech.gov.sg/), responsible for digitizing public administration. In addition, given that GovTech covers areas such as e-government, health and education systems, local government, GovTech development is also the responsibility of national ministries of digitization and communications.

GovTech as the operationalization of the control space is closely related to the **infrastructure authority of the state**, which is defined as the capacity of the Government to implement its policies and to enforce its decisions throughout its territory. Infrastructure power is expressed in the creation by the State of conditions in which access to public goods and resources is

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[2] Cabinet Office. Transformational Government: Enabled by Technology. London: The Stationery Office; 2005.

possible only through recourse to Government structures and authorities. [5, 6] Therefore, the conduits of infrastructure authority are the centralized system of public services, national systems of measures and weights, transport and communications systems. In this regard, GovTech — is a tool for implementing infrastructure power in a digital reality, which allow the Government to retain its role as a regulator of social relations in an online environment in which the division of labor is being eroded and social life is becoming increasingly chaotic.

Thus, GovTech as an operationalization of the governance space is not just about improving government planning, but also to create advantages for the state in the sphere of communication with citizens and control of implementation of decisions. For these reasons, GovTech's outlook analysis should take into account how the introduction of digital technologies is changing the way in which the social system integrates and communicates.

PROSPECTS FOR GOVTECH IMPLEMENTATION IN RUSSIA

At the moment, the GovTech market in Russia is only emerging as the informatization of state administration is given priority in government activities. However, it is difficult to estimate GovTech prospects in Russia based on market indicators. Therefore, it is possible to consider the existing achievements and challenges in the different directions of GovTech, based on which it is possible to predict which solutions will receive attention from the state structures. GovTech's main development directions are: 1) open data; 2) e-government services and digital profiling; 3) "smart government" and digital regions. Within each area, it is necessary to consider which technologies are used to operationalize the management space; how the technologies used structure the relationship between the

Government and citizens; what projects and solutions are being implemented in Russia (achievements and challenges).

It is important to note that the priority is not the detailed analysis of existing GovTech institutions and projects in Russia, but the analysis of trends in different directions from the point of view of operationalization of the management space and change the relationship between the Government and citizens. Based on this, it will be possible to form a summary table and draw conclusions about prospects and scenarios of the implementation of GovTech in Russia.

OPEN DATA

Open data — is information on the directions and results of the activities of public authorities and local governments, which is available on the Internet in the form of data sets. Government structures publish huge amounts of data and information through open data portals, statistical reports and infographics. By providing their data sets, governments are operationalizing the management resources they have, making them more transparent and accountable to citizens.

Open data is characterized by reuse and free dissemination, so it is seen as an effective tool for stimulating business and creating innovative, citizen-oriented services. [7] Open data enable citizens, first, to assess the adaptability and acceptability of policies and, second, to create expectations about public policies in specific areas. In the context of structuring public relations, open data operationalizes the space of governance not so much for Government structures as for business and citizens, enabling them to monitor data on financial flows, efficiency of infrastructure projects, and scope of regulation of economic sectors. On this basis, open data can be considered as a resource for social self-organization, as the hosted

datasets become the signals on which citizens and businesses assess and make decisions.

In Russia, Federal Act "Amendments to the Federal Act "On information, information technology and the protection of information" and Federal Act "Access to information on the activities public authorities and local government" (https://base.garant.ru/70393024/) regulates the publication of public State data. In addition, the obligation of the federal executive authorities to publish public data is established in the Decree of the President of the Russian Federation "On guidelines of the improvement of public administration" (https://base.garant.ru/70170942/). Detailed information on which public data should be published by the authorities is available to the Government of the Russian Federation "Approval of a list of publicly available information on the activities of the Federal Public Administration, the government authorities of constituent entities of the Russian Federation and local government, which is posted on the "Internet" information and telecommunications network in the form of public data" (https://www.garant.ru/products/ ipo/prime/doc/70313602/). Information on the names of authorities and subordinate organizations and a plan for the conduct of inspections of legal entities and individual entrepreneurs for the next year should be published in the form of public data, and results of scheduled and unannounced inspections, vacancy announcements, activity-specific license registers. There are common regional portals, relevant sections on the websites of ministries and departments, and a federal open data portal for the publication of public data — data.gov.ru.

