Russian trends in ensuring gender equality in the digital economy

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Abstract. The digital economy is becoming increasingly important these days, but it also reflects gender inequalities in technology and IT. Women in the digital economy often face barriers to career advancement, access to education, and project opportunities. Despite this, women play a key role in the development of the digital economy and can make a significant contribution to innovation and technology development. The development of strategies to eliminate gender inequalities in the digital economy is a necessary measure to achieve equality of opportunity and sustainable development of society.

The article is devoted to the problems of overcoming gender inequality in the digital economy. The problem of the gender gap in the digital economy is inherent not only in developing economies, but also in countries that classify themselves as developed countries. The article shows the main objective reasons that give rise to gender inequality in the transition of the economy to a digital format; reviewed the experience of the BRICS member countries in creating conditions for overcoming gender inequality in the digital economy in accordance with the sustainable development goals (SDGs) proclaimed by the UN; describes the main trends of changes in the field of ensuring gender equality in the Russian Federation in the interaction of the state, business and society.

1 Introduction

In 2017, a scandal broke out at Google Corporation, which caused a great resonance not only in Silicon Valley, but in almost all media that write about events and news in the field of digital technologies. Google employee D. Damore published a manifesto in which he expressed his point of view on the inability of women to participate in the work of technology companies including such as Google, arguing his conclusions with the innate characteristics of women and their limited abilities in the exact sciences (Bloomberg, 2020). The use of this widespread stereotype of gender inequality as an argument and its public defense forced the management of Google to dismiss D. Damore. In subsequent years, D. Damore tried to prove his case with the help of lawyers and court proceedings. This story even led to the fact that D. Damore had a large number of supporters among men who held a similar point of view. Nevertheless, the lawsuit that D. Damore filed against Google, insisting on the unfairness of
the dismissal, was lost by him. This example shows that gender inequality has deep roots in society and its overcoming requires efforts both on the part of the state and society.

In 2020 at the Economic Forum in Davos, the prospects for achieving gender equality and the gender gap in the world were presented (Global Gender Gap Report, 2020). The conclusions presented by the authors of the report sound disappointing at the Forum: "None of us will see gender parity in our lives, like many of our children." The Gender Gap Report presented at the Davos Economic Forum analyzed data from 153 countries. Iceland has been the leader in terms of closing the gender gap for many years in a row, with an equal opportunity score of 88%. Following the leader in the ranking are Norway, Finland, Sweden, Nicaragua.

The report notes that the improvement in gender gap indicators compared to the previous report is mainly due to a change in the gender gap in politics: globally, women occupy about a quarter of seats in national parliaments and about 20% of ministerial positions. For other indicators of the gender gap, there are no significant changes and it will take a little less than a century (99.5 years) to close the gap, while it is noted that in the countries of Western Europe the achievement of gender equality can be achieved much earlier, almost twice as fast - in 54 of the year. Moreover, if in terms of access to health care the level of equality is 96%, then the situation is reversed in terms of women's participation in the economy, where the level of equal opportunities is slightly more than half (58%).

Overcoming such a significant gap in achieving parity in the realization of the potential of men and women cannot be achieved without the full involvement of women in all spheres of public life and, above all, in the digital economy, which is becoming a defining trend in the modern development of all countries. Here are a few examples that characterize the state of affairs in the accessibility of women to the digital economy and the technologies associated with its implementation in practice.

Forum Stack Overflow (Developer Survey, 2022) specialized in collecting information about specialists in the field of IT technologies provides information as of the beginning of 2023 on the gender ratio among IT specialists: 92% men, 5% women. According to the Built In portal, women hold 14% of software development positions and 25% of computer science positions (CNews Portal, 2022).

The company Statista that specialized in the collection and processing of information with considering a large number of parameters in all major industries has found that in the world's largest technology companies women make up only about a third of its employees: Microsoft - 29%, Google - 33%, Apple - 33% (State Report, 2023).

