

# Urban space digitalisation as a factor in urban communities' consolidation

*V.P. Babintsev*<sup>1\*</sup>, *D.V. Khripkova*<sup>1</sup>, and *K.A. Khripkov*<sup>1</sup>

<sup>1</sup>Department of International Relations, Foreign Regional Studies and Political Science, Belgorod State University, Preobrazhenskaya str., 78 k. 9, 308009, Belgorod, Russia

**Abstract.** The article is devoted to the study of the impact of digitalisation of the provincial Russian cities on the prospects of consolidation of urban communities. It is noted that digitalisation qualitatively change the metabolism of the modern city, turning the urban environment into a space of interaction of complex socio-biotechnical systems. Virtual-digital practises, technologies, and services are built into all the processes of urban development, which leads to the transformation of most social phenomena: processes, institutions, communities, as it makes society more dynamic, changeable, "turbulent". Based on the results of the expert survey, which was conducted in the sociological study Social Consolidation of Urban Communities - Opportunities and Limitations in a Digitalized Urban Environment, March-April 2022 (N = 50), the positive and negative effects of digitalisation / digitalisation of the urban environment for the prospects of social consolidation are analyzed. It is empirically confirmed that the wiggly effects of the digitalisation of the urban environment on the enhancement of consolidation are ambivalent. On the one hand, digitalisation creates new conditions for communication and mobilisation of city dwellers, but on the other hand, it leads to the emergence of nontraditional barriers. **Key words:** city, urban environment, urban communities, computerisation, digitalisation, consolidation, risks

## 1 Introduction

The development of modern cities is largely determined by the interrelated processes of digitalisation and digitalisation. If the first one is a constantly developing complex of information and communication technologies, including conversion of analogue information into digital, algorithmically structured work with large arrays of data (big data), formation of architecture of digital network platforms, the second one is a complex of social and socio-cultural changes of physical and virtual reality, expressed nowadays in giving it a hybrid character, resulting from convergence of Internetization, virtualization, networking and digitalisation practices. According to O.N. Yanitsky, digitalisation, "having emerged as a tool to facilitate social processes, ... has gradually turned into a way of their existence" [18].

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\* Corresponding author: [babintsev@bsu.edu.ru](mailto:babintsev@bsu.edu.ru)

Virtual-digital practises, technologies, and services are now built into all the processes of urban development, which leads to the transformation of most social phenomena: processes, institutions, communities, as it makes society more dynamic, changeable, and "turbulent". Under these conditions, social relationships are also changing and the conditions and principles of functioning of urban communities are being transformed.

The peculiarities of urban morphology and functioning under conditions of digital transformation are analysed and problematised in the works of foreign and domestic researchers.

Norwegian sociologist Anthony Jr. Bokolo notes, "With the rise of digital technology, cities are undergoing a significant transformation. Digitalisation has changed the way citizens and other subjects of urban space, work, cooperate and communicate". [19].

Foreign scholarship is now actively studying the technology of forming a "digital twin" of the city. "The concept of a digital twin refers to the development of a mirror digital counterpart of the physical system and the linking of their information throughout the life cycle of the physical counterpart. The city-scale digital twin is expected to mirror all city domains and systems on a digital platform, which will improve the visibility, implementation, and usability of city management and thus unify all digital technologies applied in the city," write South Korean researchers Ehab Shahat, Chang T. Hyun, and Chunho Yeom [20].

In the context of the theme under study, special attention should be paid to the joint work of Russian sociologists, economists and urbanists of the Higher School of Economics "Networks of the City People. Technologies. Power" (2022), which examines the role of citizens in an intensively technological environment. Considering the city from a human perspective, the authors discuss "the opportunities and vulnerabilities of the development of networked / digital / smart cities, participation of citizens in the management of the city, its resources and ecology, the features of the formation of network communities - neighborhoods, cities" [12]. This statement can be fully applied to megacities, but it needs to be adjusted in relation to provincial Russian cities, where the processes of digitalisation are very ambiguous.

The changes taking place here are reflected in a specific way by representatives of urban corporations, one of which is the expert community. The opinion of its representatives on the peculiarities of digitalisation and digitalisation of the urban environment is very important, despite the fact that in the current situation experts usually have very little influence on the development of the Russian province. However, only they are able to give the most objective assessment of various aspects of the provincial reality, including the impact of digitalisation on the prospects of urban community consolidation.