Open datapPolicy as direction of introduction of GovTech in Russia faces certain problems. In the context of open data, the operationalization of government space is reflected in the average openness of federal and regional governments, which is currently insufficient. For example, in 2019, the average informational openness of the websites of federal ministries and agencies was 67%, with the results of the different departments being highly variable: show a high degree of openness Ministry of Finance of the Russian Federation, Federal Service for Intellectual Property and Ministry of Transport of the Russian Federation, however, some agencies generally do not have open data sets (https://read.infometer.org/foiv2019). At the regional level, the average open access of open data sections and portals was 54 per cent, with the average open availability of mandatory sets estimated at 43% (https://read.infometer.org/region2019/od/rating#!/tab/122830689–3).

Taken together, these indicators indicate a lack of operationalization of the control space through ongoing monitoring of the release of open data.

Despite the generally low level of open data policy, further development of GovTech in Russia in this direction remains possible. In particular, the Chairman of the Accounts Chamber of the Russian Federation A. Kudrin noted the problem of inefficient work of federal agencies in publishing open data at the V Open Data Day, where he noted the need to develop open government data portals at all levels of government. In addition, in March 2020, information became available on the Government of the Russian Federation work to re-establish links with OECD, which could also stimulate the evolution of open data policy, as the OECD is a main agent in promoting the concepts of open and digital government.

In this regard, it should be noted that the improvement of open government data policy as a component of GovTech requires the following solutions. First, there is a need to identify which online resources are the key to hosting open data sets, because uncertainty also affects low levels of openness. For example, the average rate of data openness on single regional portals is 63.8%, on websites

of different authority's 43.7% and on the federal open data portal — data.gov.ru — 49.5%. Second, there is a need for mandatory public disclosure of municipal quality of life data (education, health and environment). Although individual departments and regional governments publish this information, the practice has not become common. Third, as diversity and data sets become more diverse, it remains important to demonstrate that open data can be used to develop innovative projects, related to traffic regulation, emergency response, urban planning — currently, the need for open government data is not fully understood by citizens and businesses, but its use may be appropriate for civil and commercial initiatives. These changes will increase the potential of open data as an element of GovTech, focused on the growth of self-organization of citizens. Open data — is not the only way to improve government performance [8], but they are a necessary component for building trust in authority and citizen engagement.

E-GOVERNMENT SERVICES, DIGITAL PROFILES

The development of electronic public services and digital profiles is a separate area within the framework of the digitization of public administration and planning. In the context of GovTech development, a new approach to the provision of public services is emerging. Priority is being given to the creation of integrated public service platforms and portals, not simply to the electronic delivery of public services, but to the establishment of legal acts and communications with public authorities and services. An additional aspect of integrated public service platforms and portals is the digital profile — set of government digital records of natural and legal persons that are made available through the technology infrastructure. The digital profile — is the result of the integration of different public services into a single platform. This integration makes it possible to create a complex digital identity of a citizen and to introduce a system of "single window" for providing all services.

Unlike open data, which involves self-organization of citizens and rational decision-making, integrated public service platforms structure the relationship between the citizen and the Government in a different way. In fact, the goal of integrated platforms — is to accumulate as much information as possible about control objects and to exclude other channels of communication and access to public resources. Thus, through integrated public service platforms, targeted regulation of access to public services based on individual digital profiling is possible. This improves the quality and convenience of public service delivery, however, in the absence of proper legal regulation of the provision, access and dissemination of data through platforms, a soft form of control can be implemented, introduction of personal restrictions and regulation of behavior through the collection of data on digital identity.

In Russia, e-government services have become widespread, and the country is now among the leaders in this area. In particular, 63.5 million citizens used the Internet to obtain state and municipal services in 2019, that 77.6% of those applying for public services. In addition, Russia ranked third in the world in the rate of growth in the use of digital public services and reached the top-10 in the intensity of their use — 92% of respondents to the survey noted that the quality of the Russian Federation's electronic public services had improved over the past two years (https://www.rbc.ru/society/13/03/2019/5c87d2ae9a794743baad4ef6). In addition to the priority given to e-government in the context of the digitization of public administration is indicated by the inclusion of the public service portal application in

Minfigure's ranking of programs to preinstall on smartphones.

It should be noted that in Russia's public services are developing along the path of super-service integration, and this trajectory is distinguished as working with the existing Unified Public Services Portal, and plans to establish the platform GovTech. At present, it is possible to envisage transforming the public services portal into a digital ecosystem or platform, which will make it possible to use the portal site to interact with other organizations providing public and municipal services. In particular, this is indicated by the plans of Rosreestr to create of the Unified State Register of Real Estate data showcase in 2021, in which real estate certificates and registration will be available to users of the public services portal. A related development is the development of a digital profile that makes it possible to automatically use user data on the public services portal for authorization and for obtaining banking and other services.

