

**RPTSS 2018**  
**International Conference on Research Paradigms**  
**Transformation in Social Sciences**

**DIGITAL TRANSFORMATION OF COMMUNICATION**  
**BETWEEN GOVERNMENT AUTHORITIES AND CITIZENS**

N. Dneprovskaya (a), T. Bayaskalanova (b)\*, I. Shevtsova (c), A. Urintsov (d)

\*Corresponding author

(a) Plekhanov Russian University of Economics, Moscow, Russia, ndnepr@gmail.com

(b) Irkutsk National Research Technical University, Irkutsk, Russia, dama83@mail.ru

(c) Lomonosov State University, Moscow, Russia, inessa.shevtsova@gmail.com

(d) Plekhanov Russian University of Economics, Moscow, Russia, urintsov.ai@rea.ru

*Abstract*

The article deals with digital transformation of communication between government authorities and citizens. Activities of the Russian Ministries in social networks are analyzed. The analysis shows that Twitter accounts are the most popular. An interaction transformation path from print mass media to messenger apps and social apps is described. Due to new digital technologies, citizens can engage in political debates and influence public decision making. Diversification of interaction channels in the public sector enhances the efficiency of cooperation in searching for mutually beneficial decisions. However, digital technologies cause new challenges for government authorities. Traditional information channels lose their opinion and data publication monopoly. Web 2.0. users can do the same. The article aims to assess the use of new social media for communication between government authorities and citizens, identify feedback possibilities, key advantages and risks of social networks. The research aims to assess the use of new social media for communication between government authorities and citizens, identify promising areas for efficient feedback and advantages and risks of social networks.

Through digital government services, citizens can influence public policies by means of discussion, online voting, and feedback. Government authorities have to involve citizens in discussion of public and private initiatives rather than only inform them about their decisions.

© 2018 Published by Future Academy [www.FutureAcademy.org.UK](http://www.FutureAcademy.org.UK)

**Keywords:** Information society, digital transformation, government authorities, public interaction, social networks.



## 1. Introduction

Currently, one can observe a new information and communication technology (ICT) development stage involving use of digital technologies like artificial intellect, big data and virtual reality. However, resources of Web 2.0 technologies have not been depleted. Web 2.0 technologies turned the ICT from isolated individual information activity tools into collective teamwork tools which developed a new knowledge control area. ICT development aims to improve network relations with other technologies, internet services and mobile devices (tablet computers and smartphones) and adaptability to users, and increase a variety of digital platforms and applications.

Due to ICT penetration into our lives, all social areas are digitalized. Access to ICT, web services and mobile applications is an essential need of the young generation. Millennials (Howe & Strauss, 2007) perceive technology as a natural cognition, communication and working tool. Idealism, uncritical nature and virtualization are typical of the young generation. For most citizens, ICT, social networks, messengers are a part and parcel of their living spaces. They can get answers to any questions within the permanent and diverse information flow. Unfortunately, for most young Internet users, the quality of information sources is not as important as the speed of data communication (Dneprovskaya & Koretskaya, 2013).

New social media are not a new phenomenon for businesses. They are actively used by private companies (Salins & Peter, 2014). Corporate information systems are integrated with Web 2.0 services. Internal corporate systems use services of social media for knowledge exchange between company experts. Some new technologies are used by businesses. ICT provides unlimited possibilities to carry out business, research, and creative web activities. It allows citizens participate in formation of social, economic and education policies. Along with economic effects, the information industry influences government activities. However, in the public administration, informatization is slower than in business sectors.

## 2. Problem Statement

Public authorities in Russia have been informatized since the 90s of the last century. A number of government programs on digital government and information society development have been implemented. In 2016, according to the rating of the International Telecommunication Union, Russia ranked 43<sup>rd</sup> among 175 countries (International telecommunication Union, 2016). Information infrastructure dealing with automation of algorithmized functions, development of federal registers, databases, state information systems and digital government services at all government levels was created.

Digitalization of public authorities should have a certain strategy and strategic goals (Anthopoulos, Reddick, 2014; United Nations, 2014). Experience of developed countries shows that transition from electronic to digital government is taking place. Digital government is a must for developed countries (Fishenden & Thompson, 2013) where interests of citizens are a priority for governments.