The purpose of this article is to investigate the peculiarities of expert vision of the impact of digitalisation of the space of Russian provincial cities on the prospects of urban community consolidation.

## **2 Materials and Methods**

The methodological basis of the study consists of the following.

- The concept of information society (M. Castells, D. Bell, O. Toffler), which allows us to consider the digitalisation of urban spaces as part of the overall process of development of the network information field and network communication;

The concept of digitalisation of social reality, in particular, considered in the works of O.N. Yanitsky through the prism of sociology of risk, which allows us to study the digitalisation of urban environment as a nonlinear, variable, bifurcational process, implemented under the influence of complex multilevel factors [17].

The empirical basis of the research paper includes the results of an expert survey, which was conducted as part of the sociological study Social Consolidation of Urban Communities:

Opportunities and Limitations in the Digitalisation of the Urban Environment in March-April 2022. The purpose of the survey is to obtain an expert opinion on the problems of social consolidation of urban communities under the conditions of digitalisation of the urban environment.

Fifty experts took part in the survey, among them: representatives of the scientific community, state and municipal officials, representatives of public organisations, deputies of representative bodies of local self-government, and media workers. The criteria for selecting experts were: experience of research work in the field of sociology of management, sociology of culture, demography; availability of scientific publications on the problems of sociology of management, sociology of the city; availability of experience in state or municipal service; availability of experience in managing a public organization; availability of experience in mass media.

### **3 Results and discussion**

"The digital age is fundamentally changing the way urban communities function. Social development in the new conditions is associated primarily with the creation of social innovations, the development of partnerships and sustainable social communities, and the participation of citizens in solving public problems. New challenges of our time, economic, demographic, and environmental problems force to create communities based on the principles of openness, involvement, and awareness. The tools of social development in such conditions are intellectual systems based on cloud computing and remote data storages, systems of online collaboration and social networks". [According to E.V. Popov, K.A. Semyachkov [10].

It seems important to understand how the processes of social conjunction and disjunction change in the urban environment under the influence of these transformations. The former is a "process, in the limit, orientated to social reproduction, based on consistent solidarity, secured by full-fledged flows of social consolidation in all echelons and structural elements of society" [3]. The second is the process of "disruption, mismatch and disintegration of integration means, accompanied by weakening of consolidation flows and problematization of the main goal of integration, social reproduction of society". The direct expression of social conjuncture is consolidation, which can be defined as an organized and regulated (including self-regulated) process of strengthening interpersonal and inter-group communication, achieving mutual understanding with regard to the solution of common regional problems on the basis of dialogue and cooperation.

This definition goes back to the communicative theory of Yu. Habermas [14] solidarity, its peculiarity is a limited understanding of consolidation, associated with the rejection of its holistic interpretation in the spirit of the process aimed at establishing relations of "universal harmony", which is hardly feasible in a highly differentiated society.

The need for consolidation in modern society has been repeatedly stressed by politicians and researchers alike. Moreover, P.S. Seleznev and V.Sh. Surguladze have attempted to identify the areas of influence of digitalisation on the consolidation process and the formation of collective identity [11].

During our study, 70% of the interviewed experts noted that the process of digitalisation (digitalisation) of the urban environment will affect the prospects of consolidation of urban communities, but almost one in four (24%) found it difficult to answer.

With the prevalence of positive assessments there was a fairly high proportion of respondents who could offer no opinion, which in itself requires an explanation. It seems to us to be related to two circumstances.

Firstly, the very idea of consolidation as applied to urban communities is problematic. Today it seems to be more of a declaration than a real strategy of their development, if only

because only a minority of inhabitants of provincial cities have formed a sense of urban identity. At the same time, the establishment of territorial identity, an indicator of which is the correlation of a person with the local community, the presentation of oneself as a member and representative of it in external interactions, is an important condition of social conjunction. There is reason to believe that without an identification basis, an individual's loyalty to fellow citizens, which is a willingness to respond to a duly "justified" call made on behalf of the collective or in the name of a public interest or need, cannot be formed [9].

Secondly, even for many experts, as well as authoritative researchers, many aspects of digitalisation remain unclear. Various scenarios for their implementation are proposed in the scientific literature [1].