2 BRICS countries in the digital transformation of economy

The BRICS member countries have declared cooperation in the field of digital development as one of the priorities during the period of Russia's chairmanship in the organization in 2020. Cooperation in this area provides for three main areas: the creation of digital infrastructure; education in the field of digital technologies and the formation of digital literacy of users among the population of countries that are members of the economic union; creating conditions for the use of social benefits arising from the use of digital technologies by the population. The 5 countries with largest economies attach the highest importance to this priority of sustainable development, established by the principles of United Nations Organization (UN) (indicators 17.6 and 17.8). According to the UN SDG Global Database (2023) (The State Program, 2017-2023) for indicator 17.6 "Fixed broadband Internet access per 100 inhabitants by speed (per 100 inhabitants)" increased:

- Russia for 2002-2020 from 0 to 23;
- India for 2001-2018 from 0 to 1.7;
- China for 2002-2020 from 0 to 33.6;
• Brazil for 2002-2020 from 0.1 to 17.1;
• South Africa for 2002-2020 from 0 to 2.2.

According to indicator 17.8 "Internet users per 100 inhabitants" increased:
• Russia for 2002-2020 from 2.0 to 85.0;
• India for 2001-2018 from 0.5 to 43.0;
• China for 2002-2020 from 1.8 to 70.4;
• Brazil for 2002-2020 from 2.9 to 81.3;
• South Africa 2000-2020 from 2.9 to 70.0.

The indicators above testify to the high rates of digitalization of society in all countries of the group in spite of the fact that not all indicators are equal. Researchers draw attention to significant differences in the level of development of individual regions of the BRICS countries (Morozkina, A.K., 2020). The gradual coverage of new territories with digital technologies will reduce the gap first of all between urban agglomerations where digital technologies are easily accessible to the population, and rural regions of these countries which will expand the opportunities for all population groups in education, healthcare, business and other spheres.

Cooperation in this area between the BRICS countries acquired particular significance during the period of the COVID-19 pandemic restrictions, when the use of digital technologies in state and public life, in business, science and education made it possible to significantly reduce the damage from forced restrictions.

The measures taken by the BRICS member countries to develop the digitalization of their countries are directly related to bridging the digital divides between different groups of society, including their impact on overcoming gender inequality.

The priorities of the digitalization of society are adopted in the policy documents of all the countries of the "five". The Brazilian Digital Strategy (E-Digital) or Brazil Efficient (adopted in 2013) aims to increase the availability of broadband internet in remote and isolated areas of the country. In South Africa, the "South Africa Connect" strategy aims to increase broadband internet speeds. In China, at the state level, tasks have been identified to overcome the gap in the availability of the Internet for all regions of the country. The Digital India project (Suyunova, F. B., 2022) is aimed at transforming the state and society with the transformation of the country's economy into a digital economy with the participation of citizens and business. The state programs of India and Russia also provide for measures to increase the digital literacy of the population. At the initiative of the Russian side, the BRICS University (Moscow) (Real Estate Digitalization Portal, 2021) was created, focused on solving the complex tasks facing partners, including the tasks of transforming the economy into a digital one.

3 The role of the state in improving gender equality in the digital economy of the Russian Federation

According to the results of 2022, in the ratings of independent organizations conducting research in the field of digital transformation of society, Russia is invariably among the top ten countries in terms of ensuring the availability and quality of digital technologies for the population and business. For example, according to the VPN service of Surfshark, a virtual private network service provider (Voluntary national review, 2020), Russia ranks sixth in terms of Internet accessibility among the countries of the world, and according to the NKR Credit Rating Agency (a subsidiary rating agency accredited by the Central Bank of Russia), it is included in Russian media holding RBC) in 2022, Russia entered the TOP-10 among 131 countries evaluated in the rating, based on a comprehensive assessment of the digitalization of society (Rating Agency of the NKR, 2023). Various objective indicators were used as the evaluation parameters of this rating: the penetration of the Internet into the
daily life of society; availability of broadband Internet; speed of fixed and mobile Internet; e-commerce index UNCTAD (Business-to-Consumer (B2C) E-commerce Index); e-government development index (EGDI) of the United Nations.