New social media (social networks) allow citizens to observe public policy development and implementation and interact with government authorities through Web 2.0. Experience of foreign countries shows that Web 2.0 services ensure efficient communication between government authorities and citizens (Ala-Mutka, Broster, Cachia, Centeno, Feijóo & Haché, 2013). Communication effects are improved feedback, involvement of citizens in discussion of public administration issues, development of innovation

products contributing to safety and comfort of citizens. To be adequate, communication has to be based on social media and messengers in business and private activities.

### **3. Purpose of the Study**

The research aims to assess the use of new social media for communication between government authorities and citizens, identify promising areas for efficient feedback and advantages and risks of social networks.

### **4. Research Methods**

The research uses a systemic approach to determine the degree of government participation in social networks. Data sources are publications of government authorities, social networks, public opinion poll results. The research also uses discourse analysis of different sources dealing with the issues of Web 2.0 used by government authorities. Research methods involve data systematization, general analysis of public and private initiatives in development of new communication channels.

### **5. Findings**

#### **5.1. Activities of public authorities in social networks**

Social networks have become a traditional communication platform where citizens debate, exchange information, find business partners or friends, communicate, etc (Kuklina, Ruposov, Kuklina, Rogov & Bayaskalanova, 2017). According to the opinion poll in December 2016, 60% of the Russian citizens are users of social networks. Social media are one of the fast-growing web-services. The number of their users and time spent in social networks are constantly growing.

Businesses use this efficient tool to communicate with clients and partners. Social media are an efficient communication channel from the perspective of costs, number of users and feedback speed rate. Costs of development and implementation of social media are low. These are costs of account development and promotion (Song, Sun, Wan, Huang & Zhu, 2017).

Communication of public authorities with citizens is a must (Bertot, Jaeger & Hansen, 2012). The degree of influence of citizens through social networks is enormous. It involves both digital transformation of all communication methods and economic aspects. Effects of large IT companies on the government, its policies and economy are significant. The first country which formalized relations with IT companies was Denmark (Preez, 2017). In the beginning of 2017, Denmark appointed the world's first digital ambassador who develops relations with IT companies.

Need for government participation in social networks is determined by the factors below.

1. Fast feedback. On the one hand, it can be used to monitor citizens' responses to activities of government authorities. On the other hand, this feedback can be provided by incompetent organizations and specialists. As a result, users of social networks can be misinformed.

2. Open discussion of public administration issues. Government authorities allow Internet users to express their opinions in public web-services and applications. However, there are several factors which make them unpopular:

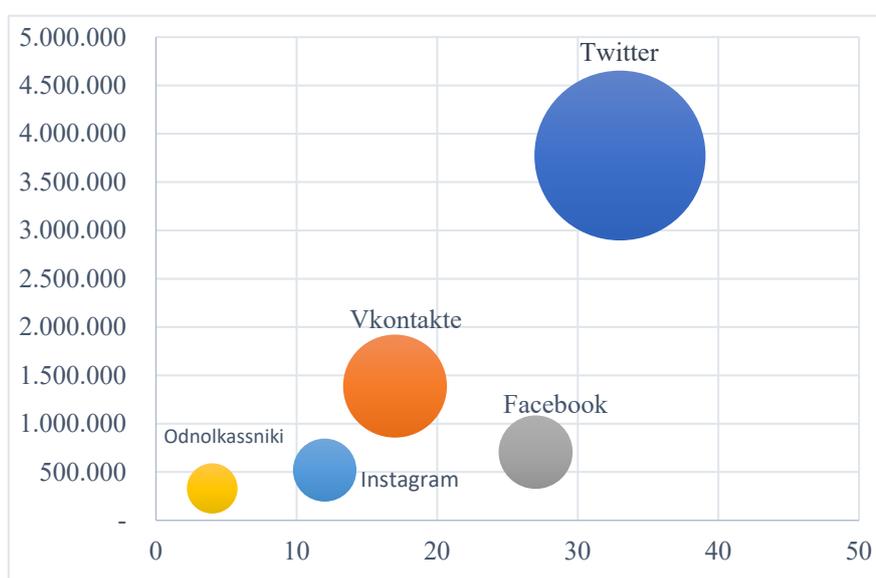
1) not all users know about these services;

2) users prefer to express their opinions in familiar environments. At large, social networks are able to facilitate collection and selection of initiatives of citizens.

3. Open access. Public nature and information openness of government activities increase the level of confidence of citizens in government authorities.

4. Fast data distribution. Due to data distribution in most social networks, hot information is distributed rapidly.

Currently, Russian government authorities underestimate social media. Only a small number of federal executive bodies (FEB) have accounts in social media which often duplicate information from their official websites. Figure 1 shows the numbers of FEB accounts in popular social networks and their subscribers.