Given the different scenarios for the implementation of the processes of social conjunction and disjunction in the current context, it is difficult to state unequivocally whether the impact of digitalisation on consolidation practices will be predominantly positive or negative?

Experts cited enhanced connectivity (46%) as the main positive consequence of digitalisation of the urban environment for the prospects of social consolidation. In fact, digitalisation empowers communication, mobilises citizens on social networks and various online platforms, and creates favourable opportunities for public debate on urban issues. Digital technologies, social networks, and messengers "have made humans glocal," that is, included simultaneously in both distant and close networks of interaction," says L.A. Chernysheva [16].

Not many experts (40%) believe that the formation of new channels to promote the ideas of consolidation will have a positive impact on the prospects of consolidation. 34% mentioned mobilization of citizens in social networks and on various Internet platforms, 18% mentioned creation of virtual platforms of different orientation for communication of citizens and self-organization, and the same number mentioned development of digital volunteering and charity.

It should be noted that none of the proposed answers to the question about the positive impact did not get more than 50% of the votes, which probably reflects the fact that these practices are poorly developed in the provincial cities.

However, there is already experience in the creation of digital platforms and services, which reflexion allows us to rethink the new processes of self-organisation of urban communities. And this rethinking is reflected in scientific research. Thus, A.V. Sokolov states: "Modern urban communities acquire fundamentally new qualities that are not peculiar to associations of citizens in the traditional city. One can say that under the influence of XXI century digital communication technologies urban communities have actually changed their nature from territorially united groups of citizens to high-tech communities interacting on the network principle". [13].

In the last 2-3 years, the term "citizen media" (citizen media) - online platforms created and maintained by citizens (email lists, chats and messenger channels, Instagram accounts, groups, and public pages in social networks, etc.) that gather hybrid forms of urban communities (online-offline) has been established in the scientific literature.

Civic media become platforms for solving problems of different nature, communication between neighbours and joint solving of issues and problems related to improvement of the quality of living environment, broad discussion of urban problems, solving problems of individual communities (e.g., parental chats, motorist chats, etc.). They are created by "citizens with the aim of getting involved in the life of the city, receiving relevant information, communication, mutual assistance" [6] and can be considered as promising micro-practices of consolidation.

On such platforms, mutual assistance is deployed, collective security, housing prices and quality of utilities, local shops and services, etc., are discussed. Civic media can be organised

in different ways, managed in different ways, and can be open or closed to outside observers. "Digital rituals and content that support a sense of community emerge in civic media" - writes A.K. Kasatkina [4].

However, with all their prospects, the Russian province is characterized by a rather high level of distrust of network associations. So, the sociological research "Complex Monitoring of Social Consolidation in the Region" (September-October 2022, N=6800), carried out by the Laboratory of Civil Society Development of the Belgorod State National Research University, has fixed that a little less than a third of respondents (29 %) trust groups in social networks. No more than 15% of respondents belong to and actively use various groups (chats, conversations) created in telephone messengers.

Probably, it is due to the low level of trust in social network associations and their infrequent use by the population of provincial cities that experts are still very cautious about these formats for institutionalizing conjunctive processes. The influence of hybrid communities: online and offline practices based on civic media have also remained outside of the experts' attention.

Meanwhile, a number of authors emphasize that digital platforms are autonomous spaces of people interaction, a self-sufficient life world, playing an increasingly important role in urban life (O.M. Korchazhkina, E.V. Kurganskaya, E.V. Lebedeva [7]).

Their influence on the prospects of consolidation is manifested, in particular, in the fact that an individual in the Internet field increasingly "constructs and verifies his identity, on the one hand, and on the other hand, the digital technologies themselves supply new and new opportunities and means of identification of himself in the social and virtual space" [According to A.V. Koneva [5]. But it is the collective identity that acts as the most reliable basis for consolidation, which in modern conditions acquires a specific configuration. The process of identification in the conditions of digitalisation acquires a permanent character, the identity boundaries of a person are becoming more and more flexible, mobile, malleable. Moreover, with the virtualisation of the living space, new actors, such as bloggers or media personalities, are being included in the process of identity formation. At present, however, it is extremely difficult to fully assess the positive consequences of these processes for the integration of city dwellers, as demonstrated by the experts [2].