In Russia, payment methods for goods and services using digital technologies (electronic payment cards, applications for computers and smartphones) are widespread. According to the Central Bank of the Russian Federation, at the beginning of 2020, the number of bank cards used in the country reached a historical maximum - 284 million, the total volume of transactions using plastic cards in just one quarter amounted to 23 trillion rubles, while non-cash payments exceed transactions with cash (Voluntary national review, 2020).

In recent years, much attention has been paid to the development of the country's digital sovereignty in order to maintain its role in the world community as a leading world power. So, for example, Russia has created its own payment system "Mir", which came as an alternative to the previously widespread payment systems Visa and MasterCard in the country. According to the RBC information portal, in 2021 the MIR payment system outperformed its competitors in terms of the number of customers using the issuer's cards: for 42% of cardholders, the MIR card is the main one.

Also in 2022 Russia launched a financial messaging system (SPFS) which supports international payments between countries included in the system. In order to strengthen the country's digital sovereignty Russia continues working on the creation of a digital ruble system. When developing a digital ruble system, the Russian government pursues several important national goals:

- security of the national economy;
- struggle for leadership: cryptocurrency is a technology that can replace card systems, so leadership in this area provides the country with leadership in the digital economy;
- struggle against the shadow economy: despite the measures taken in the country, the share of the so-called “gray economy” is still high and the introduction of the crypto-ruble, controlled by the Central Bank as an issuer, will help to crowd out cash payments in business;
- multicurrency settlement system: is a necessary step in international settlements with the prospect of creating a new international cryptocurrency, formed on the basis of new principles.

To achieve such high results in the Russian Federation, large-scale work has been carried out to transition the entire economy to a digital format in order to achieve the sustainable development goals of United Nations Organization.

In 2017 Russia adopted a decree “On national goals and strategic objectives for the development of the Russian Federation for the period up to 2024”, which identified the main tasks for transforming Russian society for the transition to a digital economy. In accordance with the decree, the Russian Federation has developed the Program for the transition to a digital economy (The State program "Digital Economy of the Russian Federation for the period 2017-2030") (The Impact of Digital Technologies, 2021) and also created the Ministry of Digital Development to implement the tasks stipulated by the Digitalization Program. Overcoming the digital divide, including gender, is associated with the comprehensive development of the digital society and overcoming negative trends in all areas of life: education; business; employment and career advancement; ensuring the level of income in various segments of the population, the availability of healthcare. To achieve these goals in 2015 at the UN, 193 member states of the organization adopted the document "The 2030 Agenda for Sustainable Development", including Russia, as a member of the organization. In accordance with the designated goals, the Government of Russia constantly monitors all seventeen UN goals, (UN SDG Global Database, 2023) while it should be noted that data on the dynamics of indicators is open on the official portal of the state statistics body (Rosstat)
(On Sustainable Development Goals, 2023). So, for example, according to the indicator “The share of the population using the Internet information and telecommunications network” (indicator 17.8.1.), presented in Table 1, in the period from 2013 to 2021, the growth was 140% in general, and in rural areas the growth rate is even more significant 170%, while the growth rates of the indicator for both women and men turned out to be the same and equal to 140% (On Sustainable Development Goals, 2023).

Table 1. Percentage of the population using the INTERNET (17.8.1) (UN SDG (RF), 2021)

<table>
<thead>
<tr>
<th>Year</th>
<th>Share of the population using the information and telecommunication network &quot;Internet&quot;, % (17.8.1)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Russian Federation</td>
</tr>
<tr>
<td></td>
<td>Both sexes</td>
</tr>
<tr>
<td></td>
<td>All ages</td>
</tr>
<tr>
<td>2013</td>
<td>64,0</td>
</tr>
<tr>
<td>2014</td>
<td>67,2</td>
</tr>
<tr>
<td>2015</td>
<td>70,1</td>
</tr>
<tr>
<td>2016</td>
<td>73,1</td>
</tr>
<tr>
<td>2017</td>
<td>76,0</td>
</tr>
<tr>
<td>2018</td>
<td>80,9</td>
</tr>
<tr>
<td>2019</td>
<td>82,6</td>
</tr>
<tr>
<td>2020</td>
<td>85,0</td>
</tr>
<tr>
<td>2021</td>
<td>88,2</td>
</tr>
</tbody>
</table>