Number of FEB accounts

**Figure 01.** Involvement of federal executive bodies in popular social media, 2017

Source: Social networks; Government pages in social networks (Russian government, 2012).

Analysis of FEB activities in social networks should take into account the nature of social networks. Any user can subscribe to any account in social networks irrespective of their citizenship or location. Among subscribers of FEB accounts, there are both Russian and foreign citizens or bots (software algorithms simulating user behavior in social networks or messengers). Any user has access to data published by the FEBs in social networks. Therefore, the number of potential users could be larger than the number of subscribers.

Twitter and Facebook are the most popular within the FEBs. 33 federal agencies, including 20 ministries, have Twitter accounts. But these social media are less popular than other social networks in Russia. According to the opinion poll in 2016, 5 % of Russian citizens use Twitter, and 9% - Facebook. The most popular social networks are Vkontakte (40%) and Odnoklassniki (34%) (Levada, 2017). Table 1 presents data on the number of subscribers of FEB accounts.

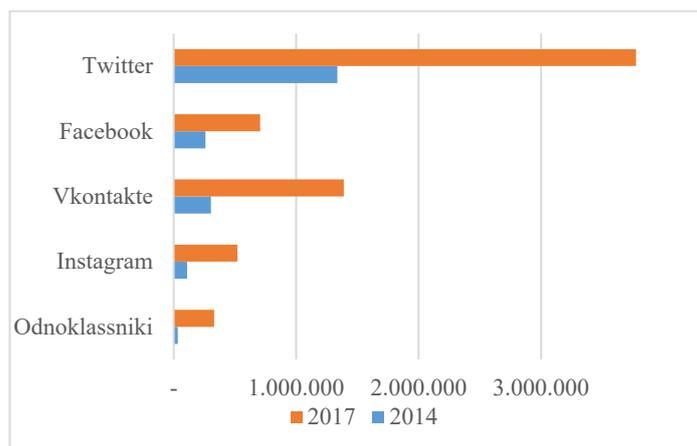
**Table 01.** The number of followers and subscribers of FEB accounts and pages in social networks, 2017

<b>Ministry of the Russian Federation</b>	<b>Twitter</b>	<b>Facebook</b>	<b>Vkontakte</b>	<b>Instagram</b>	<b>Odnoklassniki</b>
Ministry of Foreign Affairs	1 280 000	363 222	419 523	88 500	
Emergencies Ministry	860 000	22 469	182 833	71 300	55 471
Ministry of Defence	169 000	191 805	260 171	192 000	
Ministry of Internal Affairs	128 000	12 991	113 084	100 000	171 774
Ministry of Education	124 000	24 626	124 690	31 300	86 502
Ministry of Finance	91 400	3 598			
Ministry of Economic Development	80 400	11 867	2 108		
Ministry of Industry and Trade	58 100	30 356	20 375	21 100	
Ministry of Health	46 300	3 295	12 049		
Ministry of Energy	44 400	4 708		1 863	
Ministry of Labor	43 100				
Ministry of Culture	42 300	6 186	20 474		
Ministry of Transport	40 300	1 330		3 074	
Ministry of Communication	40 100	4 476			
Ministry of Nature	29 800	4 858			
Ministry of Eastern Development	19 600	3 579			
Ministry of Building	17 900	11 429	4 931	8 058	16 802
Ministry of Agriculture	904	4 081		2 782	
Ministry of North Caucasus Affairs	304	1 058		101	
Ministry of Sport			396		

Source: Social networks (22.12.2017)

Each social network has its own users of different age groups. Facebook and Odnoklassniki users are middle-aged and old citizens while Vkontakte and Instagram users are young people. Twitter provides international communication. Many foreign agencies have Twitter accounts.

Figure 2 shows a gain in the number of followers and subscribers of social networks accounts.



**Figure 02.** The number of subscribers of FEB accounts in 2014 and 2017. Source: Social networks (22.12.2017)

Analysis of the data of social networks shows that accounts of some FEBs are at the development stage. For example, FEBs have been using Instagram accounts since recently. A low level of account activities can decrease their popularity with users.

Government authorities are often associated with personalities of their chiefs who are more popular in social networks than agencies headed by them. For example, Medvedev's accounts have about one million subscribers in all social networks. However, Russian government agencies rarely create accounts for their heads.