Other development of integrated e-government services — creation of GovTech platform, which will unite different state information systems, creating a common online environment of interaction of citizens, business and state structures. The project is currently in its infancy phase, so content is limited to normative goals to improve quality and reduce the cost of public services. Nevertheless, the platform structure updates the above aspects of the operationalization of management space through the collection of data from users of public services and their use for differentiated social support.

In the context of further development of integrated portals/platforms for public services and digital profiling, the following risks become relevant. First, the importance of information security and information literacy training in preventing data leakage and/or transmission to third parties is increasing. At the moment, there are regular cases of leaking of personal data of users of regional public service portals, even the "nameless" data that does not indicate the user's full name is dangerous,— despite the absence of a reference, other numerical identifiers can be found from this data (number of individual personal account of the insured person in the statutory pension insurance, driving license) and build the final profile of the citizen. [9]

Second, there is a need to introduce tools to enable citizens to track the data they have agreed to handle and to be able to withdraw their data. In the digital profiling system, this's done through the digital consent service, but it is important to extend these tools to all projects and initiatives, related to the interaction of the state and citizens in the online environment to prevent the growth of mistrust of state institutions. The situation of the pandemic has enabled the Government to increase the legal capacity for online control of citizens [10, 11], however, the continuing imbalance and lack of mutual control by citizens of data aggregated and used by the Government, can increase tendencies to go into the "grey zone" and provoke negative reactions to targeted forms of control and regulation.

"SMART GOVERNMENT" AND DIGITAL REGIONS

"Smart government" and digital regions — it's concentrated in the online space networks of exchange, control and regulation, in which the relationships «man-machine» and «machine-machine» are integrated. [12] In this respect, GovTech projects include these networks in integrated city platforms and digital doubles. However, in terms of technologies and ontologies, there is no difference between the "smart city" and the digital region, since the main differentiation is related to territorial scales and their inherent characteristics.

"Smart cities" and digital regions can be considered both as an additional direction of

GovTech and as a platform for testing other GovTech-solutions. For example, "smart cities" and digital regions require active development and dissemination of e-services and development of open data portals to create local innovations, but in a broader perspective city and regional GovTech-projects have their own features.

Operationalization of governance spaces in "smart cities" and digital regions involves two aspects. On the one hand, technologies such as integrated urban monitoring and management platforms and digital city doubles [13] allow to unite the analyst of the "smart house" into a single system, public transport management, security services, environmental monitoring, emergency forecasting and biometrics analysis (this integration facilitates the integration of all parts of the urban system into a single administration). In this case, operationalization involves the creation of a virtual city reality, based on which changes are modelled and the consequences of decisions are predicted. On the other hand, "smart city" and digital region technologies also include citizen engagement platforms and civic engagement services, which enable citizens to obtain information about infrastructure projects and to assess their need for or quality of implementation. This is the second side of operationalization where citizens are given the opportunity to model the future of the city/region. [7, 14] Based on this, it is difficult to define unambiguously peculiarities of the use of technologies of "smart city" and digital region for structuring social relations.

In Russia, the digitization of regional and municipal administration is realized in the framework of the national project "Digital Economy", which includes departmental federal projects "Digital Region" and "Smart City". Due to the reallocation of budgetary funds to fight coronavirus and its consequences, the project "Digital Region" was frozen until 2021. Moreover, its approval has been delayed until the autumn, but the second project — "Smart City" — continues, with 209 cities now participating.

The directions of development of "smart city" and digital regions include the digitization of education, health care, introduction of new channels of communication between services and citizens, but success in realization of these projects depends on the resource base of a given city. Modern trends in the development of GovTech-initiatives in Russian "smart city" are related to the heterogeneity and uneven distribution of the Russian market of "smart city" technologies. Despite the growth (in 2017 it amounted to 75.02 billion rub., in 2018–81.2 billion rub.), 93% of the market is in Moscow, 2% — in Saint-Petersburg, 5% — in other region (http://survey.iksconsulting.ru/page5160775.html). In this context, the role of State programs in financing IT-projects is being strengthened to overcome the financial constraints of regional budgets.