A separate area of the digital transformation of society is the concern of state authorities to overcome digital gender inequality. However, in the implementation of this task, there are many problems related to the underestimation of the human capital of the female half of Russian society: problems of career advancement and lower wages with comparable competencies and professional experience than men; lower wages, ceteris paribus; career development problems; prevalence of outdated gender stereotypes about the role of women and men in the family, business and society.

The first "National Action Strategy for Women" was adopted in Russia in 2017 (National Strategy of Action for Women for 2017-2022, 2023), in continuation of its development, the country has adopted and is currently implementing the "National Strategy for Action for Women until 2030" (National Strategy of Action for Women until 2030, 2023). The implementation of the measures envisaged by the strategy is aimed at achieving the principle of equal rights for men and women in all spheres of life, as well as at overcoming stereotypes about their social roles. The main activities of the strategy will be implemented in the following areas:

- providing new opportunities in the labor market;
- increasing women's participation in entrepreneurship;
- improving conditions for improving quality education, advanced training and professional retraining;
- promoting women's leadership in public life and business;
- maintaining a balance between home, family and work.

Among the large number of government projects implemented in the field of digital technologies, the project to create a portal for state information support of the population “Gosuslugi” (www.gosuslugi.ru) deserves special attention. For the first time, the opportunity for users to receive information and services on this portal appeared already in 2009, since then, as part of the implementation of the tasks of forming a digital society, the functions of the portal and the set services provided to the population has expanded many
times and covers all spheres of life. The resource of this portal is represented by three main sections: authorities; list of services provided; electronic services in online format. In the "Authorities" section, the user can obtain information about the structure of authorities at any level with a list of all ministries and departments with the possibility of direct access to their official websites, including for filing electronic applications and appeals. The "Electronic Services" section provides opportunities for both organizations (legal entities) and citizens (individuals) to submit an application, appeal, request to any ministry, department or organizations subordinate to them (Ministry of Health of the Russian Federation, Ministry of Internal Affairs of the Russian Federation, Federal Migration Service, Ministry of Foreign Affairs, etc.). For example, for any Russian citizen registered on the portal, there is the possibility of electronic filing with the Federal Tax Service of an application for the return of a part of previously withheld taxes on income upon presentation of supporting documents (reimbursement of expenses for treatment, purchase of medicines, tuition fees). The Social Fund of Russia, among other services provided, does a great job in the online format on paperwork for women to receive the stipulated social payments and compensations: payment of sick leave for pregnancy and childbirth, payments for children of various ages in accordance with established legislation. In this case, digital technologies enable women and their families to quickly send documents and receive payments due to them for the maintenance of children. During the pandemic, the state paid increased attention to families with children, so kindergartens did not work, schools were switched to online learning, which had a negative impact on women's employment and their income, as many of them were forced to leave their jobs or reduce their working hours.

In 2020, the state allocated 850 billion rubles of state support in the form of a lump sum to mitigate the negative consequences of the COVID-19 pandemic, while almost 28 million school-age children received social benefits to support families with children (State Report on the situation of children and families with children in the Russian Federation for 2020) (Smirnova, I. N., 2018). According to the Ministry of Labor of the Russian Federation, in 2021, parents of 21 million school-age children received one-time social assistance in connection with the pandemic, the amount of payments amounted to 210 billion rubles. In total, on behalf of the President of the Russian Federation, more than 1.1 trillion rubles were allocated to support families with children. (Report of the Minister of Labor and Social Protection of the Russian Federation, 2021). It should be noted that the use of digital technologies allowed the state to quickly assign and make payments without collecting supporting documents on the basis of a single application sent through the State Services portal; in some cases, payments could be made even without applications. The example of using the digital economy in emergency circumstances suggests that Russia is undoubtedly among the world leaders in this area, which undoubtedly contributes to strengthening gender equality when using digital technologies.