## 5.2. Perspectives of communication in social networks

Use of new tools for communication between government authorities and citizens is determined by technology development and social needs (Corradini & Re, 2016). During the centuries, communication standards have been developed. According to these standards, official information is available to citizens who are eligible to address to public authorities. Despite a more simplified form of address, usual response time is still 30 days.

Web 2.0 turns users from content consumers into active subjects who can create their own content, response to events and information, distribute data, create and join communities (Jackson & Wong, 2017). A business communication vector ceased to be unilateral. Citizens are able to response to administration initiatives and events in districts, cities or in the country (Campbell, 2012).

Citizens become active participants of social processes. Table 2 compares channels of communication between government authorities and citizens. The data speak for development of communication forms.

**Table 02.** Comparative analysis of channels of communication between government authorities and citizens

Type of communication	Feedback methods	Advantages	Disadvantages
Official sources E.g. Rossiiskaya gazeta <a href="https://www.rg.ru/">https://www.rg.ru/</a>	Mail communication, comments	Accurate and reliable information	Feedback through government authorities
Official website of government authorities E.g.: Federal Tax Service <a href="https://www.nalog.ru/">https://www.nalog.ru/</a>	Personal account, online offices, online application	Rapid access to information, diversified data formats (media-files, visualization, open large volume data)	Response time is 30 days
Social networks E.g. Government of the Russian Federation <a href="https://vk.com/gov">https://vk.com/gov</a>	Comments, personal messages	Online video translation, opinion poll, interactive communication	Increased risks of cyber-attacks, lack of data verification
Messengers E.g. Telegramm channel – Government of the Crimea <a href="https://t.me/rk_gov">https://t.me/rk_gov</a>	Personal messages	Laconic format of data reporting	Increased risks of cyber-attacks, lack of data verification

At the initial stage, citizens are passive consumers of information who cannot comment or give feedback in public official publication sources. They are mass media approved by government authorities. Currently, official sources are available online (e.g., the Rossiiskaya gazeta). However, through these websites, users are able to interact with mass media rather than government authorities.

In 2010, websites of government authorities were granted the status of official publication sources. It contributed to creation of online offices and personal accounts for online applications and responses. Digital government services and official websites contribute to interactive communication with citizens. Platforms for forming communities and discussing different projects and initiatives are being developed. However, the number of users is small due to the fact that these services are not consolidated in the same environment. There are 80 federal government agencies, and each agency has its own website. Each regional government agency has its own website as well. Social networks are environments which are regularly used by citizens who have access to a great number of services and information sources.

Currently, data distributed by government authorities through social networks or messengers are not official information sources. However, they are effective communication channels and help form communities (Sivarajah, Irani & Weerakkody, 2015).

To use new forms of communication, citizens should meet the following requirements:

- Information technology user competencies for digital interaction, efficient use of online public services, distribution of information;
- Availability of a computer or a mobile device connected to the Internet;
- Infrastructure of the information society, including connection to telecommunication networks, mobile connection.

The number of mobile Internet users is increasing. Mobile applications are used in a great number of areas, and they are popular with consumers. Thus, messengers can become the most promising channels of communication between citizens and government authorities. The Russian government authorities could develop mobile messaging services, but it is an expensive informing method, and an information format is limited to one text message. WhatsApp, Telegram, Messenger, Viber, etc. could eliminate this restriction and decrease messaging costs.

Citizens communicating with government authorities want to solve their own problems. A number of active participants is small, but they help deal with problems from a different perspective. Communities allow government authorities to move to a global level of knowledge control involving a large number of citizens in discussion and development of government decisions (Dneprovskaya, Shevtsova, Byaskalanova & Lutoev, 2016). It helps use important intellectual resources of citizens.

Through digital government services, citizens can influence public policies by means of discussion, online voting, and feedback. Government authorities have to involve citizens in discussion of public and private initiatives rather than only inform them about their decisions.

## **6. Conclusion**

Efficient interaction with citizens is a purpose of any government agency. Modern ICT achievements can eliminate data format, feedback speed rate, and target audience coverage restrictions of traditional forms of communication (TV, mass media, official websites). In the conditions when most people communicate in social networks, government authorities should use this environment to interact with citizens. As far as citizens are active users of social networks, efficiency of this form of communication is higher than interaction through separate websites. Own communication services need significant financial resources for their development, maintenance and attraction of users.

Communication through social networks is continuous rather than discrete. That advantage is important for government authorities and citizens as they have rapid publication, response, monitoring and assessment tools. Social networks allow forming communities to use intellectual resources of citizens in public administration.