At the federal level, the highest priority is given to State programmes and projects related to the control and monitoring of public safety. In particular, a new system called "Safe City", a project of the Ministry of Emergency Situations, is being developed to integrate disparate IT-security systems in municipalities. The possibility of integrating urban the intellectual video surveillance systems is due to the increase in the number of cameras in Russia: 13.5 million (93.2 cameras per thous. person),— third place in the world after China and the USA (https://tdaily.ru/news/2020/12/25/telecomdaily-rossiyskiy-rynok-ovn-budet-rasti-na-23-ezhegodno). Legislative enforcement of the programs by all regions and obligations of owners of commercial video surveillance systems (58.7% cameras in the country) input of data into the State information system is aimed at creating a coherent system of analysis and response to emergencies and incidents.

Table

Prospects for the introduction of GovTech in Russia

Task	Open data	E-government services and digital profiles	"Smart cities" and digital regions
Technology of the operationalization space management	Online publication of mandatory and additional open data sets	Integrated citizen-centered public service platforms/portals	Integrated monitoring systems and digital city/region doubles
Purpose in structuring social relations	Increased transparency of the public sector and self-organization of citizens in decision-making	Information accumulation and diversity of functions for targeted social support and regulation of access to public resources	Create a virtual city/region reality to simulate the effects of decisions and gain local knowledge of the territory
The situation in Russia	Institutional regulation, lack of effective results	Increase in the number of e-government services provided, integration of the public service portal with other information systems for growth of digital functionality	Institutional regulation remains in place, while policies for the digitization of municipal and regional governance remain fragmented

Source: compiled by the authors.

In addition, in large Russian cities (Kazan, Yekaterinburg), integrated platforms connecting dispatch services, "smart" transportation and public safety control systems have spread. Based on the platform, urban monitoring tools are being introduced, covering both target areas (mobility, safety) and complementary areas (urban activity, planning). There are also initiatives to introduce citizen engagement platforms, but their scope is limited, so the benefits of operationalizing government space remain insufficient for citizens.

PROSPECT COMPARISON

Thus, analysis of different directions of GovTech in Russia allows drawing the following conclusions. Digital transformation relies on integrated public service platforms and urban/regional monitoring systems as opposed to open data. Taking into account trends in Russian GovTech, based on the ways of operationalizing the management space and structuring social relations, it's possible to form a *table*.

Because of this table, it can be stated that at present the development of GovTech as the operationalization of the space of government is more conducive to structuring social relations in favor of the state. Technology allows public databases and information systems, creating new infrastructure for integrated digital identity of the citizen/organization and access management strategies. In the face of diluted government and planning capacities, GovTech benefits allow the state to contain the chaotic nature of social and economic life, while preserving the "rules of the game", the introduction of GovTech tools without a prior assessment of social needs and expectations can offset these benefits.

RESULTS AND SCENARIOS OF GOVTECH IMPLEMENTATION IN RUSSIA

Continuation of the above trends in GovTech development may lead to the implementation of several scenarios: 1) GovTech as a path to digital democracy; 2) target control machine; 3) effective management resource.

Digital democracy scenarios and targeting machines are linked. In the first case, the focus is on open data policy, public sector transparency, citizen engagement in decision-making, second — lack of transparency and lack of support for increased oversight practices through data

collection and analysis. The implementation of a scenario in Russia will depend on the institutional support of new State information systems, related to the collection of biometrics of citizens, monitoring of social networks, digital identifiers. At present, there are no institutional mechanisms for peer review between the State and citizens, which makes a targeted control scenario more likely.

The most dangerous **scenario is the implementation of GovTech as an effective management resource**, use-oriented technocratic strategies to optimize budget spending and social support. It's very much related to the stated mechanisms of targeted control, but it does not focus on control, but on reassessing the social guarantees of the State. This scenario becomes possible through the development of an integrated digital profile of the citizen, the modelling of his needs and the introduction of differentiated minimum support measures. Need to take into account, that in mind that modern governance strategies are based on fiscal consolidation, the introduction of quasi-markets and the elimination of excessive governance [15,

16], which increases systemic risks, since institutional redundancy — is a major barrier to containing cascade effects.[17]

In a context of growing social inequality, the use of GovTech to optimize the social spending of the state can lead to increased social conflicts and contradictions, reducing the initial perceived benefits of communication and regulation that public technologies should provide.

The scenarios presented are ideal-type projections, so consideration should be given to their possible combinations, the implementation of certain scenarios in some areas and their absence in others. However, the implementation of GovTech is not needed as a management complexity and optimization tool to create the most favorable scenarios, as a set of applications for identifying and interacting with social complexity. GovTech implementation should not result simply in the formation of a customer-centered state or a "state without bureaucracy", and a complex network of feedback, communication and peer review to maintain the complexity of the management system.

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