Uncertainty can also be seen in the assessment of the negative effects of digitalisation on the prospects for social consolidation. The main concern of experts is that consolidation in a digital society may take the form of coercion and manipulative technology, linking this to the spread of misinformation, untrue rumours, post-truths or half-truths - 40% of elections.

Indeed, digital technologies have in some cases become effective tools for manipulating people's consciousness, depriving them of their subjectivity as one of the most important prerequisites for inclusion in the consolidation process. With digitalisation/digitalisation, the ways and forms of manipulating public consciousness become as sophisticated, effective and harsh as possible in terms of achieving an impact. Modern digital means of communication make it possible to "simulate the reactions to events of certain social groups, both through technical means of communication. As well as through maximum accessibility and comprehensibility of information" [15]. [15]. And these features are taken into account by specialists, although they are not yet the basis for alarmist attitudes and phobias.

Among the negative consequences of digitalisation that limit social conjuncture, 38% of experts pointed out the decline in the quality of human relations as a result of their formalization and the reduction in live communication, the tradition of which has always been strong in provincial Russian cities. It is this that most firmly binds interaction participants with reliable foundations, such as trust, solidarity, and responsibility, turning them into the most important consolidating values.

However, digital technology is indeed reducing "live communication", replacing it by "remote" interaction, recently increasingly mediated by technosubjects. This trend, in our

view, is fundamentally destructive to the integration of urban communities, since online interaction, at least for now, cannot be an adequate substitute for traditional forms of communication. It lacks trust and therefore does not seem to be reliable for the counterparts; it is maximally unified and discursive; therefore, it excludes subcultural uniqueness of the dialogue situation. For these reasons, online communication cannot recreate the unique subcultural world of a provincial Russian city because technology is not equivalent to culture.

Another negative consequence of digitalisation of urbanized space for the consolidation of provincial urban communities is the increase of administrative control over the population and, as a result, a decrease in the level of civic engagement (32%). The possibility of the realisation of this scenario seems very likely and raises concerns among the population and experts alike, which, in fact, have a real basis. A.V. Koneva, exploring the social challenges and risks of digitalisation, points out that "thanks to Big Data technology, which has qualitatively changed the approaches to the collection and analysis of large heterogeneous bodies of information, it has become possible not only to accumulate data on all digital transactions and operations, but also to identify and track all atypical objects and actions that leave digital traces. In this way, the system becomes completely transparent to automated systems and people who have access to these masses of information [5].

Almost one in four experts pointed out that a negative consequence of digitalisation for the consolidation of provincial urban communities is an increase in social differentiation due to the assertion of digital inequality (26%). Experts define it as "the gap between people according to the degree of access to information, resulting from differences in digital skills and abilities to use digital products and services, the gap between people related to the ability to convert the use of digital technology into civic participation, the gap in citizens' motivation and willingness to continuously reeducate". [8].

However, the destructive potential of this factor should hardly be exaggerated, if only because only 18% of experts explained the impossibility of consolidation with large social differences.

Finally, in the opinion of 24% of experts, the threat to the consolidation of urban communities is posed by the concomitant digitalisation process of the formation of an illusory image of reality. To some extent, such a belief can be defined as an aberration of consciousness, the essence of which lies in the distortion of connections between the closely related, but not identical, phenomena of virtualisation, internetisation, networkisation, and digitalisation. Illusory reality is largely a product of the virtual environment; digital technologies only stimulate its dissemination and massification. However, in this case, expert opinion only confirms that all of the processes noted are organically linked and in a state of constant convergence.

## **4 Conclusion**

Thus, according to experts, digitalisation is undoubtedly having an undeniable impact on consolidation processes in Russia's provincial cities, the directions, forms, and consequences of which have not yet been sufficiently understood, even by specialists. This is largely because the process of digitalisation is at a very early stage of implementation here. However, some positive and negative effects are already evident to them. The perception of these will obviously deepen as the digital transformation of society increases and specialists become "immersed" in it. Obviously, the concept of urban community consolidation will also be transformed, primarily as a response to multiple external threats. Therefore, we consider it advisable to systematically monitor the relationship between digitalisation/digitalisation, on the one hand, and consolidation, on the other, using the capabilities of the professional expert community.



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