In the nearest future, new quality interaction will become a must for government authorities.

A new type of communication between citizens, producers and government authorities providing free information exchange is a key advantage of the information society. Information and telecommunication environments give businesses and government authorities new ideas for developing innovation products, solving existing problems and improving efficiency of decision making and public administration.

## **Acknowledgments**

The research was supported by the grant of the President of the Russian Federation according to state support of leading scientific schools (grant № NSh-5449.2018.6).

## References

- Ala-Mutka, K.D., Broster, R., Cachia, C., Centeno, C., Feijóo, A., & Haché, S. (2013). The impact of social computing on the EU information society and economy (EU report. Available at (Accessed: 23 Dec 2017) URL: <http://is.jrc.ec.europa.eu/pages/EAP/SC.html>.
- Anthopoulos, L. G., & Reddick, C. G. (2014). Government e-strategic planning and management: Practices, patterns and roadmaps, 1-366).
- Bertot, J.C., Jaeger, P.T., & Hansen, D. (2012). The impact of polices on government social media usage: Issues, challenges, and recommendations. *Government Information Quarterly*, 29 (1), 30-40.
- Campbell, T. (2012). *Beyond smart cities: how cities network, learn and innovate*, Abingdon: Earthscan.
- Corradini, F., & Re, B. (2016). The European digital agenda and the impact of ICT on Public Administrations and Small and Medium Enterprises. *CEUR Workshop Proceedings*, 11-16.
- Dneprovskaya N., & Koretskaya I. (2013). The influence of ICT on the communication of knowledge in academia. Proceedings of the 10th International Conference on Intellectual Capital, *Knowledge Management and Organisational Learning*, 1, 114-121.
- Dneprovskaya N., Shevtsova, I, Byaskalanova, T. & Lutoev, I (2016). Knowledge Management Methods in Online Course Development. Proceedings of the 15th European Conference on eLearning. – *Academic Conferences and Publishing International Limited UK*, pp. 156-165.
- Fishenden, J., & Thompson, M. (2013) Digital government, open architecture, and innovation: Why public sector it will never be the same again. *Journal of Public Administration Research and Theory*, 23 (4), 977-1004.
- Howe, N., & Strauss, W. (2007). The next 20 years: How customer and workforce attitudes will evolve. *Harvard Business Review*, 85(7-8), 41-52+191.
- International telecommunication Union (2016). Measuring the Information Society Report. Available at (Accessed: 1 Sep 2017) URL: <http://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2016/MISR2016-w4.pdf>.
- Jackson, S., & Wong, M.S. (2017). A cultural theory analysis of e-government: Insights from a local government council in Malaysia. *Information Systems Frontiers*, 19 (6), 1391-1405.
- Kuklina, V., Ruposov, V., Kuklina, M., Rogov, V., & Bayaskalanova, T. (2017). Multi-polar trajectories of tourism development within Russian Arctic. *Proceedings of the International Conference on Trends of Technologies and Innovations in Economic and Social Studies 2017*. Tomsk: Tomsk Polytechnic University. Part of series: AEBMR, 38, 379-385.
- Levada, (2017). For five years communication in social networks growth (Accessed: 23 Dec 2017) URL: <https://www.levada.ru/2017/01/24/za-pyat-let-obshhenie-v-sotssetyah-vyroslo/>.
- Preez, D. (2017). Why Denmark appointed the world's first Digital Ambassador. *Diginnomica/ government* (Accessed: 23 Dec 2017) Retrieved from: <https://diginnomica.com/2017/09/19/denmark-appointed-worlds-first-digital-ambassador/>.
- Russian government. (2012). Government pages in social networks. Retrieved from: <http://government.ru/social/>
- Salins, P. D. (2014) *The Smart society: Strengthening America's greatest resources, its people*. New York, p.320.
- Sivarajah, U., Irani, Z., & Weerakkody, V. (2015). Evaluating the use and impact of Web 2.0 technologies in local government. *Government Information Quarterly*, 32 (4), 473-487.
- Song, Z., Sun, Y., Wan, J., Huang, L., & Zhu, J. (2017). Smart e-commerce systems: current status and research challenges. *Electronic Markets*, 1-18.
- United Nations (2014). E-government Survey 2014. E-government for the future we want. (Accessed: 1 Sep 2017) URL: [http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov\\_Complete\\_Survey-2014.pdf](http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov_Complete_Survey-2014.pdf).