4 Impact of business and society on overcoming gender inequality in the digital economy

The Russian society has entered the period of formation and improvement of the digital economy and is successfully moving forward in it. Digital technologies have firmly entered and changed the daily life, work, and study of Russians. The real way out of the difficult situation during the period of pandemic isolation was the ability to work remotely, hold meetings, classes and just communicate using digital video conferencing, which made it possible not to interrupt business and social life. As noted above, it is impossible to overcome the gender gap without the coordinated joint efforts of the state, society and business in all areas of activity. However, despite the large-scale measures taken over the past two decades to achieve digital gender equality, Russia is still far from achieving the UN SDGs in equal
access of women and men to the digital economy. Some examples will be considered below that testify to the presence of negative phenomena that impede the formation of a society with equal gender rights and opportunities.

5 The state of employment and career development for women in the IT sector

The recruitment agency Global Career (Global Career Expertise: Gender in IT, 2020), which specializes in recruiting in the field of digital technologies, conducted a study in 2020 on the problem of ensuring equal access for women and men to career advancement in IT companies in Russia. The study revealed that the closure of vacancies by the agency from employers was: women - 17%, men - 83%. At the same time, resumes submitted to the agency for a vacant position from women were: analysts - 33%, Project Manager - 30%, Product Manager - 30%, SAP specialists - 33%.

Table 2 presents statistics on the dynamics of skills in the field of IT technologies, differentiated by gender.

<table>
<thead>
<tr>
<th>Year</th>
<th>Russian Federation</th>
<th>Share of youth (adults) with (possessing) skills in the field of information and communication technologies, % (4.4.1)</th>
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<tbody>
<tr>
<td></td>
<td>Both sexes</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>15-24 years old</td>
<td>15-74 years old</td>
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<tr>
<td>2013</td>
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<td>2021</td>
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</table>

Also, the Global Career agency noted, based on studies conducted on the basis of resumes submitted by applicants, that in Moscow, for example, the number of male IT specialists is several times higher than the number of women. Kaspersky Lab, a well-known IT developer not only in Russia, but also worldwide, conducted a study in 2022 based on a survey of women working in Russian IT companies in order to identify career development problems (Corporate website of Kaspersky Lab, 2021). The study revealed positive trends in this sector of the economy to bridge the gender gap, taking into account the views of women participating in the survey. Only a third of women (32%) consider career advancement a real challenge for women in their industry; 41% of women surveyed consider this problem exaggerated, while noting that they did not use their gender to move up the career ladder (91% of all women surveyed); 28% of women reported difficulty answering the question about the existence of gender inequality in the IT companies where they work.

The study also noted that despite the existing stereotypes associated with gender, the IT industry in Russia is one of the most democratic in terms of providing equal opportunities for career advancement for both men and women. This positive conclusion is based, among other things, on data on educational trends in Russian society. The Russian School of
Education XYZ and the analytical agency Research M conducted a joint study on the attitude of Russians to education for obtaining professional competencies in the field of information technology (CNews Portal (Russia) (XYZ School Research and Research Me, 2022). The study is based on a survey of more than 3 thousand respondents aged 16 to 55. The results showed that more than half of the respondents (51%) consider this professional area promising and would like their children to work in the field of information and communication, which would provide them with high employment and a reliable source of income in this growing market (among the women surveyed, this figure was even higher - 60% among women over 25 years). Study various areas of digital technologies in an online format or offline, while the basics of informatics are included in the school programs of students in Russian schools as a required subject.

6 The role of Russian business in overcoming gender inequality in the digital economy

Russian business makes a significant contribution to ensuring gender equality in the digital economy, as evidenced by numerous examples, some of which are presented below. Since 2020, Bloomberg, the world leader in economic news, has been including the Russian state holding Rostelecom in its gender equality index, which occupies the country's leading position in the market of information and telecommunication services for business and the population. Companies included in the Gender Equality Index provide Bloomberg with a comprehensive overview of investments to close the gender gap in companies. Rostelecom Holding was included in the 2021 index as a company that achieved high results in terms of the elements of assessing the gender equality indicator, including the level of information disclosure (CNews Portal (Russia), 2021).

In 2022, the leader of Russia in the field of ecosystem formation, state-owned bank PJSC "SBER", conducted a study on ensuring gender equality in the IT departments of companies belonging to the PJSC "SBER" group, during which it was found that gender equality in digital technologies is at a comparable level with global IT giants such as Microsoft, Google, Apple: 32% of the employees of technology departments in SBER PJSC are women (HABR. Community of IT specialists, 2023). The National Research University Higher School of Economics, together with the Ministry of Digitalization of the Russian Federation and the Federal State Statistics Service, annually, starting from 2009, publishes a statistical collection that comprehensively assesses the dynamics of the digital economy in the country in various aspects: the use of digital technologies in organizations, involvement of the population in the digital space, costs and personnel potential of the IT industry (Digital Economy Indicators, Higher School of Economics, 2023). The publication of the collection is carried out within the framework of fundamental research and allows the use of the data for various purposes by both government agencies and businesses.

7 The role of society and social communities in ensuring gender equality in the digital economy

In 2020, for the first time, Russia prepared and presented at the UN Political Forum a civic report on the achievement of the sustainable development goals (Voluntary national review of the Russian Federation's achievement of the Sustainable Development Goals, 2020). The document was submitted to the UN along with the official state report and supplements it with information on the contribution of various public institutions to the achievement of the set goals. The report is based on data received from businesses, trade unions, research organizations, universities and civil society activists. When preparing the report, its creators
set the goal of confirming the actions of the state and its responsibility in achieving sustainable development goals, which makes it possible to identify critical areas for improvement. The report noted that at the time of its compilation, Russia ranked 75th out of 149 countries represented by the gender equality index (SDG5), while noting that Russia ranked 1st in the ranking for such key indicators of this index as “health and life expectancy”. Countries, and ranks 31 in the Economic Participation and Opportunity indicator, which provides women with great prospects for participation in business and the digital economy.

The fact that this conclusion is confirmed by real examples from practice is evidenced by the annual ranking of women leaders in the IT industry. The Russian company CNews (an information portal, a monthly magazine dedicated to information technology) has prepared a rating of successful women in Russia in the field of information technology and the digital economy at the end of 2022, while the TOP-10 does not determine the sequence of places for each of the participants in the rating, I present their list in alphabetical order. The TOP-10 of the rating includes women holding first positions in large Russian and foreign IT companies, leading the largest IT projects not only in business, but also on a national scale (CNews Portal (Russia, 2022).

Conclusion

The results of research conducted by independent experts and mentions in the media, presented by the authors of the article, confirm the existence of the problem of gender inequality in the digital economy. The basis of gender inequality in this area is determined not so much by the level of penetration of IT technologies into the life of society, as by the biased attitude of society itself to the competencies of women and their ability to realize themselves on equal terms with men in all spheres of life, using modern opportunities of an open digital society, including the digital economy. Stereotypes of public opinion about the role of women in society contribute to this state of affairs, which forms the basis for the existence of different opportunities for men and women in the digital economy.

The BRICS countries, including Russia, have taken measures at the state level to overcome gender inequality in the digital economy. Over the past decade in Russia, the state, business and society as a whole have made a significant way to ensure gender equality in the field of IT technologies and the digital economy. Adopted in 2022 The Government of the Russian Federation has a National Strategy for Women, which will be implemented in two stages: from 2023 to 2026 and from 2027 to 2030. Among other tasks, the National Strategy aims to help women overcome gender segregation by taking advantage of the digital economy.

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